Participle-Auxiliary Word Orders in Slavic[*]

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1 Introduction

In recent analyses, attention has been drawn to Participle-Auxiliary orders in Slavic. Such constructions have been argued to involve Long Head Movement of the participle: that is, head movement which does not obey the Head Movement Constraint, and which is taken to be an instance of a Last-Resort syntactic operation. The phenomenon, which appears in a number of Slavic languages, is seen in (b) in the following Slovak examples (from Rivero 1991):[1]

(1)   a.   Ja <u>som</u> **napísal** list.
            I   am   written letter
            'I have written a letter.'

    b.   **Napísal** <u>som</u> list.

    c.   *<u>Som</u> **napísal** list.

    d.   *Ja **napísal** <u>som</u> list.

As seen in example (1c), sentences in which the (present tense) auxiliary appears sentence-initially are ungrammatical. Furthermore, as shown in (1a), when another element, such as the subject, precedes the auxiliary, the participle does not appear before the auxiliary.[2]

        Previous analyses (Lema and Rivero (1989), Rivero (1991), and related work), dealing with Participle-Aux orders in many Romance and Slavic languages, have treated the word order in (1b) as involving head movement of the participle to C^0. This movement was dubbed Long Head Movement (LHM) on the grounds that the participle was argued to move directly to C^0, bypassing the intervening head occupied by the auxiliary, and thus violating the Head Movement Constraint (Travis (1984), Chomsky (1986)).

In earlier work (Embick and Izvorski (1994)), we argued that the LHM-based accounts give a misleading picture of Participle-Aux phenomena, and established three points, based on data from Bulgarian:

1. Participle-Aux orders with clitic auxiliaries do not behave as if they involve movement of the participle to C^0

2. Participle-Aux orders are possible with non-clitic auxiliaries, and in cases in which clitic auxiliaries are not in need of morphological/phonological support

3. Obligatory instances of Participle-Aux may be handled with Morphological Merger (or Prosodic Inversion), and need not involve syntactic movement

In subsequent work (Embick and Izvorski (1995)) we found our conclusions for Bulgarian to be substantiated for a larger sample of Slavic languages. The present analysis continues this general line of research, covering a wider group of languages, and bringing new evidence to the question of the relationship between Optional and Obligatory Participle-Aux orders.

We will begin by presenting the essential features of LHM-based analyses of Participle-Aux, and showing how such analyses are unable to capture the full range of Participle-Aux phenomena in Slavic. We will then show that Obligatory Participle-Aux may be handled without syntactic movement, and then that Optional Participle-Aux orders involve a syntactic movement distinct from Long Head Movement, and with certain discourse effects. This allows for parallels to be drawn between Optional Participle-Aux and similar phenomena in Germanic.

2   Long Head Movement?

As noted above, Lema and Rivero (1989) are the first in a line of researchers who analyze Participle-Aux orders in Slavic as involving head-movement of the participle over the position of the auxiliary to C^0. Many analyses following this paper have assumed this approach, and have sought to answer two further questions: (i) the question of what drives the movement of the participle; and, (ii) the question of how LHM may be made to satisfy the

ECP. The analyses have varied somewhat with respect to these points; we refer the reader to Rivero (1991), Roberts (1994), Wilder and Ćavar (1994) and Rivero (1994) for details (see also Embick and Izvorski (1994) for a summary.) The features common to LHM-based accounts can be given as follows. First, as noted above, LHM is taken uniformly to involve head-movement of the participle to C^0, as shown in (2):

(2) $[_{CP}$ $[_{C^\circ}$ **napísal**$_i$ $]$ $[_{IP}$ $[_{I^\circ}$ <u>som</u>$]$ $[_{VP}$ t_i list $]]]$

The second common feature is that the relevant movement occurs in one step, and skips the position occupied by the auxiliary.[34] Finally, the third common feature, and the most significant conceptually, is related to the motivation for Participle-Aux. Individual accounts cited above differ in what is taken to motivate the movement of the participle. For instance, Roberts (1994) has participle movement triggered by the need of the clitic auxiliary to have a host, whereas Rivero (1994) claims that certain auxiliaries in Slavic must be governed, and that this need for government triggers movement of the participle when no other governor is available. Despite these differences, the LHM-based accounts noted above all share a conception of Participle-Aux as a Last-Resort operation. The putative last-resort properties of the operation are taken to justify the manner in which the proposed type of movement differs from standard head movement.

Considered as a whole, the accounts which take LHM to be responsible for Participle-Aux orders make a set of three predictions concerning the nature of Participle-Aux. The first is that, as a last-resort operation, LHM, and thus Participle-Aux, should only appear in cases in which it is absolutely obligatory. Second, LHM should show locality effects (i.e. satisfy some version of the ECP), just like other cases of head movement. Finally, the third prediction is that LHM, as movement to C^0, should only occur in matrix clauses, because the driving factors for the movement would not be present in embedded clauses; that is, whether the motivation for LHM is stated in terms of support for clitics, or in terms of a government requirement for certain auxiliaries, the motivation for the movement will not be found in embedded clauses because of the presence of the complementizer.

These three issues lie at the heart of LHM-based analyses of Participle-Aux in Slavic, as they derive both from a conception of LHM as

a Last-Resort operation and from the position that the movement in question is head-movement to C^0. As we will show, none of these predictions are borne out when confronted with Participle-Aux phenomena in Slavic. Thus in addition to showing that the exact details of the proposed movement cannot be correct, we will show that the perspective that LHM-based approaches give to Participle-Aux phenomena is misleading.

2.1 Participle-Aux with Non-Enclitic Auxiliaries

As noted in the previous section, LHM based accounts make the prediction that Participle-Aux should not be found with auxiliaries which may appear sentence-initially. The reason for this is to be found in the nature of LHM as a last-resort operation; when there is no need for the movement to apply, it will not take place. 'Redundant' applications of LHM are supposed to be ruled out by considerations of Economy of Derivation, as in the case of the following example from Bulgarian:

(3)   a.   Kakvo <u>e</u> **kazal**?
             what   is told
             'What has he said?'

        b.   *Kakvo **kazal** <u>e</u>?

       In the ungrammatical example, LHM is taken to have applied redundantly because the fronted *wh*-word suffices to prevent the auxiliary from appearing sentence-initially. There are other environments in which the predictions of this approach may be tested, however. In particular, it may be examined in sentences with non-clitic auxiliaries; contrary to the LHM account, we find that Participle-Aux orders may in fact appear optionally, as seen in the following examples with the past auxiliary from Serbo-Croatian:[5]

(4)   a.   <u>Bejaše</u> **sreo** Petra.
             was   met Peter
             'He had met Peter.'

        b.   **Sreo** <u>bejaše</u> Petra.

A second relevant case may be found in Macedonian. The clitic auxiliaries in this language are proclitics, and thus may appear sentence-initially. Nevertheless, it is possible to have Participle-Aux with such auxiliaries:

(5)   a. <u>Si</u>   **rekol** ...
             be-2sg said   ...
             'You've said...'

        b. **Rekol** <u>si</u> ...

      In each of the (a) examples here the auxiliary appears felicitously sentence-initially, while in each of the (b) sentences, a grammatical Participle-Aux order is found. As far as the LHM-based approach is concerned, any optional cases of Participle-Aux are completely unexpected.

2.2   Non-Local Participle-Aux

A second set of cases relevant to the LHM approach involve examples in which there is an auxiliary with two participles. In Lema and Rivero (1989), it was argued that in such cases only the higher participle could precede the auxiliary, and that this showed the movement in question to be subject to locality requirements. The examples used to demonstrate this were pairs from the Bulgarian Renarrated Mood, for which it was claimed that only the higher of the two participles could undergo LHM (although see below.) It is also possible to test this in Czech, where, in the Past Conditional, we have the (enclitic) conditional auxiliary and two participles. It is possible to have either participle before the auxiliary, as the following pair shows:[6]

(6)   a. **Byl** <u>bych</u>   **koupil** knihy.
             been would-1sg bought books
             'I would have bought books.'

        b. **Koupil** <u>bych</u> **byl** knihy.

      As seen in (6b), Czech exhibits what would appear on the LHM account to be non-local head movement: movement of the lower participle over two intervening heads (the auxiliary and the first participle.) LHM-based accounts have recognized that the movement they posit violates the

Head Movement Constraint, and have addressed the question of how it satisfies the ECP. In Roberts (1994), an L-Related/Non-L-Related distinction between heads and a version of Relativized Minimality for head movement are argued to capture the relevant locality effects.[7] On Roberts' assumptions, I^0 is an L-Related head and C^0 a non-L-related head; movement of the participle to C^0 is to a non-L-related position, and is licit on the relativized version of the ECP because no non-L-related heads intervene.

Lema and Rivero (1989) took the Bulgarian equivalents of (6b) to be ungrammatical. However, such examples are in fact grammatical, as discussed in Embick and Izvorski (1994). Rivero (1994) acknowledges the grammaticality of non-local participle fronting, and claims that these facts support a definition of locality based on the L-Related/non-L-Related distinction for heads noted above. On the L-Related/Non-L-Related approach to locality, it must be assumed that the first participle is an L-related head. The grammaticality of (6b) would follow from the fact that the second participle has moved over the position occupied by the first to a non-L-related position, and has skipped no non-L-related heads in the process.

The next question to ask is whether the L-Relatedness approach is cross-linguistically useful. As it stands, there appear to be languages in which it is not possible for the lower participle to appear before the auxiliary; this seems to be the case for Croatian, as discussed in the papers by Ćavar and Wilder cited in the references. If these facts hold, then one taking the L-Relatedness approach would have to stipulate on a language by language basis whether the first (non-thematic) participle is L-Related. This distinction does not correlate with any other observable phenomena, however, and would therefore have to be regarded as fundamentally stipulative.

The considerations of this section may appear in aa different light depending on one's technical assumptions about the nature of locality. Proceeding from the fact that two-participle cases were originally (i.e. in Lema and Rivero (1989)) taken to provide insight into the nature of Participle-Aux generally, the questions we must ask are (1) whether these cases support the idea that Participle-Aux involves movement to C^0, and (2) whether they support the conception of Participle-Aux as a Last-Resort operation.

2.3 Participle-Aux in Embedded Clauses

A third environment to be examined is relevant both to the question of the nature of Participle-Aux, and to the question of its motivation. Common to LHM-based accounts is the idea that Participle-Aux is a root phenomenon, and should thus not be found in embedded clauses; the exact reasons for saying this vary from account to account. Examples like the following from Serbo-Croatian have been given to support this claim:

(7)   a.   * Ivan kaže, da **čitala** <u>je</u> Marija knjigu.
              Ivan said that read is Marija book
              'Ivan said that Maria has read the book.'

       b.   Ivan kaže, da <u>je</u> **čitala** Marija knjigu.

      However, the ungrammaticality of (7a) can be attributed to other factors; namely, the second-position requirement exhibited by clitics in Serbo-Croatian. There are two environments in which this hypothesis may be tested. The first cases are those Serbo-Croatian embedded clauses with non-clitic auxiliaries; and we find with such auxiliaries that Participle-Aux orders are possible in embedded clauses:

(8)   On tvrdi   da **istukao** <u>bejaše</u> Jovan Petrovog prijatelja.
        he claims that beaten was Jovan Peter's   friend
        'He claims that Jovan had beaten Peter's friend.'

      The second relevant environment would be in languages like Bulgarian, which do not exhibit second-position effects. And as shown in (9), Participle-Aux orders are possible in embedded clauses with auxiliaries which cannot stand alone sentence-initially:[8]

(9)   Razbrah   če **pročel** <u>e</u> knigata.
        understood that read   had book-the
        'I understood that he had read the book.'

      When the second-position effects are controlled for, then, we find that Participle-Aux is possible in embedded clauses. The ungrammaticality of examples like (7a) above played a significant role in the formulation of the LHM account of Lema and Rivero (1989); such examples seemed

to point to a root vs. embedded asymmetry in the appearance of LHM, from which it was concluded that movement to C^0 must be involved. The argument presented here shows that this conception of Participle-Aux follows from a misunderstanding of the nature of examples like (7a), and provides another strong case in which Participle-Aux behaves neither like movement to C^0, nor like a Last-Resort operation.

A possible counterargument to the claim that examples like (8) and (9) provide support against LHM would be to say that embedded Participle-Aux forms involve CP-Recursion. That is, one might argue that e.g. Bulgarian allows two CPs in examples like (9), with the participle moving to the lower C^0. However, CP-Recursed structures must meet certain licensing requirements, as discussed in the literature on the topic (see e.g. Iatridou and Kroch (1993) for a recent discussion.) Crucially, such structures are possible only under government by a verbal head. One environment in which these licensing requirements are not met can be found in *if*-clauses and (non-interrogative) *when*-clauses, which also allow Participle-Aux orders in Bulgarian (10) and Serbo-Croatian (11):

(10)   Ako **pročel** <u>e</u> knigata   ...
        if   read   is book-the
        'If he has read the book...'

(11)   Kad   **sreo** <u>budeš</u> Petra...
        when met will   Peter
        'When you meet Peter...'

We conclude from this that CP-Recursion as currently understood is not at play in examples like (10) and (11). Such examples thus constitute a case in which there is no motivation for participle movement on the LHM accounts, and in which there seems to be no possibility of movement to C^0 as being responsible for the Participle-Aux order.

2.4   A Summary of This Section

In the preceding discussion representative examples were selected from one or two languages; the situation with respect to the rest of the languages within the South- and West-Slavic groups is summarized in the following chart:[9]

(12)   Participle-Aux Behavior in Slavic

Language	Embedded	P/Non-clitic	'Clitic' First	Non-Local
SOUTH SLAVIC				
Bulgarian	Yes	Yes	Yes	Yes
Macedonian	No	Yes	Yes	Yes
Serbo-Croatian	Yes	Yes	Yes	Yes
Slovene	No	Yes	Yes	Yes
WEST SLAVIC				
Czech	No	N/A	Yes	Yes
Slovak	No	N/A	No	Yes
Polish	Yes	No	(No)	Yes

EMBEDDED: Part-Aux in subordinate clauses

P/NON-CLITIC: Part-Aux with free-standing (or non-enclitic) auxiliaries

'CLITIC' FIRST: Language allows stressed version of auxiliary to appear S-initially; i.e. the phonological dependency of the auxiliary may be cancelled

NON-LOCAL: Language allows the lower (thematic) participle to appear fronted in two-participle examples

Long Head Movement was originally introduced specifically for the purpose of handling Participle-Aux orders. In the preceding subsections we have presented arguments and data showing that the Long Head Movement approach is incapable of handling a number of Participle-Aux phenomena in a number of Slavic languages. The data challenge the structural account of the movement proposed in the LHM-based approaches, showing rather clearly that movement to C^0 is not a necessary component of Participle-Aux. The conceptual basis for LHM, the idea that Participle-Aux orders are found as the result of the operation of a Last Resort movement, is also directly contradicted.

The considerations above establish the point that LHM cannot be at play in Participle-Aux orders generally. One might nevertheless maintain that LHM exists as a process, and that, in addition to it, there is another process responsible for the rest of the cases of Participle-Aux. This move is unsatisfying, however, because it is incapable of being verified. The 'other' participle fronting process which must be appealed to on this view

is such that it would subsume all putative cases of LHM. Adherence to LHM thus amounts to holding a position with no empirical content.

3   An Alternative to the LHM Analysis

In analyzing the Participle-Aux orders of Slavic, we have two sets of cases to account for. The first set will consist of the cases in which this order is obligatory, i.e. those in which the auxiliary would otherwise have to appear sentence-initially, with ungrammaticality resulting. The second will be those in which Participle-Aux orders are optional; these were those identified in §2.1-2.3, which have to this point not been discussed in the literature apart from our earlier work and the work of Bošković (1994, 1995), who discusses the Optional cases in Serbo-Croatian.

3.1   The Obligatory Cases

The first point that will be relevant in our discussion of the obligatory cases concerns the status of those auxiliaries which cannot appear sentence-initially.[10] We will assume that in the unmarked case these auxiliaries are clitics, and that they require an element to their left for support. This assumption is certainly not unique to this account; it has, for instance, served as the motivating factor behind LHM in analyses like that of Roberts (1994), and is the description given to these items in the traditional Slavic literature. In presenting our analysis, we will rely on the status of the auxiliary as a clitic without invoking participle movement to C^0 as a means of satisfying the clitic's dependency; other factors will lead to the obligatory Participle-Aux orders.

Before we proceed with the analysis, a few points are in order considering the distinction we are making among Slavic auxiliaries. Factors other than clitichood have been appealed to in classifying the auxiliaries according to whether they may appear sentence-initially or not. Rivero (1994) has proposed a distinction between auxiliaries meant to capture the relevant difference. The idea underlying the account of LHM given in Rivero (1994) is that certain functional categories have licensing requirements, and that a need to satisfy these requirements is the motivation behind Long Head Movement. Extending aspects of the feature-checking

system of Chomsky (1993), Rivero argues that in addition to V having features to be checked, functional categories, including I^0 and some auxiliary verbs argued by Rivero to be generated in I^0, have features that must be licensed. Rivero explores two different ways in which this licensing may be accomplished. The first involves the licensing of the features through the raising of V to I. The second form of licensing is accomplished through government of the functional category by an immediately dominating head. Accompanying this account of licensing is a distinction between two types of auxiliaries in Slavic. The first type, the *lexical* auxiliaries, behave like main verbs in satisfying the properties of I^0 by moving to I^0; a second type of auxiliary verbs, the *functional* auxiliaries, are such that they must head governed projections; these are the clitic auxiliaries on our view.

      Returning to the clitic approach that we are adopting, we see that in partitioning the auxiliary system on the basis of phonological considerations, the resulting groups are the same as they are on Rivero's analysis. However, the clitic/non-clitic distinction makes the partition on much more natural grounds, and does not need to invoke licensing or other mechanisms. This is particularly relevant because Rivero seeks in part to justify her distinction on the basis of the semantics of the auxiliaries; as we noted in footnote 10, however, the Slavic languages differ with respect to how semantically similar auxiliaries are treated; cf. the splits with respect to e.g. Future and Conditional auxiliaries noted above. How this situation can be accounted for naturally on the licensing account is difficult to see.

      There are three cases in which the idea that the clitichood of the auxiliaries is what is relevant to Obligatory Participle-Aux is supported. The first is the fact that pronominal and reflexive clitics in Slavic trigger the same range of 'inversion' type phenomena seen in Obligatory Participle-Aux. For purposes of illustration, we will examine the case of pronominal clitics in Bulgarian. Consider the following set:

(13)   a. Az go vidjah.
               I   him saw
               'I saw him.'

         b.   * Az vidjah go.

         c.   * Go vidjah.

         d. Vidjah go.

Pronominal clitics appear pre-verbally, as seen in the contrast between (13a) and (13b). With null subjects, and no other preverbal material, the clitic has to appear after the verb-see (13c)-(13d). This highlights the fact that Obligatory Participle-Aux orders are part of a larger pattern of cases involving the resolution of enclitic dependencies.

A second argument supporting the clitic/non-clitic distinction may be found in the fact that, under certain circumstances, the clitic auxiliaries may be stressed and appear sentence-initially. Hauge (1976) notes that the copula may be stressed in certain environments in Bulgarian. This possibility is also found, in high style, with the auxiliary forms of the verb 'to be':

(14) SI   li **napisal** trideset knigi, ili ne si?
      be-2sg Q written thirty   books or not be-2sg
      'Have you written thirty books, or not?'

This is also possible in Slovene with emphasis, and much more commonly than in Bulgarian, as the following pair shows:

(15) a. **Prebral** je knjigo.
         read   is book
         'He read the book.'

      b. JE **prebral** knjigo.
         is read   book
         'He DID read the book.'

If government of the verb were at issue here, it is not clear why the auxiliary's being stressed should allow it to appear sentence-initially. This argues strongly that what is at issue is a phonological requirement, and not considerations of syntactic licensing.[11]

Further evidence that the dependency of the auxiliaries is not the result of a condition on government can be found in examples with con-junction. As may be seen in the following from Slovene, the present tense auxiliary must follow conjunction (this holds in Bulgarian as well):

(16) a. Janez je vstal in   je **odšel** domov.
         Janez is stood and is gone home
         'Janez stood up and went home.'

      b.   * Janez je vstal in **odšel** <u>je</u> domov.

This is not the case in all of the languages in our study; in Croatian, as reported in Ćavar and Wilder (1994), (and in Czech as well), the clitic may not follow the coordinating conjunction *i* 'and':

(17)   a.   *Ivan je vidio auto i   ga <u>je</u> **kupio**.
               Ivan   is seen car and is it bought
               'Ivan saw the car and bought it.'

      b.   Ivan je vidio auto i **kupio** ga <u>je</u> .

      From the perspective of Rivero's Licensing approach to the auxiliaries, the difference between these cases can not be handled without stipulation. It would have to be assumed that the syntactic properties of conjunction in the two languages are different, with Slovene *and* being able to govern auxiliaries, and Croatian *and* lacking this ability. Given that these two cases involve the same syntactic structures, and the same conjunction, such a position would be both unmotivated and uninsightful. Again, the contrast here points to a difference in the prosodic structures involved, in a way which support our treatment of the auxiliary system.

      Having shown that the relevant factor in the auxiliary system is the enclitic nature of certain auxiliaries, we will proceed to show that the necessary Participle-Aux orders may be derived from the clitichood of the relevant auxiliaries in combination with the operation of Morphological Merger of Marantz (1988), (1989):[12]

(18)   Morphological Merger
        At any level of syntactic analysis, ..., a relation between X and Y may be replaced by (expressed by) the affixation of the lexical head of X to the lexical head of Y.

      The relevance of Morphological Merger to the present case can be seen in its effects upon clitics that have been stranded by the syntax in sentence-initial position. Merger operates to invert the stranded clitic with an adjacent element, thus satisfying the clitic's need for a host. This may be illustrated with the following example from O'odham, taken from

Marantz (1988); syntactically, we have a situation in which the auxiliary is leftward dependent, but sentence initial in the syntax (so that the sentence is ungrammatical as it stands):

(19)   * 'o   pi   iam-hu cikpan g   Huan.
           AUX NEG there   work   ART John
           'John is not working there.'

        Morphological Merger applies to the stranded auxiliary to yield the following order, in which the auxiliary 'o has been affixed to the lexical head to its right:

(20)   pi=o iam-hu cikpan g Huan.

        We may consider now Slavic Participle-Aux in the same light, beginning with example (1) above. The structure in (21) is produced in the syntax:

(21)   *Before Merger:*
          [$_{IP}$ [[$_{I°}$ <u>som</u>] [$_{V°}$ **napísal** list]]]

Merger then applies to affix the auxiliary to the participle, yielding the following:

(22)   **Napísal** <u>som</u> list.

        In sum, we are proposing that non-syntactic mechanisms may be straight-forwardly appealed to in the case of Obligatory Participle-Aux. This approach follows directly from our treatment of certain Slavic auxiliaries as clitics, and groups Obligatory Participle-Aux with a larger set of cases involving clitics stranded by the syntax. In the next section we will discuss cases of Participle-Aux involving non-clitic auxiliaries, or in which clitic auxiliaries already have hosts. These raise the question of how the Obligatory and Optional cases of Participle-Aux are related to one another, which we take up in §4.

3.2 The Optional Cases

There are two primary cases we are considering under the heading of 'Optional' Movement. These are (1) cases in which a participle appears before an auxiliary which is not an enclitic (such cases were discussed in section 2.1), and (2) cases in which a participle appears before an enclitic auxiliary when the auxiliary is already supported, e.g. in a subordinate clause, or when a non-thematic participle is available to support the auxiliary (see sections 2.2 and 2.3 above). In such cases it is not possible to hold that the dependency of an auxiliary is responsible for the Participle-Aux order, necessitating a syntactic analysis. In this section we will present and consider the points relevant to determining whether the movement in question is head-movement or XP Movement (i.e. movement of the VP with corresponding extraposition of the object.) As we shall see, the question is difficult to answer conclusively because the movement does not seem to behave like either one of these movements for the entire range of phenomena considered; there are facts which contradict each approach. We thus conclude by drawing parallels between this type of Participle-Aux and similar phenomena in Germanic, and by presenting considerations on the discourse effects of Optional participle fronting.

The cases we are considering all involve movement of a single phonological word, the participle, and this naturally suggests that head-movement, i.e. incorporation of the participle into the position of the auxiliary, is at play in the Optional cases. This would immediately account for the fact that no other VP material is fronted with the participle; in the languages we have examined, examples like the following from Czech are ungrammatical:

(23)   * **Psal**   list   jsem.
        written letter be-1S
        'I have written the letter.'

A problem arises for the head-movement approach when we consider the predictions it makes concerning the co-occurrence of participle-fronting with the presence of XPs. In particular, we find that it is marginal to have optional participle fronting with pre-auxiliary XPs, as in the following schema:[13]

(24)   ??? XP Participle Aux ...

The problem is that there is no direct reason why head-movement should be affected by the presence or absence of such XPs. This interaction might lead one to believe that the movement of a maximal projection containing the participle is responsible for Participle-Aux. This would make the Optional cases the same as *Remnant Topicalization* (cf. Webelhuth and den Besten (1987)), a process in German in which the VP is fronted after the object has been scrambled out of it:

(25)   [$_{VP}$ Gestohlen] hat der Fritz das Buch sicher.
           stolen   has the Fritz the book certainly
        'Fritz certainly stole the book.'

However, there are reasons to think that this is not the case. For one, we would have to say that movement of the object out of the VP is obligatory in Slavic (cf. the ungrammaticality of (23) above); this is not required in German, as may be seen in *Das Buch gestohlen hat der Fritz sicher.* A second argument against the XP approach is that moved participles simply do not behave like other XPs. The following paradigm shows that preverbal XPs, including subjects, are unordered with respect to one another:[14]

(26)   a. Ivan včera   na Marija kakvo podari?
            Ivan yesterday to Maria what   presented
            'What did Ivan give to Marija yesterday.'

        b. Včera Ivan na Marija kakvo podari?

        c. Včera na Marija Ivan kakvo podari?

        d. Na Marija včera Ivan kakvo podari?

        e. Ivan na Marija včera kakvo podari?

The presence of the *wh*-word in this example shows clearly that all of the pre-*wh* elements are in an adjoined position. This potential for reordering predicts that if fronted participles involve XP-movement, that XP should also be unordered with respect to, for example, subjects. But this is not the case; as noted above, orders like [XP Participle Aux ...] are degraded, and,

furthermore, the order [Participle XP Aux ...] is completely ungrammatical. These facts raise further serious doubts about the XP-movement approach.

In light of these considerations, we are led to reconsider the head-movement approach. At this point other facts from within Slavic become relevant. If Participle-Aux involves head-movement, with incorporation into the position of the auxiliary, then the languages we have been discussing might be expected to behave like Polish. As the following pairs show, Polish participles may appear before the auxiliary with preverbal XPs:

(27) a. Kiedy **widział**e_ś_   królika?
          when saw-PART-2S rabbit
          'When did you see the rabbit?'

      b. Kiedy_ś_ **widział** królika?

Borsley and Rivero (1994) show that cases like (27a) involve incorporation of the participle into the position of the auxiliary. We would thus expect the other languages we have been looking at to behave similarly, but they do not. Thus both the XP-movement and the head-movement analyses are problematic.

This situation is reminiscent of one found in discussions of the process known as *Stylistic Inversion* in the literature on Icelandic (cf. Rögnvaldsson and Thráinsson (1990).) This involves the fronting of participles, adverbs, and negation to a position preceding the auxiliary; the following examples from Rögnvaldsson and Thráinsson (1990) illustrate the process for participles:

(28) a. Allt   sem hefur verið sagt er satt.
          everything that has   been said is true
          'Everything that has been said is true.'

      b. Allt   sem sagt hefur verið er satt.
          everything that said has   been is true.

A number of restrictions on this phenomenon are parallel to the Participle-Aux cases discussed here. Consider, for instance, the following description of Stylistic Inversion adapted from Maling (1990):

1. Applies to participles, adverbs, adjectives
2. Possible in embedded clauses
3. Disallowed in the presence of pre-auxiliary XPs

The connection to the restrictions on Participle-Aux noted above is clear.[15]

Most relevant for our purposes is that the data are once again not conclusive in deciding between head- vs. XP Movement. Thus Rögnvaldsson and Thráinsson (1990) argue for XP Movement, while Jónsson (1991), Santorini (1994) and Ottósson (1994) favor Head Movement; but none of these analyses is entirely free of problems (see the relevant papers for details.) In sum, it seems that Stylistic Fronting and Optional Participle-Aux raise almost the same set of questions.

Given the difficulties involved in determining the exact mechanism involved in Slavic Optional participle fronting, a definitive account of the phenomenon is not possible at the present time. A promising line to pursue seems to be one relating the restrictions on movement noted above to the discourse effects of Optional Part-Aux. It must be noted that sentences with Optional participle fronting are not discourse-neutral. Fronted participles may either receive an interpretation in which they are contrastively focused, or, on the contrary, one in which they are backgrounded in part of a larger discourse strategy. These interpretations seem to be parallel to the ones available to fronted XPs is Slavic.[16] We would therefore like to suggest that a better understanding of these discourse factors may shed light on the nature of the restrictions discussed above. Given the prominence of the pre-verbal position for encoding the status of entities in the discourse model, it is possible that the restrictions on the appearance of XPs discussed above, and especially the variability noted in footnote 13, could be seen to result from conflicting requirements on the information structure introduced by the word-orders in question. All of this is at a very abstract level, however, and cannot be confirmed until we have a better understanding of the discourse role of Optional participle fronting.

To summarize this section, we have shown that there is a non-prosodic movement responsible for some Participle-Aux orders in Slavic, and that its precise characterization is difficult to determine. The questions raised here for Slavic find a parallel in Germanic, in discussions of Stylistic Fronting in Icelandic. The question this raises is how this movement relates

to the cases of Obligatory Participle-Aux discussed in §3.1, and to this we turn in the next section.

4   Optional vs. Obligatory Participle-Aux

Presented with the fact that Participle-Aux orders are not uniform in motivation, there are a number of paths that may be followed in attempting to identify the relationship between what we have called 'Obligatory' and 'Optional' instances of this phenomenon. In the discussion above, we showed that the cases in which the participle obligatorily precedes the auxiliary may be handled in the morphological component and not in the syntax. This, however, is not the only option available; a second would be to take the position that, given that there is a syntactic process of participle movement (as attested by our Optional cases), the Obligatory and Optional cases are in fact the result of the same process. The Obligatory nature of this operation in certain cases would then result from the fact that, in derivations without the movement, the clitic would be unsupported and cause a PF-crash. This would in effect be the position that all displacements from expected word-order are the result of syntactic mechanisms. The question that must be addressed in light of these considerations is whether there is any evidence for one as opposed to the other of these options. As we have discussed the outline of a Morphological/Prosodic based approach above, we will now move into a discussion of a syntactic treatment of Obligatory Participle-Aux.

There are two points to consider in light of such a treatment. The first is that it would not involve Long Head Movement as this is defined in the work of Rivero and others following her; as we showed above, the Optional cases of Participle-Aux do not involve movement of the participle to C^0. Thus assimilating the Obligatory cases to the same syntactic movement involved in the Optional cases would amount to something very different from LHM.

The second point concerns the question of whether there is empirical evidence to support a syntactic as opposed to a non-syntactic account of the Obligatory cases. The literature on clitic placement in Slavic, and in particular the discussions of Serbo-Croatian second-position effects (fol-

lowing initial work on the topic by Browne (1974), see, for more recent approaches, the discussions in Halpern (1992), Progovac (1993), Franks and Progovac (1994), Percus (1993), and Schütze (1994)) has focused on this very issue. Most relevant to our discussion is the point that the material appearing in front of second-position clitics in Serbo-Croatian is not necessarily material which can be independently moved in the syntax. This may be seen in sets like the following ((29b) is from Schütze (1994), (29c) from Percus (1993)):

(29) a.   Jovan je **ušao**   *u ovu veliku sobu*.
           John is entered in this big   room
           'John entered this big room.'

      b.   *U ovu* je *veliku sobu* Jovan **ušao**.

      c.   * *U ovu* je Jovan **ušao** *veliku sobu*.

Given the ungrammaticality of (29c), it is impossible in this case to say that in (29b) [*u ovu*] has simply been moved out of the full DP [*u ovu veliku sobu*], which would itself have been moved to a position above the subject (adjoined to TP, perhaps.) Another syntactic option one might entertain would be to say that what is involved in (29b) is syntactic movement of the DP to a position preceding to the auxiliary, with [*veliku sobu*] having been extraposed. However, this type of approach is equally unable to predict the ungrammaticality of (29c).

Examples like those in (29) establish that syntactic movement cannot be responsible for the second-position effects under consideration.[17] For the discussion of Participle-Aux, this has two implications. The first is that it provides independent evidence for the necessity of processes like Morphological Merger/Prosodic Inversion as opposed to syntactic movement; in this sense, then, treating Obligatory Participle-Aux as involving such processes as we did in our earlier analyses has substantial theoretical motivation. The second point is that in the case of Participle-Aux, there are no diagnostics like that used above for distinguishing phonological vs. syntactic processes. The crucial pair above involved a multicomponent DP constituent, for which it is possible to ask whether a particular part may be moved syntactically. In the cases involving participles, however, it is not possible to employ such a diagnostic, as we are dealing with a single word.

In principle these considerations should not be cause for a great deal of concern, as we endorse the idea that the morphological component of a language may 'reorder' certain elements in order to satisfy the dependencies of clitics. However, given that we have recognized in this paper a type of Participle-Aux which is completely optional, and which requires syntactic movement, we must address the question of whether the workings of something like Merger/Prosodic Inversion as distinct from the operations of this syntactic movement could be identified.

We will answer this question by showing that, at least in some cases, there is evidence for a morphological operation distinct from the syntactic process involved in producing Optional Participle-Aux. Evidence for this position may be found in cases involving a non-clitic auxiliary (or a clitic auxiliary whose dependency has been satisfied) along with two participles. In Bulgarian, this situation is manifested in the Future Perfect, which shows the future particle *šte*, which may appear sentence initially (30a), along with a finite clitic auxiliary and two participles. In such cases, it is possible for the lower participle to appear before *šte*, but this is not possible for the higher participle:

(30)   a.   Šte <u>si</u> **bila** **pročela** knigata.
          FUT be-2sg been-FEM read-FEM book-the
          'You will have read the book.'

     b.   * **Bila** šte <u>si</u> **pročela** knigata.

     c.   **Pročela** šte <u>si</u> **bila** knigata.

The argument is then as follows. If syntactic movement is the only mechanism available for deriving Participle-Aux orders, the ungrammaticality of (30b) is unexpected. Consider the following pair, in which it is possible for the first of the two participles to appear before the auxiliary:

(31)   a.   **Pročela** <u>si</u> **bila** knigata.
          read-FEM be-2sg been-FEM book-the
          'You (allegedly) have read the book.'

     b.   **Bila** <u>si</u> **pročela** knigata.

On a syntactic account of the examples in (31), the participle would in each case have been moved syntactically to a position preceding the auxiliary

(disregarding for the moment questions of locality, and for that matter the precise nature of the movement involved.) In particular, the non-thematic participle *bila* would have to be susceptible to such a syntactic process. If this is the case, however, then *bila* should be able to appear before the participle in (30b) above, just as *pročela* does in (30c). This suggests rather strongly that in Bulgarian the cases in which the non-thematic participle appears before a clitic auxiliary are not derived in the same way that participles come to precede non-clitic auxiliaries in the optional cases.

It must be stressed that Optional participle fronting produces a discourse effect involving the participle, and in cases like (30b) the fronting of the non-thematic participle is degraded because it applies to an element without semantic content, and which is therefore not likely to be affected by discourse factors. The discourse effect in question is, rather unsurprisingly, the consequence of cases in which there is optionality; i.e. when a participle precedes a clitic auxiliary in examples with only a thematic participle, this effect is not produced. This is crucial because there is optionality in the examples in (31). Thus if (31b) is derived through syntactic movement, it should be ungrammatical exactly as (30b) is; but this is not the case. What the contrast between the cases in (30b) and (31b) shows is that the order Non-Thematic-Participle Aux is only derivable through non-syntactic mechanisms.

This position receives further support from two additional cases. The first involves the conditional auxiliary in Bulgarian and Czech. In Bulgarian this element is not an enclitic, as seen in (32a), and it is not possible to find the non-thematic participle fronted in such cases:[18]

(32) a. <u>Bihte</u>   **bili** arestuvani ot policiata.
          would-2pl been arrested   by police-the
          'You would be arrested by the police.'

   b. * **Bili** <u>bihte</u> arestuvani ot policiata.

   c. **Arestuvani** <u>bihte</u> bili ot policiata.

In Czech, conversely, the conditional auxiliary is an enclitic, and, as expected, the non-thematic participle may appear sentence-initially:

(33)   a.   * <u>Byste</u>   **byli** viděli.
              would-2pl been see
              'You would have seen.'

        b.   **Byli** <u>byste</u> **viděli**.

        c.   **Viděli** <u>byste</u> byli.

     In both of these cases it is possible to have the thematic participle fronted. Like the cases above, this contrast argues that the order Non-Thematic-Participle-Aux is dependent upon the clitichood of the auxiliary.

     Macedonian also supports this conclusion. In this language the auxiliary clitics are proclitic, and therefore do not need to have a host preceding them (cf. (34a).) The pattern with respect to the appearance of participles before this auxiliary parallels that in the cases discussed above; it is not possible to have the non-thematic participle appear before the auxiliary:

(34)   a.   <u>Si</u>   **bil predupreden** za   toa.
              be-2sg been warned   about that
              'You've been warned about that.'

        b.   * **Bil** <u>si</u> **predupreden** za toa.

        c.   **Predupreden** <u>si</u> **bil** za toa.

In Macedonian, there is no need for a process like Merger, given that the auxiliaries are able to appear sentence-initially. If we bear in mind what has been said about the discourse function attached to fronted participles, then the contrast in (34) may be accounted for in the same way the contrasts between (30b-c) and between (32b)-(33b) are. In the Bulgarian and Czech examples above we showed that in cases in which the non-thematic participle precedes an auxiliary, it appears there as a result of Merger/Inversion, and not syntactic movement. Macedonian has no need for Merger/Inversion with its auxiliaries, with the result that (34b) is never an option.

     In sum, then, we have three cases supporting the idea that a non-syntactic process responsible for Obligatory Participle-Aux may be distinguished from the syntactic movement responsible for Optional Participle-Aux.

5 Conclusions

The discussion above shows that Participle-Aux phenomena in Slavic are quite different from what they are taken to be from the perspective of analyses based on Long Head Movement. As a result of our analysis, the need for an operation like LHM is eliminated, with the analyses of Obligatory and Optional Participle-Aux both appealing to independently necessary mechanisms. Furthermore, we have shown that the non-syntactic mechanism involved may in some cases be distinguished from the syntactic movement required; this raises further questions concerning the relationship between these two types of Participle-Aux diachronically.

A further result is that questions are raised concerning the extent to which Participle-Aux phenomena in Slavic and superficially similar constructions in other languages may simply be lumped under the heading of 'Long Head Movement Phenomena'. Recent discussions have proposed that the relevant Slavic cases exhibit Long Head Movement and have sought to emphasize the relationship between Participle-Aux in Slavic and phenomena in a number of other languages; for instance, archaic Romance is claimed to exhibit Long Head Movement in Lema and Rivero (1989), and Rivero (1994) relates Slavic Participle-Aux to phenomena in Breton. In light of the fact that LHM does not play a role in Slavic Participle-Aux, these connections must be reexamined.

Notes

[1] Throughout the examples participles will appear boldfaced while auxiliaries will be underlined.

[2] In the discussion to come we will be looking primarily at active 'L'-participles. At this

point we have no reason to believe that active and passive participles will behave differently for the purposes of our investigation.

[3]Individual analyses differ somewhat as to the exact mechanics here. For instance, Wilder and Ćavar (1994) argue that auxiliaries in Croatian are in C^0, and that movement of the participle skips I^0 and adjoins to the auxiliary in C^0.

[4]We are using 'Croatian' here in accordance with the usage of Ćavar and Wilder's work; differences between their data and that of other writers might reflect dialectal differences, but this remains to be seen.

[5]By 'past auxiliary' we mean simply the morphological past-tense of the auxiliary verb; we refer to 'future' and 'conditional' forms of the auxiliary in the same fashion.

[6]This sentence is claimed to be ungrammatical in Rivero (1991). The judgements are not shared by all speakers, and are perhaps complicated by the fact that some speakers find this tense archaic.

[7]See Iatridou (1994) for a critique of Roberts' proposal.

[8]Examples with Participle-Aux orders in embedded clauses have been claimed to be ungrammatical in the literature (Rivero (1991)); the judgment given here, however, is one shared by all native speakers we have consulted.

[9]A number of points must be added to the information given in the chart, organized by column, these are:

Embedded. In Czech, Slovak, and Slovene we have given 'No' for this category; however, there is interference from the fact that all auxiliaries are subject to second-position requirements.

'Clitic' First. Examples like the following (very high style) question from Bulgarian show a stressed auxiliary appearing sentence-initially (see (14) below for an example.) The clitic-first cases in other languages vary somewhat; in Serbo-Croatian this is possible in questions (cf. Franks and Progovac 1994), in Czech with topic-drop (Toman 1993), and in Slovene with emphasis. In Polish, there appears to be variation with respect to whether the conditional auxiliary *by* may appear sentence-initially; informants we have consulted disprefer such forms, but Booij and Rubach (1987) report that it may appear sentence initially for some speakers.

Non-Local. For Slovak, we only have examples of the thematic participle being fronted in the two-participle cases in passives.

There appear to be dialectal and stylistic issues at play in most of these cases, and we have thus indicated with Yes cases in which the relevant order is acceptable under at least some

circumstances. A No indicates that none of our informants accepted such forms under any circumstances.

Finally, we have not included East Slavic here because of the lack of finite auxiliaries with participial complements (although the phenomenon might in principle be possible with conditional *by*).

[10] Which auxiliaries fall into this category varies from language to language. In all of the languages we are looking at except for Macedonian, the present tense auxiliaries may not appear sentence-initially in the unmarked case. This also applies to the conditional auxiliaries everywhere except in Bulgarian. The future auxiliaries in Slovene are also in this category. In the languages which have past-tense auxiliaries, these can appear sentence-initially.

[11] One possible objection to this position is that it relies on the notion of clitics being stressable, which is in some respects controversial. See, however, Klavans (1995) for cases in which underlyingly atonic elements are stressed in emphatic (and other) environments. For instance, she notes that in Old Spanish pronominal clitics could be given stress, with the result being an emphatic interpretation, as in *Levánte*<u>*té*</u> 'Get yourself up!' (clitic underlined.)

[12] Halpern's (1992) Prosodic Inversion could be invoked as well; this is defined as follows:

1. **Prosodic Adjunction of Clitics:** For a clitic X, which must have a prosodic host ω to its left (respectively right),

    a. if there is a ω, Y, composed of material which is syntactically immediately to the left (right) of X, then adjoin X to the right (left) of Y.

    b. else attach X to the right (left) edge of the ω composed of syntactic material immediately to its right (left).

There is some question as to whether the processes responsible for Obligatory Participle-Aux should be defined in Halpern's terms in all cases, as there are examples in which enclitic auxiliaries in Bulgarian are hosted by items which are themselves proclitic, e.g. future *šte*. In the case of Merger, no reference to prosodic word-hood is made in the definition of what type of host is sought. However, the basic ideas underlying the Prosodic Inversion approach are effectively the same as a Merger based approach, and we will refer to this type of non-syntactic treatment as Merger/Prosodic Inversion throughout this paper.

[13] There is variation in such cases depending upon the nature of the element appearing before the participle. Thus while interrogative *wh*-words may never precede a fronted participle (cf. (3b)), some XPs, for example subjects, may precede a fronted participle with marginal results, as in the following from Bulgarian :

(i)   ?? Paulina **pročela** <u>beše</u> knigata.
        Paulina read   was book-the
        'Paulina had read the book.'

[14]The paradigm is for Bulgarian, which has the strictest word-order of the languages in our study. We therefore expect these facts to extend to the other languages as well.

[15]To our knowledge, the Slavic languages in our study show fronting with the same elements listed in 1. above; although we are focussing on participle-fronting here, we expect our conclusions to be extendable to the cases with adjectives and adverbs.

[16]For a connection to a case in which head-movement is associated with discourse effects, see the work on inverted conditionals in English (and Germanic) in Iatridou and Embick (1994).

[17]This is not to suggest that there are never cases in which a constituent moved by the syntax hosts these clitics. Rather, we are arguing that unless the syntax happens to provide a host, post-syntactic mechanisms apply to provide the clitic with a host. Thus, for instance, in an example like the following it seems likely that the syntax has fronted part of the constituent [*u ovu sobu*] and thus provided a host for the clitic (cp. (29c) in the main text, and see Franks and Progovac (1994) for further discussion of these two):

(i)   U ovu <u>je</u>   Jovan **ušao**   sobu.
        in that <u>be</u>-3sg John   entered room
        'John entered this room.'

[18]We are using a passive in the Conditional to provide the required two participles; an exact correlate to the Czech case below is not possible. Nevertheless, the examples are sufficiently parallel, as they both involve the same auxiliary and non-thematic participle.

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