Head-Directionality of TP in Old Church Slavonic

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Head-directionality of the Tense Phrase (TP) – whether T is linearized before or after its complement – is a fundamental issue in grammar of the clause. Yet even this most basic question has barely been addressed, and is hardly settled, for Old Slavic. There appears to be no study that specifically investigates the issue. In the context of addressing other syntactic questions, some authors have claimed that Old Church Slavonic (OCS) – the oldest recorded Slavic language – is T-initial, T-final, or both. In his study of conditional clauses, Willis (2000) assumes that OCS is T-initial. In the course of my analysis of clitic placement (Pancheva 2005), I concluded that OCS must have involved a competition between a novel T-initial and an older T-final grammar. In the context of studying relative clauses, Dimitrova-Vulchanova and Vulchanov (2006) suggest that Old Bulgarian is T-final.[1,2]

This paper extends the idea of competing grammars for TP in OCS by examining the syntax of auxiliaries and participles in *Codex Marianus,* an 11th-century OCS text of approximately 59,000 words, comprising the four canonical gospels.[3] It is demonstrated that OCS shows evidence of both T-initial and T-final underlying orders, indicative

[1] The terms OCS and Old Bulgarian are sometimes used interchangeably; see Schenker (1995: 185-186, 189-190), Lunt (2001: 3-4) and Duridanov (1993: 19-22) for discussion.
[2] Their analysis is possibly more complicated. For them Old Bulgarian "is head-final in the extended verbal domain ([[VP] IP]), while head-initial in the CP domain" and "this asymmetry is the result of a system in transition" involving an "OV>VO parameter shift."
[3] The OCS data in Willis (2000) come from *Codex Zographensis, Codex Marianus* and *Codex Suprasliensis.* The data cited in Dimitrova-Vulchanova and Vulchanov (2006) are from *Codex Suprasliensis. Codex Zographensis* and *Codex Marianus* are written in Glagolitic and are slightly older, from the end of the 10th or beginning of the 11th century, whereas *Codex Suprasliensis* is in Cyrillic and is from later in the 11th century. Despite of these differences, no major variability in word order among these texts has been reported, and I will assume that none exists, at least not at the level of the headedness of TP.

of a change in progress. Evidence for the 'dual-base' of OCS comes from consideration of the frequencies of Aux-Part and Part-Aux orders, as well as from the interaction of Part-Aux orders with negation and pre-verbal subjects. The empirical findings are followed by a proposal about the formal mechanisms underlying the change in the linearization of TP, as well as by a discussion of some of the theoretical consequences.

This appears to be the first study to specifically address the position of T in OCS, and thus its aims and results are modest. Hopefully, future work will illuminate the facts further.

1. OCS in Historical Context

OCS was first recorded in the 9th century but the earliest documents have been lost. The language is known on the basis of a later corpus of 17 manuscripts (and some inscriptions), written mostly in Bulgaria and dating from the late 10th and 11th centuries (Schenker 1995: 70, 189-190). OCS is descendent from Proto-Slavic, the reconstructed common language of all Slavs (Schenker 1995: 69-70, 185-187). It has Eastern South Slavic features, but can be considered, for all practical purposes, to be a good representative of the common ancestor of all South Slavic languages, and even more generally, of Late Proto-Slavic (Schenker 1995: 187).

The manuscripts in the canon of OCS are predominantly copies of the earlier lost OCS texts. Thus, though written in the 10th-11th centuries, they likely represent, or are at least heavily influenced by, an older form of the language. Their ecclesiastical content necessitates a formal style that further distances the texts from the spoken language of the time.

2. Verb/Object Orders in OCS

OCS has flexible word order (Schenker 1995:154; Huntley 1993:164). In particular, both VO and OV orders are possible, as illustrated in (1), from Huntley (1993:164). All OCS examples are from *Codex Marianus* and the transliteration follows the schema in Lunt (2001: 17-18).

(1) a. b͠ъ   vъzljubi mira   SVO
         God   loved   world
         'God loved the world.' (John 3.16)

b. drěvo dobro plody dobry tvoritъ   SOV
   tree   good   fruits   good   makes
   'A good tree produces good fruits.' (Matthew 7.17)

Clauses with single tensed verbs are not particularly useful for revealing the order of T and VP. There are two reasons for this. First, given minimal assumptions about clausal structure and movement, both a T-initial and a T-final grammar would derive (1a-b). This is so, even if the head-directionality of TP and VP are independent (see Pintzuk 2002 for Old English). As an illustration, suppose the grammar is V-initial. If there is no V-to-T movement, the position of T has no effect on word order. (1a) follows straightforwardly, while leftward scrambling of the object derives (1b). If there is V-to-T movement, and T is initial, word order in (1a) is not affected, while topicalization of the subject, in addition to scrambling of the object, to positions higher than TP, derives (1b). If T is final, rightward object extraposition needs to be posited for (1a), while (1b) follows straightforwardly. Similar considerations apply in the case of a V-final grammar.

Second, there is the issue of imitation of Greek word order. It should be remembered that the OCS texts are translations from New Testament (NT) Greek and exhibit linguistic influence by the originals (e.g., Huntley 1993:164, Schenker 1995: 149, 194-195). Clearly, whatever syntactic mechanisms have derived (1a-b) must have been available in the OCS grammar, as no amount of imitation would have allowed ungrammatical orders. Yet a quantitative study of V/O orders would reveal nothing about the underlying structure, in the absence of an understanding of the movement possibilities in the clause, as the frequency of the order derived by a relatively rare optional operation in OCS could have been boosted by imitation of the Greek original, at the cost of only a stylistic violation.

3. Quantitative Study of Auxiliary/Participle Orders in OCS

Clearly, we need to look at the syntax of auxiliaries and participles. This will make finite V-movement, the headedness of the VP, and the various DP-movements irrelevant for establishing the head-directionality of TP. Moreover, periphrastic expressions in OCS do not necessarily match

periphrastic expressions in the Greek originals, alleviating the second concern expressed above. First, NT Greek has both synthetic and analytic perfects, passives, and conditionals (Smyth 1956). Clearly, the synthetic expressions could not have influenced the order of auxiliaries and participles in the OCS translations. Second, it is the case that the periphrastic constructions in NT Greek had consistent Aux-Part order, precluding the possibility that Part-Aux orders in OCS are derived by imitation. Finally, it has been quantitatively shown that OCS perfects do not correspond to NT Greek perfects. According to Słoński (1926: 8) (quoted in Migdalski 2006: 26-27), the Greek perfect is typically rendered as the aorist in OCS translations, while most of the OCS perfects are translations of the Greek aorist.[4]

Both Aux-Part and Part-Aux orders are attested in OCS (e.g., Huntley 1993: 165; Willis 2000: 324). Examples (2), (3), and (4) illustrate this variability for the present active, past passive, and l-participles, respectively. The past active and present passive participles also appear in both orders (but these are not shown here).

(2) a. i   bě   propovědaję   na sъnъmištixъ ixъ
         and be$_{\text{-pAST.3SG}}$ preach$_{\text{-PRES.ACT.PART.SG}}$ in synagogues their
         'And he preached in their synagogues.' (Mark 1.39)

     b. ne $\widetilde{\text{srdce}}$ li naju gorę   bě   vъ naju
         not heart Q us   burn$_{\text{-PRES.ACT.PART.SG}}$ be$_{\text{-PAST.3SG}}$ in us
         'Were not our hearts burning within us?' (Luke 24.32)

(3) a. i bǫdete   nenavidimi   vьsěmi $\widetilde{\text{języky}}$
         i be$_{\text{-FUT.3PL}}$ hate$_{\text{-PRES.PASS.PART.PL}}$ all   nations
         'And you will be hated by all nations.' (Matthew 24.09)

     b. zъvanъ   že bystъ   i $\widetilde{\text{Isъ}}$ … na brakъ
         call$_{\text{-PAST.PASS.PART.MASC.SG}}$ ŽE be$_{\text{-PAST.3SG}}$ and Jesus   to wedding
         'Jesus was invited to a wedding (with his disciples).' (John 2.2)

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[4] According to Słoński (as reported in Migdalski), of the 190 perfects in the Greek originals to *Codex Marianus*, *Codex Suprasliensis*, and *Glagolita Clozianus,* only 17 were rendered as perfects in OCS. The rest of the Greek perfects were translated as aorists in Slavic, and the rest of the Slavic perfects were translations of the Greek aorist.

(4) a. iže   běaxǫ   prišьli   otъ   vьsěkoję vьsi
        who-REL be-PAST.3PL come-L-PART.PL   from   every   village
        'who had come from every village' (Luke 5.17)

    b. učenici bo ego ošьli   běaxǫ   vъ gradъ
        disciples for his go-L-PART.PL   be-PAST. 3PL   in town
        'because his disciples had gone to the town' (John 4.8)

The auxiliaries in the above sentences – past and future forms of *be* – are not clitics, so word orders are independent of clitic-placement factors. This is important, as the present tense forms of *be* are phonologically weak in OCS (Huntley 1993:165; Duridanov 1993: 299), and become clitics in later South Slavic. The potential clitic status of the auxiliary in OCS could affect the Aux/Part order. Part-Aux orders may obtain for the sole purpose of preventing a clitic auxiliary from being clause initial, as happens in Modern South Slavic. Or, given that clitic pronouns in OCS are placed predominantly post-verbally, including after non-finite verbs (Pancheva 2005), a Part-Aux order could obtain as the result of generalizing this type of clitic placement from pronouns to auxiliaries.

If a single grammar, T-initial or T-final, underlies the Aux-Part and Part-Aux orders above, then all instances of one order must be derived through an additional movement. Willis (2000: 325-327), for instance, assumes that phrasal (remnant) movement is involved in cases like those in the (b) sentences above, adjoining the participle to TP and shifting the underlying Aux-Part order to that of Part-Aux. Alternatively, head-movement of the participle to the auxiliary could be involved in the (b) cases (as in the analysis of Part-Aux orders in Modern South Slavic by Bošković 1995 and Embick and Izvorski 1995, 1997), masking the underlying Aux-Part order. Some support for the T-initial analysis of the (b) sentences comes from the fact that they all contain VP-material following the auxiliary (*vъ naju* 'in us', *na brakъ* 'to a wedding', and *vъ gradъ* 'to the town'). In a T-initial structure, leftward (remnant or head) movement of the participle would simply strand these phrases VP-internally and they will surface after the auxiliary. A T-final analysis will have to posit an extraposition of these phrases out of the VP, to a position higher than (and to the right of) the auxiliary. Yet, the more economical T-initial analysis is not necessarily correct. The putative extraposition of VP-material is a possible operation, so (2b), (3b) and

(4b) could be displaying an underlying T-final order. The Aux-Part order then could be attributed to verb-raising – rightward movement of the participle or its phrase – familiar from the Germanic T-final languages (e.g., Wurmbrand 2006).[5] Pintzuk (2002), for instance, argues that verb-raising is responsible for Aux-Part orders in the otherwise T-final Old English. Thus, both a T-initial and a T-final analysis can, in principle, account for the observed word orders in (2)-(4), provided some optional movements are posited. And of course, a T-initial and a T-final grammar could both be at play, each behind one of the orders in (2)-(4).

A quantitative study would help us understand better the surface word order facts. The putative leftward or rightward movements of the participle, as head or a phrase, are optional. It is reasonable to expect that, in the simplest case, the word order resulting from an optional movement will not be as common as the one reflecting the underlying structure. The stylistic conditions satisfied by the movement are not expected to be applying to the majority of the relevant cases.[6]

To test this hypothesis with respect to participle movement, we should consider a minimally different language whose TP directionality is known. Modern Bulgarian would be a good test case. It is T-initial and also allows optional participle fronting unrelated to clitic support (Embick and Izvorski 1995, 1997; a.o.). It is expected that in Modern Bulgarian Aux-Part orders will turn out to be more frequent than Part-Aux orders. Of course, we need to control for cases where the participle is the only available source of phonological support for a clitic auxiliary.

In that context, examining the order of auxiliaries and participles in the four canonical gospels in Modern Bulgarian will be instructive. Not only will we test the hypothesis that discourse-driven participle fronting is relatively infrequent, but we will also obtain an estimate of the expected frequency of this operation in *Codex Marianus*, as the discourse factors between the OCS and the modern text will be kept the same. A

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[5] In Dutch, verb-raising changes the usual Part-Aux order (ia) to (ib) (Wurmbrand 2006):
(i) dat Jan het boek …   a. gelezen heeft / b. heeft gelezen
     that Jan the book   read   has   has   read
     'that Jan has read the book'

[6] If more factors are at play, an optional movement may end up applying in the majority of cases. For instance, in a pro-drop language the subject may surface in a topic position more often than in-situ, because of the additional fact that subjects tend to be topics.

count of Aux/Part orders using the online resource *The Unbound Bible* revealed that indeed, in the overwhelming majority of cases (858 out of 883, or 97%) Aux-Part orders obtain, in conformity with the head-initial structure of TP in Modern Bulgarian.[7,8] Optional participle fronting applies in just 25 instances, amounting to a rate of 3%.

(5)

	Active participle	Passive participle	Total
Aux-Part	604	254	858
Part-Aux	15	10	25
Total	619	264	883

The discourse conditions under which optional participle fronting obtains in Modern Bulgarian are not well understood. Embick and Izvorski (1995, 1997) relate the phenomenon to stylistic fronting in Icelandic (Maling 1990; Holmberg 2006, a.o.), whose discourse triggers have similarly remained unclear. Further discussion of the information structure effects of participle fronting can be found in Lambova (2003). But even if we cannot precisely state the discourse conditions on stylistic participle fronting, at least we have confirmed that in the particular register of the gospels the phenomenon is very infrequent.

If OCS is similarly T-initial, and the discourse factors behind optional participle fronting are the same as in Modern Bulgarian, we would expect a comparable small percentage of Part-Aux orders. If OCS is T-final, Part-Aux orders should be predominant, on the assumption that verb-raising, the putative source of Aux-Part orders, would be similarly infrequent, being an optional operation. The results of a count of Aux/Part orders in the OCS *Codex Marianus* are given in (6).[9] Present tense (non-negative) forms of *be* were excluded from the count because of their potential clitic status.

The ratio of Aux-Part to Part-Aux orders is 59% to 41% (212 vs. 150 out of 362). This is quite different from the situation in the Modern

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[7] *The Unbound Bible*'s (http://unbound.biola.edu/) Bulgarian text is from a 1940 edition.
[8] In addition, there are 21 Part-Aux orders in which the auxiliary is a clitic with no other means of support besides the participle. These were excluded from the calculations.
[9] An annotated version of the codex is available from the USC *Parsed Corpus of Old South Slavic* (http://www.rcf.usc.edu/~pancheva/ParsedCorpus.html). The electronic text is from *Corpus Cyrillo-Methodianum Helsingiense* (http://www.slav.helsinki.fi/ccmh/).

Bulgarian version of the text, where Part-Aux orders unrelated to clitic placement occur at the rate of just 3%. These facts suggest that in OCS the discourse status of participle fronting is quite different or that factors beyond participle fronting are at play in deriving Part-Aux orders.

(6)

	Active participle	Passive participle	Total
Aux-Part	153	59	212
Part-Aux	30	120	150
Total	183	179	362

The possibility that different discourse factors underlie participle fronting in OCS cannot be conclusively ruled out. Yet there are at least two reasons to think that this is not the explanation for the high rate of Part-Aux orders in *Codex Marianus*. First, the quantitative data in Kroch and Taylor (2000: 138) allow us to estimate the rate of participle fronting in Early Middle English. The potential cases of participle fronting are either 2% or 8%, a low rate in line with the facts of Modern Bulgarian.[10] This piece of comparative evidence supports the conclusion that the 41% Part-Aux rate in OCS is not due to stylistic participle fronting.

Second, a curious result of the quantitative study is that the ratio of Aux-Part and Part-Aux orders in *Codex Marianus* differs across the different participles. As seen in (6), active participles precede their auxiliary in approximately 16% of the cases (30 out of 183), whereas passive participles precede the auxiliary in 67% of the cases (120 out of 179). An asymmetry, though not as large, is also found in the Modern Bulgarian counterpart of *Codex Marianus*. According to (5), the rate of Part-Aux orders is 2% (15 out of 619) among active participles and 4% (10 out of 264) among passive participles. In other words, passive participles do undergo fronting at a higher rate than active participles in

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[10] Kroch and Taylor report that out of 2,198 embedded clauses with auxiliaries and participles, 212 exhibit a Part-Aux order. Of these, 41 have no preverbal subjects and another 131 have pronoun subjects. Stylistic fronting is known to be impossible in the presence of preverbal subjects (the "subject gap" condition of Maling 1990; see also Holmberg 2006), though pronominal subjects may be exempt from this restriction (Kroch and Taylor 2006: 140-141). Based only on the subject gap cases, the maximum rate of participle fronting is 2% (41 out of 2,198 cases); if pronominal preverbal subjects also allow participle fronting, then the maximum rate is 8% (172 out of 2,198 cases).

the modern text. But the modern rate is not four times as high, as the OCS estimates would suggest, if all the Part-Aux orders in *Codex Marianus* were to be given a participle-fronting analysis. It is therefore unlikely that the OCS asymmetry in the rate of Part-Aux orders can be entirely attributed to a differential effect of discourse factors on the fronting of the two types of participles. Rather, the facts lend support to the hypothesis of competing grammars for TP. The effects of historical change can be manifested in some syntactic environments earlier than in others, resulting in different ratios of the outputs of the old and new grammars across contexts at any given point in time, though over time the rate of change is constant across contexts (for general discussion and case studies see Kroch 1989). Thus, if the change from head-final to head-initial TP started in active contexts, for the duration of the change active participles are expected to exhibit a higher rate of Aux-Part orders than passive participles.

To sum up, a quantitative study of Aux/Part orders unrelated to clitic support revealed a much higher rate of Part-Aux orders in *Codex Marianus* than in its Modern Bulgarian counterpart (41% to 3%). In the modern language, optional Part-Aux orders are the result of participle fronting in a T-initial structure. The large difference in the rates of Part-Aux orders, despite the identical information structure of the texts, suggests that such an analysis is not appropriate for OCS. This conclusion is strengthened by the low rate of participle fronting in Early Middle English (2% or 8%). The differential rates of Part-Aux orders with active and passive participles also argue against a participle fronting analysis for all OCS Part-Aux orders. In both OCS and Modern Bulgarian passive participles participate in Part-Aux orders more frequently than active participles, but whereas in the modern language the ratio is 4% to 2%, in OCS it is 67% to 16%. The large asymmetry between passive and active participles in OCS is unexpected under a discourse-driven participle-fronting analysis; rather, it favors an analysis that involves a competition-driven syntactic change from a T-final to a T-initial grammar. The change is posited to have started in active contexts, thus its effects are stronger with active than passive participles.

It is important to stress that the claim is not that all Aux-Part orders in OCS are derived by the T-initial grammar and all Part-Aux orders by the T-final grammar. Participle movements may alter the underlying structure generated by the two competing grammars. Next, I examine in

more detail the applicability of participle fronting to OCS, considering its interaction with negation and pre-verbal subjects. Both factors are known to preclude participle fronting in the modern South Slavic languages as well as stylistic fronting in Icelandic (Maling 1990; Holmberg 2006).

4. Participle Fronting and Negation

4.1 Modern South Slavic
In Modern South Slavic, participles do not front in the presence of sentential negation (Lema and Rivero 1989; Rivero 1991; a.o.).

(7) a. (Tja) ne beše pročela knigata (Bulgarian)
    she not be$_{\text{-PAST.3SG}}$ read$_{\text{-L-PART.F.SG}}$ the-book
    'She had not read the book.'
  b. * (Tja) ne pročela beše knigata.
  c. * (Tja) pročela ne beše knigata.
  d. Pročela beše knigata.

(8) a. (On) ne bješe čitao knjigu. (Serbo-Croatian)
    He not be$_{\text{-PAST.3SG}}$ read$_{\text{-L-PART.M.SG}}$ book
    'He hadn't read the book.'
  b. * (On) ne čitao bješe knjigu.
  c. * (On) čitao ne bješe knjigu.
  d. Čitao bješe knjigu.

I assume that the sentential negation marker *ne* is the head of a functional projection NegP. *Ne* and the finite verb move together to C in yes-no questions (see (9)), suggesting that they form a complex syntactic head. The PF realization of the head is determined by the proclitic status of *ne*.

(9) Ne beše li (veče) pročela knigata (Bulgarian)
    not be$_{\text{-PAST.3SG}}$ Q already read$_{\text{-L-PART.F.SG}}$ the-book
    'Hadn't you/she (already) read the book?'

The availability of negative auxiliaries (e.g., *nisam* instead of *ne sam* 'not be$_{\text{-PRES.1SG}}$' in Serbo-Croatian, and *njamam* instead of *ne imam* 'not have $_{\text{PRES.1SG}}$' in Bulgarian) supports this view, on the assumption that stem and affix need to form a complex head in syntax.

It is harder to decide, however, what the relative order of T and Neg is, assuming that this order is not universally determined but is subject to parametric variation (e.g., Laka 1990; Ouhalla 1991; Zanuttini 2001). In Modern South Slavic, NegP headed by *ne* is usually argued to be higher than TP (Rivero 1991, 1994; Tomić 2001; Migdalski 2006; a.o.). It is, moreover, proposed that Neg attracts the finite verb (Rivero 1991; Migdalski 2006; a.o.).[11] Yet Progovac (2006: 11, 172) suggests the opposite order for TP and NegP in Serbian. As far as I know, neither position is backed by conclusive arguments. *Ne* precedes auxiliaries (e.g., (7a), (8a)) but this order can also be derived in a TP-over-NegP structure, if auxiliaries are merged lower than Neg, and move to T after forming a complex head with Neg.[12]

As far as the pattern in (7b) and (8b) is concerned, the relative order of TP and NegP is not crucial. Incorporation of Aux into Neg, before or after Aux moves to T, precludes a Neg-Part-Aux order. The ungrammaticality of (7c) and (8c), on the other hand, has always been accounted for by assuming a NegP-over-TP structure. The earliest analyses propose that the participle moves to C via long head movement (Lema and Rivero 1989) or successive head adjunction (Wilder and Ćavar 1994), the auxiliary in T is skipped or adjoined to on the way to C, but Neg above T blocks the head-movement of the participle. Subsequent accounts have shown that the participle does not move all the way to C, and have proposed that it adjoins to T (Embick and Izvorski 1995, 1997), to Aux (Bošković 1995), or to a focus projection (Lambova 2003) – in any event, to the highest head to which the auxiliary moves. For these accounts too NegP needs to be higher than TP. Let's assume that a feature of T attracts the participle, as has also been argued for stylistic

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[11] Only clitics can separate *ne* and the finite verb in Bulgarian. In Serbo-Croatian, this order is not possible, as *ne* cannot support the second-position clitics.

(i) Ne (ja) beše vse ošte (ja) pročela. (Bulgarian)
  not it$_{CL.ACC}$ be$_{PAST.3SG}$ all still it$_{CL.ACC}$ read$_{L-PART.F.SG}$
  'She had not read it yet.'

If clitics can optionally adjoin to Aux and move to T with it, the clitic-Aux order would be established prior to the movement to Neg, whether NegP is above or below TP.

[12] Progovac does not specifically discuss the interaction of auxiliaries and negation, but she proposes that auxiliaries can appear in two positions, T_SP and T_OP, the latter being their position of origin below NegP (Progovac 2006: 44). She also suggests that the 3sg present tense clitic auxiliary *je* is merged in T_SP directly (Progovac 2006: 58-59, 160), which raises the question of the PF realization of the auxiliary's negative form as *nije*.

fronting (see Holmberg 2006). If the presence of Aux in T does not otherwise prevent participle movement, it is unclear why movement should be disrupted when T hosts the Aux-Neg complex head in the structure in (10a). On the other hand, the structure in (10b) predicts the unacceptability of (7c)-(8c). The participle is attracted by T and will not appear before *ne*. Any participle fronting will in fact be string vacuous.

(10) a.

T
  T   ~~Neg~~
         ~~Aux~~   Part   …
Aux Neg

b.

Neg
  Neg   ~~T~~
          ~~Aux~~   Part   …
Aux T
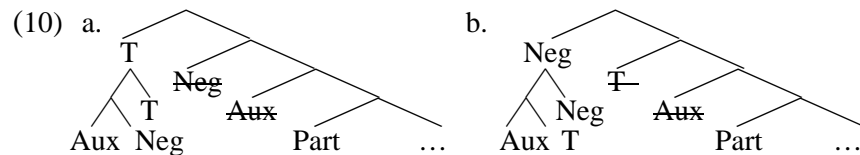
Recently, Migdalski (2006) proposed that the participle moves to Spec, TP, resurrecting the remnant movement analysis that previous accounts argued against. Neg, which for him is higher than T, attracts T, so neither of the orders in (7b,c)-(8b,c) obtains. Clearly, Migdalski's analysis will not work if TP is higher than NegP. Thus, whether participle fronting involves head- or phrasal movement, its interaction with negation favors a NegP-over-TP structure for South Slavic.[13] Let us now see how negation interacts with Aux/Part orders in OCS.

4.2 Old Church Slavonic
The OCS negative marker *ne* is typically a proclitic to the finite verb. For instance, in (11) it forms one prosodic word with the verb, as indicated by the placement of the second-position clitic *bo*.

(11)   ne posъla   bo b̃ъ s̃na svoego vъ mirъ …
       not send-PAST.3SG for god son self   in world
       'For God did not send his son into the world …' (John 3.17)

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[13] In Russian, NegP is usually placed below TP (e.g., Bailyn 1997; Brown 1999: ch.4; Harves 2002; though not in Brown 1999: ch.3). In fact, Bailyn proposes that NegP is even lower than the external argument position, in order to account for the fact that the Genitive of Negation (GN) does not affect subjects of transitive and unergative verbs. This, however, poses a problem with the position of *ne* relative to auxiliaries (Harves 2002). But if NegP is higher than AuxP, there are no arguments from GN that it has to be lower than TP. Even more importantly, the South Slavic languages behave differently than Russian with respect to GN (Franks 1995: 207-208; Bailyn 1997), suggesting that the properties of NegP, including its position, may be different in the two groups.

It is reasonable to posit that *ne* is a head that precedes its complement TP (Brown 2002: footnote 19). Conditional auxiliaries provide support for this position. They can move past *ne* in embedded clauses (Willis 2000: 329), see (12). This word order is rarely attested with the perfect auxiliary, and not attested in passives and copular sentences, suggesting that it is not simply the result of a NegP merged lower than AuxP.

(12) ašte sę bi   ne rodilъ   č̃kъ tъ
     if refl be-COND.3SG not born-L.PART.M.SG man this
     'if this man had not been born' (Matthew 26.24)

Let us then posit that NegP is higher than TP in OCS. There is evidence that OCS *ne* may attract the finite verb. The two can move to C together (see (13)), as in Modern South Slavic. Also, negation is affixed to the present tense auxiliaries (e.g., *něstъ* instead of *ne estъ* in (14)).[14]

(13) ne ostavitъ   li devęti desętъ i   devęti vъ pustyni
     not leave-PRES.3SG Q nine ten and nine   in wilderness
     'Does he not leave the ninety-nine in the wilderness?' (Luke 15.4)

(14) sego avraamъ něstъ   sъtvorilъ
     this Abraham not-be-PRES.3SG do-L-PART.M.SG
     'Abraham did not do this.' (John 8.40)

Yet Neg in OCS does not necessarily attract the finite verb (see (15)).

(15) a. ašte ne eže viditъ   ot̃ca tv[r]oręšta
        if not that see-PRES.3SG father do-PRES.ACT.PART.SG
        'if he doesn't see his Father doing it' (John 5.19)
     b. ěko ne prěžde krъsti   sę prъvěe oběda
        that not first wash-PAST.3SG refl before meal
        'that he did not first wash before the meal' (Luke 11.38)

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[14] Except for the 3pl *ne sǫtъ* (Lunt 2001: 97), the only stem that does not begin with *e*. This might suggest that forms like *něstъ* reflect the PF realization of cliticization, not affixation. Yet no such change occurs when *ne* precedes other verbs beginning in *e*.

Ne in (15) is not an instance of constituent negation; compare with (16) where it is. Nor are (15a,b) a case of negative concord that is not overtly marked by sentential negation (as in (17a)). In OCS the sentential negation marker is optional with preverbal negative-marked polarity items (Lunt 2001: 163-164; Brown 2002), as illustrated in (17a,b).[15]

(16) i   tu   ne   mъnogy dьni   prěbyšę
      and there not   many   days   stay-PAST.3PL
      'and they stayed there for a few days' (John 2.12)

(17) a. ni   bratrьě   bo   ego   věrovaaxǫ   vъ nego
         not brothers for his   believe-PAST.3PL   in him
         'because not even his brothers believed in him' (John 7.5)

      b. ni   otъ   edinogo že ne   može   iscělěti
         not from one   ŽE not can-PAST.3SG cure-INF
         'she could not be cured by anyone' (Luke 8.43)

Let us now turn to Aux/Part orders in their interaction with negation. No examples of Part-Neg-Aux orders are found in *Codex Marianus* (see also Willis 2000: 329). If T is the trigger of the movement and T is final, a Part-Neg-Aux order clearly cannot obtain. If T is initial, participle fronting in OCS must be subject to constraints similar to those in the modern languages (cf. (7c)-(8c)).

On the other hand, Neg-Part-Aux orders are attested, in contrast to the modern languages (cf. (18) vs. (7b)-(8b)). The presence of the negative polarity item *ničesože* 'nothing' in (18a) indicates that *ne* is a marker of sentential negation, not constituent negation associated with the participle. The word order in (18b) similarly argues against analyzing *ne* as constituent negation. The auxiliaries in (18) have remained in T – recall that in OCS Neg only optionally attracts T.

(18) a. ne   moglъ   bi   tvoriti   ničesože
         not can-L-PART.M.SG be-COND.3SG do-INF   nothing
         'He couldn't do anything.' (John 9.33)

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[15] The sentences in (17) are not conjuncts in a *ni…ni* 'neither…nor' coordination, as the larger context in which they appear (not shown here) shows.

b. da ne věry emъše   s͡psni   bǫdǫtъ
   that not faith take-PAST.ACT.PART.PL   save-PAST.PASS.PART.PL   be-FUT. 3PL
   'so that they not be saved, having faith' (Luke 8.12)

The Neg-Part-Aux orders are clearly expected on a T-final analysis. However, a T-initial grammar can also derive them, provided the participle incorporates into the auxiliary in T. Such an account cannot be conclusively ruled out. A clear counterexample would have a constituent intervening between the participle and the auxiliary. But the only such example in *Codex Marianus* has an alternative analysis, with *ne* a marker of constituent negation (see (19)).

(19)   ixъže   ne   dostoino   emu   bě   ěsti
       which   not   due-PAST.PASS.PART.N.SG   him   be-PAST.3SG   eat-INF
       'which it wasn't right for him to eat' (Matthew 12.4)

The available data concerning Aux/Part orders and negation do not allow us to conclude that putative instances of participle fronting are in fact orders faithful to the underlying T-final structure. It is possible that a study of a larger corpus would yield the unambiguous sentences needed to argue against the availability of participle fronting in the presence of sentential negation. But for now, the evidence remains inconclusive.

However, the discussion of negation has not been in vain. We have discovered that Neg in OCS may but need not attract the finite verb. This means that some Neg-Aux-Part orders may in fact be derived from a T-final structure, with Neg attracting the finite auxiliary across the participle. This is what happens in Basque, though obligatorily. TP in Basque is head-final, yet in the presence of the head-initial NegP the finite verb is attracted to Neg (Laka 1990: 25-42). It is tempting to consider attraction by Neg a factor in the change from a T-final to a T-initial grammar in OCS. The very optionality of T-to-Neg raising may be tied to the fact that two grammars are in competition in OCS. Consider the following scenario. Initially, TP is head-final, Neg does not attract the finite verb, and Neg-Part-Aux orders obtain (in the absence of verb-raising). A change in the features of Neg triggers T-to-Neg movement and the resulting Neg-Aux-Part orders create the possibility for reanalysis of the underlying grammar as T-initial. On this scenario there

is no optionality in the availability of T-to-Neg movement. Either Neg does not attract T (old T-final grammar) or it does (T-final or T-initial grammar). The idea of competing grammars allows us to model the seemingly optional property of Neg without appeal to optionality.

5. Participle Fronting and Pre-Verbal Subjects

In Modern South Slavic, participles do not front in the presence of pre-verbal subjects (Embick and Izvorski 1995, 1997; Boškovic 1995; a.o.). This is also true for stylistic fronting in Modern and Medieval Scandinavian (Maling 1990; Holmberg 2006) and Old and Early Middle English (Kroch and Taylor 2000). Subject traces, null subjects, postposed subjects, and some pronoun subjects allow participle fronting – the so-called "subject gap" condition (see also footnote 10).

   We can use the subject gap restriction as a test for participle fronting in OCS. A sentence such as (20), where the subject is null; or (2b), where the subject has moved to Spec, CP; or (3b), where the subject is post-verbal, may have a T-initial or a T-final structure with participle fronting.

(20)   ašte tokmo prikosnǫ   sę   rizy ego sp͡sna   bǫdǫ
       if   only touch-PRES.1SG refl shirt his heal-PAST.PASS.PART.F.SG be-FUT.1SG
       'if I only touch his garment I will be healed' (Matthew 9.21)

But the sentences in (21) (and (4b)), where a pre-verbal subject is present, may not be given a participle-fronting analysis, as they violate the subject gap condition. They must have a T-final underlying structure.

(21)   a. nyně kъnęʒъ mira sego izgъnanъ   bǫdetъ   vonъ
          now   ruler   world this send-PAST.PASS.PART.M.SG be-FUT.3SG out
          'Now the prince of this world will be driven out.' (John 12.31)
       b. i   oba zamatorěvъša   vь   dьnexъ svoixъ běašete
          and two age-PAST.ACT.PART.M.DU in   days   refl   be-PAST.3DU
          'and they were both well along in years' (Luke 1.7)

   Example (21b) is further revealing. The placement of the prepositional phrase suggests that the participle has not incorporated into the finite auxiliary. Examples of this type were discussed in relation to

negation and participle fronting. Whereas no clear counterexamples to a participle fronting account of Neg-Part-Aux were found, (21b) serves a similar purpose. T attracts the participle and in Modern South Slavic the fronted participle is always adjacent to the finite auxiliary (e.g., Wilder and Ćavar 1994). The word order in (21b) suggests that the participle has not been fronted across the auxiliary, but rather its position reflects the underlying T-final structure.

6. Formal Mechanisms

The previous sections established that two grammars for TP are at play in OCS. Here I will very briefly discuss how head-directionality is formally encoded. I assume that a feature on heads determines whether the head is linearized before or after its complement, post Spell-Out (e.g., $T_{[<]}$ or $T_{[>]}$). In other words, head-directionality is not a property of narrow syntax, but of the interface with the PF component. Since the linearization instructions are specified on individual heads, within one and the same language some phrases may be head-initial and others head-final. Thus, whereas OCS has both head-initial and head-final TPs, its NegP is consistently head-initial.

An alternative to parameterization of head-directionality is the thesis that all languages are head-initial (Kayne 1994). On this view languages differ in whether they require obligatory movement of complements to positions where they asymmetrically c-command their heads. To put it in concrete terms, the sentences in (21) and (4b), argued here to be T-final, would be analyzed instead as involving (in some cases remnant) movement of the phrase headed by the participle to a position below the subject. Based on the word order in sentences such as (18), this position would be Spec, TP (with the subject in a higher topic position). In other words, T would be the trigger for the movement of the participial phrase.

Both accounts localize the parametric difference on T. The head-directionality account is arguably more economical. Its only requirement is that the feature specification $T_{[>]}$ be visible after Spell-Out. The alternative also posits a feature on T, though one that affects movement of the participial phrase. It may appear that the alternative account compensates for the extra movement with an advantage in the post Spell-Out component. On that account linearization is directly determined off the hierarchical structure, whereas the head-directionality account has to

consider both hierarchical structure and the $T_{[>]}$ ordering specification. Yet constraints on ordering are independently necessary in the post Spell-Out component. Consider (9) and (13). The finite verb has incorporated into Neg and together they have moved to C. The structure of the complex head is [C [Neg [V]]]. But the PF realization of *ne*-V-*li* is determined not on the basis of structure alone, but in consideration of the proclitic/enclitic status of *ne* and *li*.

7. Conclusions

The paper argued that both T-final and T-initial grammars are operative in OCS, indicative of a change in progress. The change is modeled as a competition between two functional heads – $T_{[>]}$ and $T_{[<]}$. Evidence was also provided for historical change in the movement of the finite verb to Neg. The two changes are likely linked: the new ability of Neg to attract T contributes to the change in the head-directionality of TP.

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