Against *li* lowering in Bulgarian

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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. <u>Az</u> *sŭm*   *mu*   *go*   dal.
       I   aux-1SG him-DAT it-ACC given
       'I have given it to him.'

b. <u>Dal</u>   *sŭm*   *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). Rå 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 *sŭm* 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 <u>*go*</u>   *e*   poznala.
       not him-ACC aux-3SG recognized
       'She did not recognize him.'
    b. Ne <u>*sŭm*</u>   *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*   <u>dadete.</u>
    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) [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) Kŭštata   li namerixte (vie)?
    house-the Q found-2PL you
    '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) a. <u>Izpratix</u> li *mu*   kniga?
       send-1SG Q him-DAT book
       'Did I send him a book?' (Rivero, 1993: 569)
    b. <u>Viždal</u> li *go*   *e*?
       seen   Q him-ACC aux-3SG
       '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.

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[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 I^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 *kŭštata* in (i) cannot be interpreted as the focus of the question, and it cannot host *li* since it is outside the clause.

    (i) Kŭštata   namerixte li ja?
        house-the found-2PL Q it-ACC
        'As for the house, did you find it?'

(8) Ne <u>*mu*</u>   li izpratix   kniga?
    not him-DAT Q send-1SG book
    'Didn't I send him a book?' (Rivero, 1993: 573)

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 <u>dojdeš</u>   li s   nas?
      fut come-2SG Q with us
      'Will you come with us?'
   b. Šte *i*   *go*   <u>predstaviš</u> 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 Neg^0 and M^0 are barriers for head-movement to C^0. If they are present, a verbal head cannot move to C^0, 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 I^0 so that it follows the clitics but precedes the finite verb and participles, as in (8). With the future, the clitic right-adjoins to I^0 and thus follows the finite verb, as in (9).

We follow Rivero in assuming that the finite verb raises to C^0 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 I^0. 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 I⁰. 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 *go*   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?'

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[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.

b. *Šte li *go*   viždaš?
   fut Q him-ACC see
   'Will you see him?'

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) Neg^0 and M^0 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 (Halpern, 1992). Prosodic inversion is defined as follows:

(15) For a Directional Clitic X, which must attach to a phonological word ω to its left (respectively right),
   a. if there is a ω, 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 ω 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 ω 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 C^0. Usually, this will be the finite verb, as in (17).[4]

(17) Li [izpratix]$_\omega$ – *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 *mu*]$_\omega$ – *go* dadoxte?   Q not him-DAT it-ACC give-2PL
           |_____↑   Didn't you give it to him?
      b. Li [ne običaš]$_\omega$ – 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]$_\omega$ –?   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]$_\omega$ li *ste*   *mu*   *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 C^0 (I^0, Neg^0, or M^0). Given that *šte* is among the auxiliaries which permit this optional

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[4] It is the material in I^0 which raises to C^0 to host *li*. As such, when the finite element is a clitic auxiliary, as in (7b), none of the material in C^0 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 V^0 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 I^0 raises to C^0 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.

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