Slavic Comitatives and Bare Phrase Adjunction

Bradley Larson
University of Maryland

There is an extensive and empirically rich literature on the nature of comitative constructions in Slavic languages. It has long been an assumption that the construction is best analyzed through two structurally distinct representations: Noun modification by a comitative prepositional phrase and verb modification by a comitative prepositional phrase. Recently there have been challenges to this predominant view, supplanting it with an analysis in which the putatively separate constructions are in fact different versions of the same construction. This paper supports and modifies the latter view.

The foundation of this modification rests in the incompatibility of adjunction facts and the Bare Phrase Structure (BPS) of Chomsky 1995. Hornstein (2008) argues that current analyses of adjunction are not tenable in a BPS system and proposes a decomposition of the Merge operation to deal with this. Theories of comitatives consider them to be derived via adjunction and as such, they two can be re-analyzed in terms of decomposed Merge. In this paper I show this to be not only advantageous theoretically, but also more adequate descriptively.

1 Basic Paradigm

There are two very similar looking constructions in Slavic. In example (1) (from Feldman, 2001) is what is traditionally considered comitative VP-adjunction. This construction is distinguished by the singular agreement on the verb.

(1) Masha s Dashei hodit v školu.
Masha with Dasha goSG to school
‘Masha goes to school with Dasha.’

In (2) we find what is traditionally dubbed comitative coordination. The comitative phrase is analyzed as being attached to the subject to the exclusion of the verb and the construction is distinguished by plural agreement on the verb.
In this paper I differ with this view and support one in which the above constructions are essentially the same construction.

The most obvious hurdle to this approach lies in the fact that the two types of comitative phrase exhibit quite different behaviors. Below, I rehearse a few of the canonical differences between these to ostensibly distinct types of comitatives (examples again taken from Feldman 2001). The list is by no means exhaustive, but the examples presented are interesting and representative.

As shown below, only comitatives accompanied by singular agreement can undergo wh-extraction. When the verb shows plural agreement neither component of the comitative can be wh-extracted.

Furthermore, it is only so-called comitative coordination (plural agreement) that can license reciprocal binding, not comitative VP-adjunction (singular agreement).

2 Previous Analyses

Given these and other differences many have argued that plural agreement examples function more like coordination while the singular agreement examples involve adjunction of a PP to the VP (See, among others, Dyła 1988, Dyła and Feldman 2008, Feldman 2003, McNally...
1993, Vassilieva 2000, Vassilieva and Larson 2001). The differences between the types of comitatives are roughly schematized in (5) and (6) below. The structure in (5) represents the singular agreement, comitative VP-adjunction while (6) represents the plural agreement, comitative coordination.

(5) Masha [VP s Dashei [VP hodit v školu]].

(6) [DP [DP Masha] s Dashei] hodjat v školu.

The representations above straightforwardly account for the distinctions shown in the previous section. The representation in (5) functions akin to any other coordinated subject and as such is predicted to license plural agreement, reciprocal binding, and adjunct control. The representation in (6) also more or less straightforwardly accounts for the singular agreement facts: There is only one, singular subject and as such we predict only singular agreement on the verb and only the nominative noun c-command into the verb and can control anaphora.

There are serious problems for the dichotomous approach presented above. Although the facts are easily explainable under such a view, there are strong arguments that comitatives in Slavic do not adjoin to VPs. Ionin and Matushansky (2002) present what is to my mind the strongest argument against the two-part analyses comes from the fact that the comitative phrase does not necessarily need to be associated with the subject. In their examples, the comitative phrase is shown to be associated with direct objects, indirect objects, (and possessives).

(7) Ya priglasila Ceciliju s Annabelloj.

‘I invited Cecilia with Annabella’ or ‘Cecilia with Annabella.’

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1 The exact mechanism by which the comitative phrase is combined with the subject in comitative coordination differs from analysis to analysis. The mechanism has been claimed to be any of adjunction, complementation, or coordination. The particulars of these analyses are not relevant to this paper. What is of relevance is that the previous analyses claim a distinction between comitative VP-adjunct and coordination in terms of attachment site.
Ionin and Matushansky correctly point out that if comitative phrases are to be adjoined to the VP when associated with the subject of the sentence, there needs to be a finely articulated theory as to the particular site of this adjunction that prohibits the association with any other argument. Absent such a theory of differential VP-adjunction, there is little reason to suspect that VP-adjunction is involved in comitatives.

Instead, Ionin and Matushansky propose a collapse of the two types of comitatives into a single type. The comitative prepositional phrase always adjoins to the host DP. The different properties of comitatives arise depending on whether the host DP moves to [spec, TP] to the exclusion of the comitative or with it.

In other words, in lieu of the two representations in (5) and (6), we have instead two derivational histories of the same base-generated representation. The analogues of (5) and (6) are shown below as (9) and (10) respectively.

(9) \([TP_{DP \text{Masha}}, [VP_{DP t_i [s \text{Dashei}]} [\text{hodit v školu}]]]\)

(10) \([TP_{DP [DP \text{Masha} s \text{Dashei}]} ]; [VP t_i [\text{hodit v školu}]]\)

This approach gets Ionin and Matushansky the above facts in a much more parsimonious manner. They claim, quite intuitively, that agreement and reciprocal binding takes place from the [spec, TP] position. If the entirety of the complex subject comitative phrase moves to that position (as in (10)) then we can expect plural agreement and licensing of reciprocals. If however only the adjoined-to DP moves to that position we only expect it to play a role in agreement and anaphora binding. These facts in turn are correctly predicted to correlate with the extraction facts.

In the following section I modify their analysis in the face of a few problems.
3 Problems

In this section I address aspects of the above analyses that are inadequate in various ways. I present theoretical and empirical arguments in doing so, but it must be stressed that independent of whether the above approaches could somehow remedy their empirical problems, the theoretical problem forces us to reconsider the above approaches entirely.

Though I go through a few telling theoretical and empirical difficulties that the previous analyses succumb to, I focus on Ionin and Matushansky's approach. This is not because it fails more egregiously. Quite the opposite, I believe that their arguments against the two-part approach are sound and as such I spend less time investigating its further inadequacies. I agree in spirit with Ionin and Matushansky's approach, but as well shall see, disagree with the details.

3.1 Theoretical Problem

Ionin and Matushansky's proposed structural analyses of comitatives is shown below.

(11) \([VP \[DP [DP Masha] [s Dashei]] [hodit v školu]]\)

There is a problem with the above representations. Adjunction like that to the DP in (11) is no longer possible in Bare Phrase Structure (Chomsky, 1995). In BPS, X’ terms are relational, not static. As such (since there is only one projection of a head that does not project further), there can only be one maximal projection per head. In other words, we are required by BPS to portray the above trees like their analogues below.²

(12) \([VP \[DP [D Masha] [s Dashei]] [hodit v školu]]\)

² In BPS, nodes labeled, for example, \(\text{`V'}\) are non-entities. I employ them here simply to draw attention to them as maximal projections. Sticklers can try to imagine them without the affixed `P'.
As is apparent, the structures are essentially the same except that there are no longer syntactically encoded projections. Where we once had a rigid skeleton of minimal, intermediate, and maximal projections, we now only have 'bare' labels. These slight differences will turn out to be pivotal. Importantly, the erstwhile DP dominating Masha in (11) is now a non-maximal D in (12).

This new approach to phrase structure creates problems generally for adjunction. Although following Muysken (1982) intermediate nodes are not targetable for grammatical operations, we sometimes desperately need to be able to target them. For example, in the BPS structure below, the intermediate, non-maximal V can be targeted for deletion.\(^3\)

\[(13) \left[V \left[V \left[V \text{ate apples} \right] \text{in Fall} \right] \right] \]

In (14a) below, there are two relevant V projections: an outer, maximal VP and an embedded, non-maximal V. We can of course target the topmost VP in a sentence like in (14b). What BPS, as presented here does not predict is that we are able to target a non-maximal V projection for deletion like in (14c).\(^4\)

\[(14) \]
\[a. \text{Ivan } [VP \left[V \text{ate apples} \right] \text{in Fall}] \]
\[b. \ldots \text{and Ivy [did], too.} \]
\[c. \ldots \text{and Ivy [did], in Spring.} \]

Given BPS, neither of the approaches discussed in the previous section is tenable. For the traditional analyses, Ionin and Matushansky have shown that comitatives do not adjoin to VPs and we are left with a structure like in (12).

However, a structure like (12), essentially though forced upon us by BPS, is not adequate for the unified analysis. In (12) there is no maximal projection dominating Masha to the exclusion of the comitative phrase. As such, it alone cannot be targeted for the movement necessary to

\(^3\) Chomsky’s precise formulation of the nodes produced via adjunction differs from this, though see Hornstein, 2008 for argument against this formulation.

\(^4\) Larson, 2010 notes that the same necessity to target intermediate nodes arises with respect to coordination.
distinguish the two types of comitatives. It is non-maximal and is not able to move as a phrase.

(17) \[ [TP [\text{Masha}], \[VP [\text{Dashei}] \text{[hodit v školu]}]]\]

In sum, the traditional analysis cannot principally maintain the dependence on VP-adjunction and the unified analysis cannot maintain the dependence on DP-adjunction. In the following section I present empirical arguments concerning the inadequacies of the analyses in question.

3.2 Empirical problems
Again here I focus on the short-comings of the Ionin and Matushansky approach. Of the two arguments I present, the first solely concerns their approach. The second problem applies to all approaches to Slavic comitatives.

3.2.1 Three participants
One significant empirical problem with Ionin and Matushansky’s approach is that for plural agreement, they require the entirety of the DP to move to [spec, TP]. This, they say, correlates with particular interpretation of the sub-parts of the DP. In (2) Masha and Dasha are interpreted as “equal participants” in whatever event is in question.

In order for them to be interpreted as unequal participants, it would be necessary for only Masha to move to the [spec, TP] position, leaving with Dasha behind. In Ionin and Matushansky’s words: the with-phrase must be stranded or extraposed if its informational status is different from that of its associate.

There are however cases in which plural agreement is accompanied by unequal participation. For example, the sentence below in Next has three participants in a flying event: The sorcerer, the hero, and Ivan.

(18) Koldun s Ivanom s bogatyrem leteli po nebu.
    sorcerer with Ivan with hero flew across sky
    ‘The sorcerer and Ivan with the hero flew across the sky.’

There is plural agreement on the verb, but not all of the participants are necessarily equal. This sentence can have the interpretation in which
the sorcerer and Ivan are flying, but Ivan, not being magical, requires a hero to fly.\(^5\) As Ionin and Matushansky state, to not be interpreted as equal, a participant must be stranded or extraposed. There is no evidence that \textit{s bogatyre} has been extraposed, so it should be taken as stranded. Given their structural analysis of comitatives, this is not possible. The string \textit{koldun s Ivanom} is not a constituent in any sense and thus cannot be raised to \textit{[spec, TP]} to the exclusion of \textit{s bogatyre}.

### 3.2.2 Structural Differences from Traditional Coordination

Though the interpretation of some comitatives is essentially indistinguishable from the interpretation of coordination, there are clear syntactic differences between them. Previous accounts have focused on making the semantics of the two constructions quite similar but as yet do not account for some syntactic differences. Let us take a relatively anodyne interpretation of the structures of coordination and comitatives like in (19) and (20).\(^6\)

\begin{equation}
(19)
\begin{array}{c}
\text{DP} \\
\text{D} & \text{&P} \\
& \text{&} \\
& \text{DP}
\end{array}
\end{equation}

\begin{equation}
(20)
\begin{array}{c}
\text{DP} \\
\text{D} & \text{PP} \\
& \text{P} \\
& \text{DP}
\end{array}
\end{equation}

The extent to which previous analyses make no structural distinctions between comitatives and coordination is the extent to which the following distinctions are problematic.

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\(^5\) It should be noted that not all speakers allow the relevant reading here.

\(^6\) I assume Munn’s (1993) approach to coordination.
The most striking difference between comitative coordination and traditional coordination is found in the fact that the former cannot iterate while the latter can. So, as shown below, when there is more than one comitative phrase, the interpretation can only be of a hierarchical, nested sort; not a flat, listing of participants like with traditional coordination.

(21) Dasha i Masha i Sasha  
Dasha and Masha and Sasha  
‘Dasha and [Masha and Sasha]’ or ‘Dasha, Masha, and Sasha’

(22) Dasha s Mashei s Sashei  
Dasha with Masha with Sasha  
‘Dasha and [Masha with Sasha]’ but not ‘Dasha, Masha, and Sasha’

Structurally, neither approach can in any obvious way account for this distinction. In fact, the Ionin and Matushansky approach seems to predict that if the entirety of (22) were to move to [spec, TP] then, being equal participants in the event, the flat reading should be the only reading possible. This is not the case.

In sum, there are potential empirical problems with the previous accounts of Slavic comitatives. They cannot adequately distinguish comitatives from traditional coordination and, in Ionin and Matushansky’s case, they do not correctly correlate plural agreement with syntactic and semantic facts.

More importantly, there are theoretical reasons to believe that the fundamental representations of comitatives are no longer tenable. In the following sections I posit a solution to the theoretical problem, and following that, argue that this new approach more accurately handles the data.

4. Solution to the theoretical problem

To handle the differential behavior of adjuncts, Hornstein (2008) proposes the decomposition of Merge into two sub-operations: Concatenate and Label. In (23) below the traditional conception of Merge from Chomsky, 1995 is presented. Next to that in (24) is Hornstein’s decomposed merge.
(23) Merge(x,y) \rightarrow \{x,\{x,y\}\}

(24) a. Concatenate(x,y) \rightarrow \{x,y\}
b. Label(x,\{x,y\}) \rightarrow \{x,\{x,y\}\}

In other words, traditional Merge takes two elements and combines them to make a unit with one of the elements serving as the label of that unit. Under decomposed merge, the operation Concatenate makes a unit of the two elements and the operation Label causes one of the subunits to act as the label of the unit.

This decomposition allows for an elegant account of the differential behavior of adverbial modification. When an adverb Concatenates with a verb and Labeling does not occur (25) the adverb is, in Hornstein’s words, “invisible” to operations targeting the verb. So when an operation like VP-deletion targets a VP with a merely Concatenated adverb, the VP deletes leaving the adverb behind.

(25) Ivan ran slowly and Ivy did [ [vp run] quickly].

When an adverb is both Concatenated and Labeled into the structure (26), VP-deletion involves the adverb as well as part of the VP.

(26) Ivan ran slowly and Ivy did so [vp [v run] quickly] too.

4.1 Application to Comitatives
The solution to the adjunct conundrum presented above can straightforwardly be applied to comitatives. I’ll assume here a structure along the lines of Ionin and Matushansky, but this time there will be an initial structural ambiguity between the comitative phrase being Concatenated and Labeled with the subject (27) and being merely Concatenated (28).^7

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^7 For ease of explication, I present Concatenation without Label with dashed lines. The PP is in a structural relation with the host DP but does not form a constituent with it.
Now we have a theoretically sound way in which to move either the string *Masha s Dashei* in its entirety to the [spec, TP] position or just *Masha* to the exclusion of *s Dahsei*. As such, we can account for at least the same range of data that Ionin and Matushansky do through their account: When we want the whole phrase to move, we can target the DP in (27); when we want just the initial noun to move, we can target the DP in (28). The advantage is that we can do so in a more theoretically tenable fashion. In the following section I show how this approach can better account for the empirical shortcomings discussed earlier.

5. Empirical consequences

The most apparent empirical advantage to this view is that we can now target exactly what we could not with the Ionin and Matushansky approach. Recall that we wanted to be able to move the string *koldun s*
Ivanom in (18). Under the new regime the lower comitative phrase does not need to be fully Merged into the structure, it can be merely concatenated. As such, when the highest DP is targeted to move to [spec, TP], the Concatenated comitative does not move with it: exactly what we needed for the data presented earlier.

It was shown above that current theories of comitatives render them essentially the same as coordination, despite their differences. In this subsection I will explore a means to distinguish the two, relying heavily on the account of comitatives I propose here.

Larson, 2010 argues that coordination is derived via iterative Concatenation of like categories with optional Labeling. That is, the phrase in (29) can be derived in (at least) two ways.

(29) Mary and Ivan and Ivy

The derivation relies on the notion of decomposed merge discussed earlier. For the flat, non-hierarchical reading of the phrase above (‘Mary, Ivan, and Ivy’), the derivation proceeds as follows. First, concatenate Mary and Ivan (30), then Concatenate Ivy into that (31).

(30) Concatenate(Mary,Ivan) → {Mary,Ivan}

(31) Concatenate({Mary,Ivan},Ivy) → {Mary,Ivan,Ivy} = “Mary (and) Ivan and Ivy”

There is however (at least) another reading to this phrase, one in which there are internal groupings of people (say, '[Mary and Ivan] and Ivy'). To derive this, I posit that after Mary and Ivan were concatenated, but before Ivy is, Labeling occurs. Instead the derivation proceeds as follows:

(32) Concatenate(Mary,Ivan) → {Mary,Ivan}

(33) Label(Mary, {Mary,Ivan}) → {Mary, {Mary,Ivan}}

(34) Concatenate({Mary, {Mary,Ivan}},Ivy) → 
{Mary, {Mary, {Ivan,Ivy}}} = “Mary and Ivan and Ivy”
The consequence of this approach is that there are structural correlates to particular interpretations of coordination phrases. The result of the first derivation is a flat structure like in (35) and has essentially a distributive reading. The result of the second derivation is hierarchical like in and has a collective or cumulative reading.\(^8\)

(35) \([\text{DP}_i \text{DP}_j \text{DP}_k]\)

(36) \([\text{DP}_i \text{D}_i [\text{DP}_j \text{DP}_k]]\]

Comitatives, as we have seen, are also structurally ambiguous. But as is obvious below, they are not ambiguous between structured, hierarchical representations and flat, non-hierarchical ones. There is still a hierarchical distinction between the DPs in both trees below. The difference in interpretation then is not going to reduce to cumulatively versus distributivity. Instead we have the dichotomy standardly assumed in the literature: it will reduce to an ‘and’ reading and a ‘with’ reading.

(37) \([\text{DP} [\text{PP P DP}] ]\)

(38) \([\text{DP D} [\text{PP P DP}] ]\]

Note that the minimal amount of structure necessary for the ‘and’ interpretation of comitatives (38) mirrors that of the hierarchical coordination above. This being the case, we would expect comitative coordination to be interpreted only in ways that hierarchical coordination can be.

What would happen if we tried to iterate PPs in (38)? To be interpreted as coordination-like, the D would have to undergo Labeling. Labeling introduces hierarchical structure and precludes the ‘flat’ reading we found in (35). Thus, the fact follows that multiple comitative coordination phrases cannot have iterative readings like in (22).

Additionally, this approach can handle a distinction in ambiguity between traditional coordination and the comitative version. As

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\(^8\) The particular Labeling history represented in (62) is not necessary, just one of the potential derivations. Also, Larson, 2010 posits that the lexical item *and* is added postsyntactically.
discussed above, I posit two ways to derive coordination: one that results in a distributive reading, and one that results in a collective reading. This matches up nicely with the ambiguity the McNally (1993) raises with respect to coordination in Slavic.

In (39) below, the sentence can have either a collective reading in which a total of 1000 rubles were won by the group of Anna and Masha or the reading in which both women won 1000 rubles each.

(39) Anna i Masha vyigrali 1000 rublej.
    Anna and Masha won_{c} 1000 rubles
    ‘Anna and Masha won 1000 rubles in total.’ or ‘Anna won 1000 rubles and Masha won 1000 rubles.’

This ambiguity is not found in comitative coordination. The sentence in (40) can only have the collective reading in which no more than 1000 rubles was won. As we have seen above, the minimum amount of structure for a coordination reading requires the collective reading and thus the data below is readily explainable based on the syntactic structure of the comitative.

(40) Anna s Masha vyigrali 1000 rublej.
    Anna with Masha won_{c} 1000 rubles
    ‘Anna and Masha won 1000 rubles in total.’ but not ‘Anna won 1000 rubles and Masha won 1000 rubles.’

8. Conclusion

In this paper I have argued for a decomposed Merge analysis of comitatives in Slavic on theoretical grounds. It also provides a fuller account of the empirical terrain. It was argued that while the approach of Ionin and Matushansky is superior to traditional analyses, it undergenerates in a few crucial areas. I have offered a modification that more thoroughly explains the subtle differences between coordination and comitatives within a theory of decomposed Merge.
References


