Against *li* lowering in Bulgarian

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Received 30 July 1996

Lowering in overt syntax is known to be problematic as it involves movement into a non c-commanding position; i.e., it violates the ECP by precluding the trace left by movement from being properly governed. Putative examples of overt syntactic lowering (e.g., English Infl onto main verbs) have recently received an alternative explanation in terms of non-overt, LF-movement of V\(^0\) to I\(^0\) (Chomsky, 1993). A further step in eliminating pre-Spell-Out lowering is taken in Chomsky (1995) where the properties of the computational system do not even allow for the possibility of such an operation.

In this paper we offer an alternative account to Rivero’s (1993) proposal that lowering in overt syntax occurs in Bulgarian. In particular, she argues that in questions formed with the complementizer *li*, when a verbal head cannot raise to C\(^0\), the complementizer lowers to I\(^0\). Instead, we attribute the apparent syntactic lowering to a PF-phenomenon, known as Prosodic Inversion (Halpern, 1992), which is triggered by the enclitic properties of the complementizer *li*.

1. Bulgarian clitics

The complementizer *li* shares with the other Bulgarian enclitics a prohibition against appearing in a clause-initial position. The pronominal and auxiliary clitics occur in a group adjacent to the verb. If a non-clitic precedes the verb, this non-clitic hosts the clitics, as in (1a). Otherwise, the clitics follow the verb, as in (1b). (Clitics except *li* are italicized; the stressed element in the prosodic word containing the clitics is underscored.)

(1) a. Az sū́m mu go dal.
    I aux-1SG him-DAT it-ACC given
    ‘I have given it to him.’
b. Dal süm mu go.
given aux-1sg him-dat it-acc
‘I have given it to him.’

Just like other enclitics, li requires a phonological host to its left with which it forms a prosodic word. If no other host is present, the verb serves as host. We hold that the enclitic nature of li is responsible for the unexpected word orders that led Rivero to postulate lowering of li in the overt syntax. However, before we proceed with our arguments against the lowering analysis of li a brief discussion of the interaction between clitics and the negative and future markers is necessary.

1.1. The interaction of clitics with the negative and future markers

The negative marker ne is a proclitic on the finite verb, as in (2). In the presence of pronominal and/or auxiliary clitics, ne immediately precedes them and serves as their host, as in (3). Ra Hauge (1976) points out that the clitic following ne is stressed, and the ne plus stressed clitic complex forms a non-clitic which can host any remaining clitics. So, in (3a) the clitic pronoun go is stressed and in (3b) the auxiliary süm is stressed, but not the other two clitics. Under no other circumstances can clitics bear stress. This unusual behavior ultimately plays a role in the placement of li (Section 3).

(2) Ivan ne znae anglijski.
Ivan not know-3sg english
‘Ivan does not know English.’

(3) a. Ne go e poznala.
not him-acc aux-3sg recognized
‘She did not recognize him.’
b. Ne süm mu go dal.
not aux-1sg him-dat it-acc given
‘I didn’t give it to him.’

Another element relevant for our discussion is the proclitic future marker Šte. Šte is followed by a finite verb, and the clitics appear between Šte and the finite verb, as in (4). Unlike ne, Šte does not result in the following clitic bearing stress, although it can host clitics and appear in initial position; instead, the first element to bear stress is the verb.

(4) (Vie) Šte mu go dadete.
you fut him-dat it-acc give-2pl
‘You will give it to him.’

Data like the above prompted Rivero to suggest that Bulgarian phrase structure is roughly as in (5). Rivero (1993) is not explicit as to where the clitics are located, although it can be assumed that they are within the IP complex since they are always
adjacent to the verb, a view which is compatible with that presented in Rivero (1994).\(^1\)

\[(5) \text{ [NegP [MP [IP [VP ]]]]}\]

1.2. XP- and \(X^0\)-movement in \(li\) questions

In Bulgarian, yes–no questions can be formed with the enclitic \(li\), which Rivero (1993) and Rudin (1993) argue is a complementizer. A maximal projection can move to SpecCP where it will host the clitic \(li\) and be the focus of the question, as in (6).\(^2\)

\[(6) \text{ Kūštata } li \text{ namerixte (vie)?} \]
\hspace{1cm} \text{house-the Q found-2PL you}
\hspace{1cm} ‘Was it the house-FOC that you found?’ (Rudin, 1985: 64)

In neutral yes–no questions, no XP moves to SpecCP. Instead, the finite verb moves to \(C^0\) where it hosts the clitic. In (7a), the finite verb \(izpratix\) has moved to \(C^0\) where it hosts \(li\) and the other clitics. If the finite verb is itself a clitic, the verbal participle hosts the clitic. For example, in (7b) the finite verb is the clitic \(e\). Since it cannot host \(li\), the participle \(viždal\) does.

\[(7) \text{ a. Izpratix } li \text{ mu kniga?} \]
\hspace{1cm} \text{send-1SG Q him-DAT book}
\hspace{1cm} ‘Did I send him a book?’ (Rivero, 1993: 569)
\hspace{1cm} \text{ b. Viždal } li \text{ go e?} \]
\hspace{1cm} \text{seen Q him-ACC aux-3SG}
\hspace{1cm} ‘Has he seen him?’ (Rivero, 1993: 570)

1.3. Rivero’s analysis

As mentioned above, in neutral \(li\) questions with no focused XP a verbal head moves to \(C^0\) where it hosts the clitic \(li\). However, this pattern changes when \(ne\) or \(šte\) is present. In a negated clause like (8), \(li\) appears after the negative marker and another clitic, but before the verb.

\(^1\) For the purposes of this paper, the precise location of the clitics is immaterial, e.g., whether they are heads of their own functional projections or adjoined to \(l^0\) forming a complex head.

\(^2\) Only material in SpecCP, as in (6), receives focus interpretation in \(li\) questions (Rudin et al., 1995). So, the phrase \(kāštata\) in (i) cannot be interpreted as the focus of the question, and it cannot host \(li\) since it is outside the clause.

\[(i) \text{ Kūštata namerixte li ja?} \]
\hspace{1cm} \text{house-the found-2PL Q it-ACC}
\hspace{1cm} ‘As for the house, did you find it?’
If šte is present, li appears after both šte and the finite verb, as in (9a). The modal šte and any clitics precede the finite verb, as in (9b), as they do in non-li clauses.

(9) a. Šte dojdeš li s nas?
   fut come-2sg Q with us
   ‘Will you come with us?’

   b. Šte i go predstaviš li?
   fut her-DAT him-ACC introduce Q
   ‘Will you introduce him to her?’

These patterns with the negative and future modal led Rivero (1993) to propose that Neg₀ and Mᵣ are barriers for head-movement to C₀. If they are present, a verbal head cannot move to C₀, and there is no host for the clitic. As a result, li must lower (‘hop’ in her terms). The landing site depends on the construction. With the negative, Rivero claims that li left-adjoins to I₀ so that it follows the clitics but precedes the finite verb and participles, as in (8). With the future, the clitic right-adjoins to I₀ and thus follows the finite verb, as in (9).

We follow Rivero in assuming that the finite verb raises to C₀ where it supports the clitic complementizer. However, we argue that her account of li lowering is empirically inadequate in addition to being theoretically undesirable. In the following section we present data which her analysis cannot account for.

2. Empirical problems

2.1. Interactions with negation

Two empirical problems arise with Rivero’s analysis of li clauses when the interaction of li and the negative marker ne is examined (King, 1994). Under Rivero’s analysis, when no clitics are present, li should follow ne and precede the finite verb because li will left-adjoin to I₀. This is not the case; instead, li follows both ne and the verb, as in (10). Note that the ungrammaticality of (10b) is not phonological since ne can host other clitics, as in (3).

(10) a. Ne znae li anglijski?
   not know-3sg Q English
   ‘Doesn’t he/she know English?’

   b. *Ne li znae anglijski?

A second problem is that Rivero predicts that if there are several clitics in a negated question, li will follow all of them since li should have lowered, left-adjoin-
ing to l. However, in cases with more than one clitic following the negative marker, li appears after the first clitic and is followed by the others, as in (11). This happens regardless of which clitics are present.

(11) a. Ne g li e viždal?
    not him-ACC Q aux-3SG seen
    ‘Didn’t he see him?’
   b. Ne mu li go dadoxte?
    not him-DAT Q it-ACC gave-2PL
    ‘Didn’t you give it to him?’

2.2. Participle raising

There is an empirical problem with Rivero’s (1993) account involving participle raising. Certain nonclitic auxiliaries in Bulgarian allow optional movement of a participle over them, as in (12) (Embick and Izvorski, 1994).3 Rivero analyzes this as raising of the participle to C0 (Rivero, 1991).

(12) a. Beše izpil birata.
    aux drunk beer-the
    ‘He had drunk the beer.’
   b. Izpil beše birata.

Crucially, Rivero’s lowering analysis assumes that the modal šte is a barrier to movement of the verb to host li. However, this optional participle movement is possible over šte. So, both orders in (13) are possible.

(13) a. Šte e izpil konjaka.
    fut aux-3SG drunk cognac-the
    ‘He will have drunk the cognac.’
   b. Izpil šte e konjaka.

2.3. Blocking raising of ne and šte

In her conclusion, Rivero brings up another problem with the lowering account. Even if ne and šte were barriers for verb movement, it would be unclear why they cannot themselves raise to C0 to host li given that they host clitics under other circumstances. That is, why aren’t the orders in (14) possible?

(14) a. *Ne li mu izpratix kniga?
    neg Q him-DAT send book
    ‘Didn’t I send him a book?’

3 Unlike movement of the verb to host li, this optional participle movement is not to C0. Embick and Izvorski (1994) provide a number of arguments against raising to C0 including the fact that it can occur in embedded clauses.
Rivero (1993) suggests that the possibility of raising to $C^0$ may be related to verbal status in that only verb-like elements raise. However, it is unclear how šte is less verbal than other auxiliaries. For instance, it does inflect for person and number in the past tense, e.g.: štjax, šteše.

In sum, there are several empirical problems with Rivero’s (1993) lowering analysis: the placement of li in negated and future clauses, the fact that šte is not a barrier, and the blocking of the raising of ne and šte.

3. Analysis

Why does li appear in precisely the positions it does? A lowering analysis becomes even more ungainly because the landing site must be specified differently for a number of situations. Consider the following possibility. Following Rivero, under usual conditions, li can be hosted by a verbal head adjoined to $C^0$. However, contra Rivero (and King, 1994) NegO and MO do not block movement to $C^0$. Instead, the material in I$^0$, i.e., the main verb or auxiliary, always raises to $C^0$, via the intervening functional projections. The resulting complex verbal head then right-adjoins to $C^0$, where li is.

When there is no maximal projection in SpecCP, li still needs a host. Under such conditions, prosodic inversion can occur at PF as a last resort mechanism. Prosodic inversion allows a clitic to encliticize to the right-edge of the following phonological word if no constituent precedes the clitic (Halpem, 1992). Prosodic inversion is defined as follows:

(15) For a Directional Clitic X, which must attach to a phonological word $\omega$ to its left (respectively right),
   a. if there is a $\omega$, Y, comprised 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 $\omega$ composed of syntactic material immediately to its right (left).

Unlike lowering, prosodic inversion occurs at PF, not in the syntax. So, in a configuration like (16a), a phonological word $\omega$ precedes the enclitic and hosts it. However, in a configuration like (16b) no phonological word precedes the clitic and prosodic inversion occurs at PF.

(16) a. ([XX]$\omega$ CL [XX]$\omega$ ...) b. CL [XX]$\omega$ [XX]$_{\omega}$ ...

In the li constructions, when there is no constituent to its left, li will undergo prosodic inversion and cliticize to the right edge of the first phonological word, i.e.,
to the first stressed element in the verbal complex adjoined to C⁰. Usually, this will be the finite verb, as in (17).⁴

(17) Li [izpratix]⁰ - mu kniga? Q send-1SG him-DAT book
   Did I send him a book?

3.1. Interactions with negation and the future

In negated clauses, this stressed element will be the clitic or verb which immediately follows ne, as in (18) (see (3) on stress placement with ne).

(18) a. Li [ne mu⁰] - go dadoxte? Q not him-DAT it-ACC give-2PL
   Didn’t you give it to him?
   b. Li [ne običaš⁰] - kafe? Q not like-2SG coffee
   Don’t you like coffee?

With šte, this stressed element will be the finite verb since neither šte nor any clitics following it bear stress (Rå Hague, 1976), as seen in (19) (see (4) above).

(19) Li [šte go viždaš]⁰ -? Q will him-ACC see-2SG
   Will you see him?

As was seen in the above discussion, these are the desired orderings. Under this account, a single, independently motivated phonological rule places the clitic in both ne and šte clauses, unlike the lowering account which requires separate ad hoc statements for each construction.

This account predicts that when ne and šte co-occur, li will appear after šte; the presence of ne results in šte being stressed since it is the element which immediately follows ne. Although the ne šte combination is ‘bookish’ and hence rarely used, this prediction is borne out, as in (20).

(20) [Ne šte]⁰, li šte mu⁰ go dali?
   not will Q aux-2SG him-DAT it-ACC give
   ‘Won’t you have given it to him?’ (Rå Hauge, 1976: 20)

3.2. Participle raising

Following Embick and Izvorski (1994), we assume that optional participle raising over specific auxiliaries is movement to the highest functional projection below C⁰ (I⁰, Neg⁰, or M⁰). Given that šte is among the auxiliaries which permit this optional

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⁴ It is the material in I⁰ which raises to C⁰ to host li. As such, when the finite element is a clitic auxiliary, as in (7b), none of the material in C⁰ will form a phonological word and prosodic inversion will result in the clitics cliticizing onto the following verbal participle.
raising, then the possibility of the participle-šte order seen in (13) is unsurprising since under our account šte is not a barrier for head movement.

3.3. Blocking raising of ne and šte

Since ne and šte are not barriers to V₀ movement under this account, there is no difficulty in blocking the forms in Section 2.3. See (18) and (19) for sample derivations.

4. Conclusion

Contra Rivero's analysis, we propose that in neutral yes–no questions the verbal head in I⁰ raises to C⁰ by head-to-head movement, picking up the negative and future markers and that prosodic inversion occurs at PF, so that li will follow the first stressed element in the verbal complex. As such, this analysis eliminates yet another apparent example of syntactic lowering, while accounting for a broader range of data.

References