

**ON OPERATORS IN THE PREVERBAL
DOMAIN OF HUNGARIAN FINITE
SENTENCES**

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Abstract

In this paper, I concentrate on the distribution and interaction of operators (question phrases, focused constituents, universal quantifiers and the negative particle) in the preverbal domain of Hungarian finite clauses. I considerably modify the LFG-XLE analysis I presented in Laczkó (2014a). On the one hand, I complement some aspects of my earlier analysis. On the other hand, I enlarge the empirical coverage greatly by developing an account of all the construction types investigated by Mycock (2010).

1 Introduction

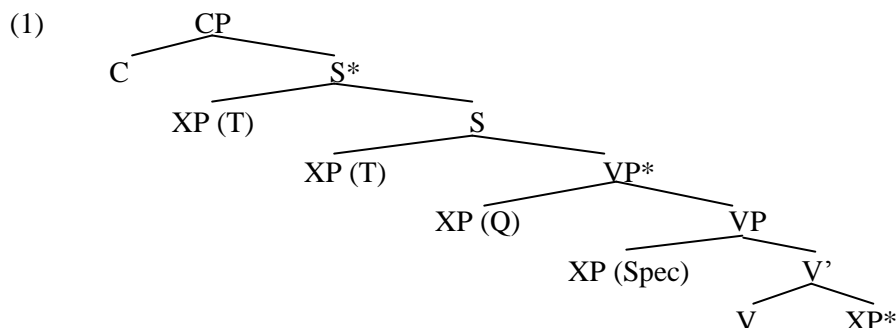
In a series of recent papers, I presented the essential ingredients of the most comprehensive LFG analysis of Hungarian finite clauses to date (designed to be XLE-implementable). In Laczkó (2014a) I developed the crucial aspects of an LFG-XLE syntax of the preverbal portion of finite sentences. In Laczkó (2014b) I outlined an analysis of various constituents in the [Spec,VP] position: foci, question phrases, and several types of verbal modifiers (VMs). In Laczkó (2014c) I concentrated on sentence and constituent negation. In this paper, I will augment the programmatic approach presented in Laczkó (2014a,b) by making the analysis of the basic construction types more complete and more constrained, on the one hand, and by incorporating the analysis of further constructions, on the other hand. I will cover the phenomena analyzed by Mycock (2010), who investigated the marking of scope relations from both syntactic and prosodic perspectives.

The structure of the paper is as follows. In section 2, I summarize the relevant points of my earlier analysis in Laczkó (2014a). In section 3, I discuss Mycock (2010) in a detailed fashion. In section 4, I modify and augment my earlier analysis in order to give an LFG-XLE account of all the constructions studied by Mycock. In section 5, I make some concluding remarks.

2 On Laczkó (2014a)

In Laczkó (2014a), I posit the generalized sentence structure shown in (1) on next page.¹ Table 1 gives an overview of the disjunctive annotations associated with the topic field, the quantifier zone, and the [Spec,VP] position schematically represented in (1). Given that in this paper I focus on constituents in the last two positions, I will only make very brief remarks on the programmatic treatment of elements in the topic field, which will need to be further developed (e.g. to capture the narrow scope of contrastive topics).

¹ XP* is the customary Kleene star notation (any number of XPs and possibly none), while S* and VP* indicate the iterativity of [XP S]_S and [XP VP]_{VP} adjunction.



| T: { (c-)topic sent.adv. } | Q: { quantifier WH } | Spec: { focus WH VM } |
|---|--|--|
| { (↑ GF) = ↓ { ↓ ∈ (↑ TOPIC) ↓ ∈ (↑ CONTR-TOPIC) } ↓ ∈ (↑ ADJUNCT) (↓ ADV-TYPE) =c SENT } | (↑ GF) = ↓ { (↓ CHECK_QP) =c + (↑ CHECK_VM-INTER) =c + (↓ CHECK_QP-INTER) =c + (↓ SPECIFIC) =c + } | { (↑ GF) = ↓ (↑ FOCUS) = ↓ (↑ GF) = ↓ (↓ CHECK_VM-INTER) =c + ((↑ CHECK_VM-INTER) = +) { (↑ GF) = ↓ ↑ = ↓ } (↓ CHECK_VM) =c + } |

Table 1. Basic functional annotations in the left periphery in Laczko (2014a)

In the topic field there are three basic annotational possibilities for a constituent. (A) It has either an argument function or an adjunct function (represented as GF in a generalized way: (↑GF) = ↓), and it has (i) a topic or (ii) a contrastive topic discourse function. (B) It has an adjunct function if it is a sentence adverb: (↓ ADV-TYPE) =c SENT.

The most important aspects of the annotations in the Q (“quantifier”) column of Table 1 are as follows.²

- A constituent in this field bears a grammatical function, and it is either a quantifier or a question phrase. This is encoded by the disjunction.
- In the two disjuncts, I use the XLE-style CHECK featural device. Its essence is that these CHECK features come in pairs: there is a defining equation and it has a constraining equation counterpart. These CHECK feature pairs can ensure that two elements will occur together in a

² Parts of this description have been taken from Laczko (2014a). In the annotational disjunctions the disjuncts are in complementary distribution. This is formally encoded in XLE by negatively specifying each disjunct for the (positive) features of all other disjuncts. For the sake of legibility, these negative specifications are omitted throughout the paper.

particular configuration,³ or that a particular element will occur in a designated position. It is this latter property that I utilize here.

- In the first disjunct, the constraining CHECK feature equation requires a constituent containing an element that is (inherently) specified as a quantifier.⁴ The defining CHECK feature equation counterpart is included in the lexical entries of the quantifier elements involved, see the generalized lexical form representation in (2).

(2) L (quantifier) ...
 (CHECK _QP (GF*↑)) = +

- The second disjunct regulates the occurrence of additional question phrases in multiple constituent questions. The combination of the (↑ CHECK _VM-INTER) =c + and the (↓ CHECK _QP-INTER) =c + constraining equations guarantees that this position can be occupied by an interrogative expression (second equation) iff the [Spec,VP] position is already occupied by another interrogative expression (first equation). Question words are assumed to have the generalized lexical form shown in (3). The annotations encode the following properties respectively.

- a) These elements are interrogative pronouns.
- b) They occur in constituent questions.
- c) They occur in sentences that do not contain a focused constituent.⁵
- d) They are constrained to occur in the [Spec,VP] or the (VP-adjoined) quantifier positions.

(3) L (wh-word) ...
 (↑ PRON-TYPE) = interrogative
 (STMT-TYPE (GF* ↑)) = wh-interrogative
 ~(FOCUS (GF* ↑))
 { (CHECK _VM-INTER (GF* ↑)) = +
 | (CHECK _QP-INTER (GF* ↑)) = + }

And now I turn to the annotations I associate with the [Spec,VP] position.

- The three main disjuncts encode the complementary distribution of focused constituents, question phrases and VMs, respectively.

³ For an example of this, see Laczkó & Rákosi's (2011) treatment of Hungarian particle verb constructions, in which the simplex verb and the particle are marked by corresponding CHECK features in their respective lexical forms.

⁴ _QP is mnemonic of this category.

⁵ This captures the fact that, on the one hand, question phrases and ordinary focused constituents are in complementary distribution, aspiring to the same [Spec,VP] position, and, on the other hand, even when one or several of them do not occur in [Spec,VP] that position has to be occupied by another question expression (and not a focused constituent). This latter generalization will be modified when the last construction type is analyzed in this paper.

- The first disjunct is straightforward.⁶
- In the second disjunct, the first (constraining) CHECK feature equation requires the presence of a question phrase in this position. Its defining counterpart is given in the lexical forms of question words, see (3).
- In the second disjunct, the second, optional, defining CHECK feature equation serves as the licenser of the occurrence of question phrases in the quantifier field.⁷ When it is not present in the structure, no question phrase can occur in the quantifier position. When it is present, it requires the presence of one or more question phrases. From the perspective of question phrases in the quantifier position, they can only occur there if the [Spec,VP] position is filled by a question phrase.
- The third disjunct handles VMs. The defining counterpart of its constraining CHECK feature equation is included in the lexical forms of the elements that can occupy this position in neutral sentences (in non-focused sentences and non-constituent-question sentences). The functional head annotation ($\uparrow = \downarrow$) in the disjunction is for particles, while the ($\uparrow \text{GF} = \downarrow$) annotation is for all the other types of VMs.

3 On Mycock (2010)

I discuss Mycock's paper in a detailed fashion here for the following reasons.

(i) This work reports the results of very important experimental research (based on elicited spoken data) exploring the syntax-prosody interface with respect to encoding prominence in Hungarian. (ii) It covers a wide range of phenomena, and posits its account in an LFG framework. (iii) Some aspects of Mycock's syntactic view that I do not agree with are shared by several other researchers, so when I discuss these details I can argue in a generalized fashion against similar proposals.

Let me present Mycock's (2010) overview of the intonation patterns she attested in her experimental research and her assumptions about the syntax of these constructions.⁸ Consider her table and her examples, whose numbers are also included in the table (2010: 285). Below I number these examples as (M21)...(M39).

⁶ Although I subscribe to the very strong recent view in LFG that discourse functions are to be uniformly represented in i-structure, for the sake of simplicity of exposition here I apply the classical LFG representation of TOPIC and FOCUS in f-structure.

⁷ Its constraining counterpart is associated with the VP-adjoined position.

⁸ In this paper I can only concentrate on the syntactic aspects of Mycock's (2010) approach. Her claims about the syntax-prosody interface with respect to scope marking are as follows. (i) Either syntax or prosody can mark scope (by dint of word order and stress, respectively). (ii) They typically align. (iii) When they do not align, prosody wins out, i.e. prosody determines scope. My view of this issue is greatly different, but, due to limitations of space, I have to discuss this elsewhere.

| Predicate | | | Example | | |
|----------------|-----------------|-------------------|------------------|------------------|-------|
| Operator Field | | VERB | | POSTVERBAL FIELD | |
| QP | FOCUS | | | | |
| ----- | focus | <i>verb</i> | <i>VM DO LOC</i> | (21) | |
| ----- | NEG + focus | <i>verb</i> | <i>VM</i> | (23) | |
| ----- | single Q-phrase | <i>verb</i> | <i>VM DO</i> | (31) | |
| ∇ | ----- | <i>VM + verb</i> | <i>SUBJ</i> | (24) | |
| ∇ | ----- | <i>NEG + verb</i> | <i>DO</i> | (29) | |
| NEG + ∇ | ----- | <i>verb</i> | <i>VM SUBJ</i> | (28) | |
| ∇ | focus | <i>verb</i> | <i>VM</i> | (25) | |
| ----- | Q1 | Q final | <i>verb</i> | <i>VM DO</i> | (33) |
| ----- | Q1 Q2 | Q final | <i>verb</i> | <i>VM</i> | (35) |
| ----- | Q1 | NEG + focus | <i>verb</i> | <i>VM</i> | (39a) |
| ----- | Q1 | NEG + focus | <i>verb</i> | <i>VM</i> | (39b) |

Table 2. General patterns of intonation

A dashed line indicates that no constituent occupies the relevant syntactic position. The point of prosodic prominence (a sharply falling pitch accent H+L at the left edge of the first phonological word) is represented by shading; the low plateau which follows it is indicated by italics; any high (H) monotone preceding the H+L accent is indicated by bold.

(M21) [János]_{TOPIC} [Anná-nak]_{FOCUS} mutatta be Mari-t
John.NOM Anna-DAT introduced VM Mary-ACC
 a mozi-ban.
the cinema-INE
 ‘John introduced Mary to ANNA at the cinema.’⁹

(M23) János **nem**=[Mari-t]_{FOCUS} hívta fel.
John.NOM NEG=Mary-ACC called VM
 [lit.] ‘John called not MARY.’
 (‘John called someone other than Mary.’)

⁹ I have simplified Mycock’s glossing of the past tense verbs (by not indicating the encoding of agreement and (in)definiteness). Throughout the paper, in the examples I will follow Mycock’s convention of italicizing the words in the glosses.

- (M31) [János]_{TOPIC} [ki-nek]_{FOCUS} mutatta be Mari-t?
John.NOM who-DAT introduced VM Mary-ACC
 ‘Who did John introduce Mary to?’
- (M24) **Mindenki-t** fel-hívott János.
everyone-ACC VM-called John.NOM
 ‘For every *x*, *x* = person, John called *x*.’
- (M29) Mindenki **nem=dicsérte** Anná-t.
everyone.NOM NEG=praised Anna-ACC
 ‘Not everyone praised Anna.’
- (M28) **Nem=mindenki-t** hívott fel János.
NEG=everyone-ACC called VM John.NOM
 [lit.] ‘John called not everyone.’
 (‘Not everyone was called by John.’)
- (M25) **Mindenki-t** [János]_{FOCUS} hívott fel.
everyone-ACC John.NOM called VM
 ‘For every *x*, *x* = person, JOHN called *x*.’
- (M33) [Ki]_{FOCUS} [ki-nek]_{FOCUS} mutatta be Mari-t?
who.NOM who-DAT introduced VM Mary-ACC
 ‘Who introduced Mary to who?’
- (M35) [Ki]_{FOCUS} [ki-t]_{FOCUS} [ki-nek]_{FOCUS} mutatott be?
who.NOM who-ACC who-DAT introduced VM
 ‘Who introduced who to who?’
- (M39) [János]_{TOPIC} [ki-nek]_{FOCUS} nem=[Mari-t]_{FOCUS} mutatta be?¹⁰
John.NOM who-DAT NEG=Mary-ACC introduced VM
 [lit.] ‘Who did John introduce not MARY to?’
 (‘Who did John introduce someone other than MARY to?’)

In Table 3 I juxtapose Mycock’s syntactic analysis of the relevant construction types with my syntactic analysis to be developed here.¹¹ As the top of Table 3 shows, Mycock subscribes to the widely assumed basic sentence articulation in Hungarian, where phrase-structurally the verb heads a VP, focus is in [Spec,VP] and the postverbal field is dominated by V’. The actual structural treatment of quantifiers is not stated (whether they are VP-adjoined or they are sisters of VP). By contrast, I assume the modified articulation also shown at the top of Table 3. In my view, too, focus is in [Spec,VP]. However, I assume that all VM types are also in [Spec,VP] in

¹⁰ (39a) and (39b) in Table 2 only differ in their prosody; that is why just one example is given in (M39).

¹¹ Naturally, the prosodic aspects of the constructions under investigation are the same.

complementary distribution with focus.¹² In addition, in my approach, constituents in the operator field are left-adjoined to VP.

| Mycock (2010) | | | Laczkó (this paper) | | | | |
|----------------|-----------------|-----------|---------------------|--------------|-----------------|------|-----|
| Predicate | | | Predication | | | | |
| Operator Field | | VERB | Operator Field | Predicate | | | |
| QP | FOCUS | | | QP | Spec,VP | VERB | Ex. |
| ----- | focus | | verb | ----- | focus | verb | 21 |
| ----- | NEG+focus | | verb | ----- | NEG+focus | verb | 23 |
| ----- | single Q-phrase | | verb | ----- | single Q-phrase | verb | 31 |
| ∇ | ----- | | VM+verb | ∇ | VM | verb | 24 |
| ∇ | ----- | | NEG+verb | ----- (!) | NEG | verb | 29 |
| NEG+∇ | ----- | | verb | ----- | NEG+∇ | verb | 28 |
| ∇ | focus | | verb | ∇ | focus | verb | 25 |
| ----- | Q1 | Q final | verb | Q1 | Q final | verb | 33 |
| ----- | Q1 Q2 | Q final | verb | Q1 Q2 | Q final | verb | 35 |
| ----- | Q1 | NEG+focus | verb | Q1 | NEG+focus | verb | 39a |
| ----- | Q1 | NEG+focus | verb | Q1 | NEG+focus | verb | 39b |

Table 3. Comparison of Mycock's (2010) and my syntactic analysis

Elsewhere I will argue in a detailed fashion for distinguishing two functional notions in sentence articulation in Hungarian: predication vs. predicate. My predication corresponds to Mycock's predicate, and both of them correspond to the comment component of the customary topic-comment primary division. My predicate is the core VP, and the VP-adjoined operators are in my operator field.

Let me now discuss the similarities and differences between our syntactic analyses of the relevant construction types.

(21), (23), (31). The two analyses are the same – the constituents receiving prosodic prominence are in the syntactically designated [Spec,VP] focus position.

(24). Mycock: the quantifier is in QP; the [Spec,VP] position, which is reserved for focused constituents in her approach, is empty; the VM morphologically combines with the verb (i.e. both elements are under V⁰). Laczkó: the quantifier is in QP here, too; the [Spec,VP] position is also a

¹² Contra Mycock (2010), Payne & Chisarik (2000) and Gazdik (2012), for instance.

standard position for VMs, so the VM occupies this position; and the simplex verb is under V^0 .¹³

(29). Mycock: the quantifier is in QP; the [Spec,VP] position, which is reserved for focused constituents in her approach, is empty; and the negative particle even syntactically procliticizes to the verb under V^0 . Laczkó: the quantifier is *not* in QP here: it is in a (contrastive) topic position preceding the QP,¹⁴ hence the “----- (!)” representation in Table 3; the [Spec,VP] position is also a standard position for the negative particle, so NEG occupies this position, and the simplex verb is under V^0 .¹⁵

(28). Mycock: the negated universal quantifier is in its regular (“cartographic”) QP position; [Spec,VP] is empty; and the verb is in V^0 . Laczkó: the negated universal quantifier is in [Spec,VP], just like any ordinary negated constituent, which must be focused as a rule;¹⁶ and the verb is in V^0 .

(25). The two analyses are the same: the universal quantifier, receiving the H+L prosodic prominence, is in QP; the focused constituent is in its usual [Spec,VP] position, but this time without its usual H+L accent; and the verb is in V^0 .

(33), (35). Mycock: all the question phrases make up one cluster that occupies the [Spec,VP] focus position. Laczkó: it is always the final (immediately preverbal) question phrase that occupies the [Spec,VP] position; and all the non-final question phrases are in the operator field, in left-VP-adjoined positions.

(39a,b). The fundamental difference between the two approaches is the same as in the case of the previous construction type. Mycock: the (non-immediately-preverbal) question phrase and the negated (non-interrogative) focus make up a cluster, which is the focused unit in [Spec,VP]. Although she does not mention this, this treatment is highly problematic for Mycock’s approach for an analysis-internal reason. One of her fundamental assumptions is that interrogative foci (one question phrase or a cluster of question phrases) and a(n always single) non-interrogative focused

¹³ For my detailed argumentation against assuming that VMs and verbs make up a morphological unit and for assuming that VMs are in [Spec,VP], see Laczkó (2014b).

¹⁴ The crucial evidence for the contrastive topichood of the quantifier in this construction is that it can intermingle with other (ordinary or contrastive) topics.

¹⁵ My main argument in Laczkó (2014c) for positing the negative particle in [Spec,VP] is that its complementarity with other constituents also targeting [Spec,VP] is naturally and directly captured. Let me add here that the heavy stress on the particle attested by Mycock’s (2010) pitchtrack for this example lends further support to this view. For the details of my approach see my analysis of example (6) in section 4.

¹⁶ As I point out in Laczkó (2014c), a negated universal quantifier can occupy the QP position iff the [Spec,VP] position is filled by a non-negated focused constituent.

constituent are in complementary distribution in [Spec,VP]. This is clearly violated by (39). Laczkó: only the negated (non-interrogative) focus is in [Spec,VP]; and the (non-immediately-preverbal) question phrase is in a left-VP-adjoined position (in the operator field).¹⁷

4 Augmenting Laczkó's (2014a) analysis

Below I analyze the constructions in the same order as they were presented and discussed in the previous section.

- (M21) [János]_{TOPIC} [Anná-nak]_{FOCUS} mutatta be Mari-t
John.NOM Anna-DAT introduced VM Mary-ACC
 a mozi-ban.
the cinema-INE
 'John introduced Mary to ANNA at the cinema.'

Other than my remarks on my earlier account, I have nothing to add about the treatment of constituents in the topic field; thus, the analysis of the topic constituent *János* 'John' is as usual. In this example there is no constituent in the operator field. The oblique argument, *Annának* 'to Anna' is the focus in the [Spec,VP] position. In Table 4, I show the relevant annotations in my previous account and those in my new analysis.

| Laczkó (2014a) | Laczkó (this paper) |
|-----------------------------|---|
| [Spec,VP] | [Spec,VP] |
| (↑ GF) = ↓ (↑ FOCUS) = ↓ | (↑ GF) = ↓ (↑ VM-FOCUS) = ↓ { (↓ VM-FOCUS-TYPE) = exh [ℒ=ℳ, ρ: erad] (↓ VM-FOCUS-TYPE) = id [ℒ=ℳ, ρ: level] (↓ VM-FOCUS-TYPE) = pres { [ℒ=ℳ, ρ: level] [ℒ=ℳ, ρ: erad] } } |

Table 4. Functional annotations for focus in [Spec,VP]

In the new analysis, too, (↑ GF) = ↓ is the same standard generalized grammatical function annotation as in my previous analysis. The (↑ FOCUS) = ↓ annotation in the previous analysis is radically augmented here. The reason for this is that in the previous, programmatic approach I only modelled one focus type in this single designated [Spec,VP] position, the generally assumed exhaustive type. In work in progress (still concentrating on the preverbal domain in Hungarian sentences) I also treat a

¹⁷ The difference between the two variants in (39a) and (39b) is that different preverbal constituents receive prosodic prominence, the H+L pitch accent.

construction type in which a focused constituent occurs in the operator field, preceding a question phrase in [Spec,VP]. Therefore, the two foci (the “standard” one in [Spec,VP] and this other one in this special construction) need to be distinguished. My solution is that I label the standard focus as VM-FOCUS¹⁸ and all other occurrences of foci (in either the preverbal or the postverbal domain) simply as FOCUS. Partially motivated by Kálmán et al. (1984), Kálmán (1985, 2001), Kálmán et al. (1986) and Gazdik (2012), in this work in progress I distinguish three types of focus that constituents can be associated with: ordinary exhaustive focus, presentational focus and identificational focus; the third one roughly corresponds to Kálmán’s (2001) and Gazdik’s (2012) “hocus”. And there is also a special, additional type, often called verum focus, whose function is to verify the truth of a statement.¹⁹ In the representation of my new analysis in Table 4 I use the [\nearrow = \sphericalangle , ρ : level/erad] notation²⁰ as an informal, short-hand representation for a complete set of prosodic annotations (along the lines of Mycock 2006 and Dalrymple & Mycock 2011). The labels “level” and “erad” stand for the prosodic properties of the constituent in this position in level-prosody and eradicating-stress sentence types, respectively.²¹

(M23) János **nem**=[Mari-t]_{FOCUS} hívta fel.
John.NOM NEG=Mary-ACC called VM
 [lit.] ‘John called not MARY.’
 (‘John called someone other than Mary.’)

In my implemented LFG-XLE analysis of constituent negation in Laczko (2014c) I use the following XLE-style c-structure rules and functional annotations. I disjunctively add the XPneg phrasal category to the usual XP category in [Spec,VP], and it receives the customary (\uparrow GF)= \downarrow (\uparrow FOCUS)= \downarrow annotations.²² My phrase structure rule for the XPneg itself is as follows.

(4) XPneg \rightarrow NEG: $\downarrow \in$ (\uparrow ADJUNCT);
 XP.²³

¹⁸ I use the “VM” prefix in the function label to indicate that the focused constituent in this [Spec,VP] position competes with VMs. In addition, VMs, too, can be focused there.

¹⁹ In the case of this focus type (which is also often called VP-focus), too, the H+L accent falls on the constituent in [Spec,VP] if that position is filled. If it is not filled, the verb is stressed.

²⁰ The ρ symbol stands for c-structure—p-structure linking.

²¹ In Mycock’s (2010) analysis it has the characteristic H+L accent; in Mycock’s (2006) representation it has the \sphericalangle β TONE=fall annotation.

²² In my current analysis the negated focused constituent is also associated with the [\nearrow = \sphericalangle , ρ : erad] prosodic annotation.

²³ XP is the functional head of XPneg. Recall that it is a convention in XLE that the \uparrow = \downarrow functional head annotations are not indicated in the phrase structure, and the

NEG is used to implement the idea that the negative particle is a special non-projecting functional word which can be adjoined to X^0 and XP categories (in this case it adjoins to an XP).²⁴ NEG is analyzed as an adjunct. I assume the following lexical form for the negative particle.

- (5) *nem* NEG (↑ PRED) = ‘nem’
(↑ ADJUNCT-TYPE) = neg.

Its category is NEG. This word is a special adjunct expressing negation, which is encoded by the (↑ ADJUNCT-TYPE) = neg annotation.

- (M31) [János]_{TOPIC} [ki-nek]_{FOCUS} mutatta be Mari-t?
John.NOM who-DAT introduced VM Mary-ACC
‘Who did John introduce Mary to?’

| Laczkó (2014a) | Laczkó (this paper) |
|--|--|
| [Spec,VP] | [Spec,VP] |
| (↑ GF) = ↓ (↓ CHECK_VM-INTER) = c + ((↑ CHECK_VM-INTER) = +) | [↗=↘, ρ: erad] (↑ GF) = ↓ (↓ CHECK_VM-INTER) = c + ((↑ CHECK_VM-INTER) = +) |

Table 5. Functional annotations for a question phrase in [Spec,VP]

The only difference between my previous account and my current analysis is that in the latter I also indicate the (exhaustive focus type) eradicating prosody of the constituent (and sentence). When there is a single question phrase in the sentence, occupying the [Spec,VP] position, it only has the first, obligatory CHECK feature annotation. The second, optional CHECK feature is needed for the treatment of multiple constituent questions, as discussed above in connection with Table 1.

- (M24) **Mindenki-t** fel-hívott János.
everyone-ACC VM-called John.NOM
‘For every x , x = person, John called x .’

Recall that this is Mycock’s (2010) example with her representation of the particle+verb combination as a single word; and also recall that in my approach the particle is an independent word occupying the [Spec,VP] position, just like other VM constituents.²⁵ For the details of my analysis of

system automatically associates this annotation with nodes lacking other (grammatical) functional annotations.

²⁴ In future work I will argue, in the spirit of Toivonen (2001) but with partially different assumptions, that there are several non-projecting categories in Hungarian, and this group includes the negative particle.

²⁵ The universal quantifier *mindenki* ‘everyone’ is in the operator field in both Mycock’s and my analysis.

particle verb constructions, see Laczkó (2013), and for the details of my general treatment of VMs, see Laczkó (2014b).

| Laczkó (2014a) | Laczkó (this paper) |
|--|---|
| [Spec,VP] | [Spec,VP] |
| { (↑ GF) = ↓ ↑ = ↓ } (↓ CHECK_VM) =c + | [↑=↘, ρ: level] { (↑ GF) = ↓ ↑ = ↓ } (↓ CHECK_VM) =c + |

Table 6. Functional annotations for VMs in [Spec,VP]

Recall that in my previous analysis the (constraining) CHECK feature guarantees that only elements lexically specified as VMs can occupy this position in a “neutral” sentence. The ↑ = ↓ functional head annotation is for particles and the (↑ GF) = ↓ annotation is for all the other VM types. These annotations are retained in my new analysis as well. However, here I also indicate the characteristic prosodic properties of VMs under normal (i.e. level prosodic) circumstances.

As regards the treatment of the universal quantifier, compare my two accounts in Table 7.

| Laczkó (2014a) | Laczkó (this paper) |
|---------------------------------|---|
| [XP,VP] _{VP} | [XP,VP] _{VP} |
| (↑ GF) = ↓ (↓ CHECK_QP) =c + | [↑=↘, ρ: erad] (↑ GF) = ↓ (↓ CHECK_QP) =c + |

Table 7. Functional annotations for universal quantifiers in [XP,VP]_{VP}

In my previous analysis, the programmatic annotation is very simple. In my new analysis, I schematically indicate the prosodic properties of the quantifier: [↑=↘, ρ: erad]. This encoding expresses that the universal quantifier gets the H+L pitch accent in this neutral construction type with VMs. In the discussion of the analysis of (M25), I will repeat the empirical generalization that even when a universal quantifier is followed by a focus, it is the former that receives the H+L accent.

(M29) Mindenki **nem**=dicsérte Anná-t.
everyone.NOM NEG=praised Anna-ACC
 ‘Not everyone praised Anna.’

Recall from my discussion of Table 3, comparing the crucial aspects of Mycock’s (2010) and my view of the construction types under investigation, that Mycock assumes that, on the one hand, the universal quantifier in (M29) is in the operator field, and, on the other hand, the negative particle procliticizes to the verb. Mycock’s representation of these assumptions in the table shows that for her this procliticization (indicated as *nem=dicsérte* in

(M29)) is not only prosodic but also syntactic. By contrast, above I argued that, on the one hand, the universal quantifier has all the properties of a contrastive topic, and, thus, it occupies a position in the topic field, and, on the other hand, the negative particle is in the [Spec,VP] position. As regards the treatment of the universal quantifier, it has to be associated with the functional annotations for contrastive topics.

The essence of my LFG-XLE analysis of this type of predicate (or clausal) negation in Laczkó (2014c) is as follows. My main argument for positing that the negative particle is in [Spec,VP] is its complementarity with the other elements competing for this position: focused constituents, question phrases and VMs.²⁶ This complementarity is most straightforward in the case of sentences containing VMs. Consider (6), for instance, in which there is a preverb as a VM, occurring postverbally.

- (6) Péter nem hívta fel a barátját.
Peter.NOM NEG called up the friend.his-ACC
 ‘Peter didn’t call up his friend.’

I assume that, in addition to the other three types of elements targeting the [Spec,VP] position, NEG has to be included in a fourth disjunct with the following XLE style annotations.

| [Spec,VP] |
|-------------------------|
| ↓ ∈ (↑ ADJUNCT) |
| (↑ VM-FOCUS) = ↓ |
| (↓ VM-FOCUS-TYPE) = neg |
| [↗=↘, ρ: erad] |

Table 8. Functional annotations for NEG

As this table shows, I assume that NEG in [Spec,VP] has the FOCUS function.²⁷ My motivation for this is twofold. On the one hand, the negative particle’s prosody is identical to that of an ordinary focused constituent.²⁸ On the other hand, in the current version of our HunGram grammar, the complementarity, in this construction type, of the negative particle and the VM can be captured (implemented) in a straightforward way: the general rule is that the VM targets the [Spec,VP] position provided that it is not occupied by a focused element, and *nem* is one such element.

²⁶ For detailed discussion, including the summary of some analyses that do not assume that NEG also competes for the [Spec,VP] position, see Laczkó (2014c).

²⁷ Naturally, this view makes it necessary to augment the generally assumed inventory of focus types. I leave the discussion of this issue to another forum.

²⁸ Consider the following quote from Mycock (2010) in this connection. “In terms of its prosody, an utterance involving preverbal negation shares key features with other non-neutral sentences, such as those which include a syntactically focused constituent [...]. The negative particle *nem* bears Kálmán et al.’s (1986) ‘eradicating stress’, i.e. a sharp fall in pitch followed by a low plateau” (2010: 276).

- (M28) **Nem**=mindenki-t hívott fel János.
 NEG=*everyone-ACC* *called* VM *John.NOM*
 [lit.] ‘John called not everyone.’
 (‘Not everyone was called by John.’)

Recall that Mycock assumes that in the case of (M28) the negated universal quantifier is in its regular QP position, the focus position is empty, and, despite this fact, the VM occurs postverbally. By contrast, I argue in Laczkó (2014c) that a negated universal quantifier can occupy its canonical QP position if and only if the [Spec,VP] position is filled by a non-negated focused constituent.^{29,30} From this it follows that in my approach *nem mindenkit* ‘not everyone.ACC’ in (M28) is analyzed in exactly the same way as *nem Marit* ‘not Mary.ACC’ in (M23).

- (M25) **Mindenki-t** [János]_{FOCUS} hív-ott fel.
everyone-ACC *John.NOM* *call-PAST.3SG* VM
 ‘For every *x*, *x* = person, JOHN called *x*.’

Recall that this construction is analyzed in the same way syntactically by Mycock (2010) and me. As has been pointed out several times above, it is a special prosodic property of this construction type that the universal quantifier “steals” the H+L pitch accent from the (exhaustive) focus. This can be captured in my system in the following way. I need to ensure that the two designated constituents “see each other” from and in their respective positions. The representational strategy is the same as in my treatment of multiple questions: I use CHECK feature pairs, see the relevant part of the discussion of Table 1 above. The key idea here is that the CHECK feature in the quantifier position ensuring (constraining) that only (universal) quantifiers can occur in that position,³¹ (↓ CHECK QP) =c + is supplemented with an optional defining CHECK feature *with an up-arrow*:

²⁹ This immediately explains the postverbal occurrence of the VM.

³⁰ Note that in Mycock’s analysis the negated universal quantifier receives the H+L pitch accent, because it is a universal quantifier in its canonical position, while in my analysis it receives this accent because it is a negated constituent in the focus position, that is why it is associated with the [\mathcal{L} = \mathcal{L} , ρ : erad] notation. It would be interesting to explore experimentally, by using minimal pairs, whether a non-negated universal quantifier and its negated counterpart exhibit exactly the same prosodic behaviour, and whether the negated quantifier has exactly the same prosodic properties in the following two configurations: NEG+ \forall verb and NEG+ \forall focus verb. If there was some noticeable difference, that would lend additional support to my analysis. However, if there was no discernible contrast, that would not necessarily support Mycock’s view.

³¹ In the disjunct of annotations for quantifiers, as opposed to question phrases.

(↑ CHECK_QP) = +, whose constraining counterpart is associated with the exhaustive focus in [Spec,VP]: (↑ CHECK_QP) =c +.³²

| | | |
|--|---|--|
| [XP,VP]_{VP} | | [XP,VP]_{VP} |
| [↑=✓, ρ: erad] (↑ GF)=↓ (↓ CHECK_QP)=c + | → | [↑=✓, ρ: erad] (↑ GF)=↓ (↓ CHECK_QP)=c + ((↑ CHECK_QP) = +) |

Table 9. Functional annotations for universal quantifiers in [XP,VP]_{VP} to capture the prosody of co-occurrence with exhaustive focus

And the combination of this constraining CHECK feature disjunctively with the regular eradicating stress annotation associated with exhaustive focus will have the following effect. In the unmarked case the focused constituent will have eradicating stress, but there will be no prosodic annotation, i.e. there will be no eradicating stress associated with the focus if there is a universal quantifier in [XP,VP]_{VP}.

| | | |
|---|---|---|
| (↑ GF) = ↓ (↑ VM-FOCUS) = ↓ (↓ VM-FOCUS-TYPE) = exh [↑=✓, ρ: erad] | → | (↑ GF) = ↓ (↑ VM-FOCUS) = ↓ (↓ VM-FOCUS-TYPE) = exh { [↑=✓, ρ: erad] ~[↑=✓, ρ: erad] (↑ CHECK_QP) =c + } |
|---|---|---|

Table 10. Modification of prosodic annotations for the exhaustive focus preceded by a universal quantifier

The disjunction part of the annotations encodes the following information. The first disjunct is the prosodic annotation I have used so far. The second disjunct encodes the fact that exhaustive focus has no eradicating stress: ~[↑=✓, ρ: erad] if there is a universal quantifier in [XP,VP]_{VP}: (↑ CHECK_QP) =c +. In this case the quantifier will receive eradicating stress, see Table 9.

Mycock (2010) does not exemplify and analyze the “NEG+V focus verb” construction type. Let me show how I can treat it in my approach. Consider the example in (7), and compare it with (M28) and (M25).

³² In the case of multiple questions, it is the immediately preverbal question phrase in [Spec,VP] that receives a similar pair of CHECK features: (↓ CHECK_VM-INTER) =c + and ((↑ CHECK_VM-INTER) = +). The second, optional one licenses additional question phrases in the quantifier position.

- (7) Nem mindenk-i-t János hív-ott fel.
 NEG everyone-ACC John.NOM call-PAST.3SG VM
 [lit.] ‘JOHN called not everyone.’
 (‘It doesn’t hold for everyone that it was John who called them.’)

János ‘John.NOM’ is a focused constituent and it is preceded by a universal quantifier (which happens to be negated); therefore, it must be analyzed in the same way as *János* ‘John.NOM’ in (M25), where it is preceded by a non-negated universal quantifier. The annotational apparatus needs to be augmented in the quantifier position to capture the fact that a universal quantifier can be negated in its canonical position iff there is a focused constituent in [Spec,VP].³³ Consider the annotations from Table 7 above and the modification I propose here.

| Table 7 | Modified version |
|---|---|
| [XP,VP] _{VP} | [XP,VP] _{VP} |
| [↗=↘, ρ: erad] (↑ GF) =↓ (↓ CHECK _QP) =c + | [↗=↘, ρ: erad] (↑ GF) =↓ (↓ CHECK _QP) =c + ((↓ POL) =c neg (↑ VM-FOCUS-TYPE) =c exh) |

Table 11. Modification of the functional annotations for universal quantifiers in [XP,VP]_{VP}

The modification is very simple and straightforward: it takes the form of combining two constraining equations, and making this combination optional (the fourth and fifth annotations in the column on the right hand side). This combination encodes the following dual condition: (i) the polarity of the quantifier must be negative; AND (ii) there must be a (VM-FOCUS) discourse function in the sentence and the type of this focus must be exhaustive, which is tantamount to saying that [Spec,VP] must be filled by the standard focus type.

- (M33) [Ki]_{FOCUS} [ki-nek]_{FOCUS} mutatta be Mari-t?
 who.NOM who-DAT introduced VM Mary-ACC
 ‘Who introduced Mary to who?’

Recall that Mycock (2010) and I analyze multiple constituent questions rather differently. The fundamental difference is that Mycock assumes that all question phrases (forming a cluster) occupy the [Spec,VP] focus position,³⁴ while I posit that it is solely the final question phrase that occurs in [Spec,VP], and all the other (non-final) ones are in VP-adjoined quantifier

³³ It does not matter whether the focused constituent is negated or it is not negated.

³⁴ (M33) is Mycock’s example, showing the essence of her analysis: both question phrases are marked as being focused.

positions.³⁵ Consider the annotations for the treatment of multiple questions in my previous analysis taken from Table 1.³⁶

| [XP VP] _{VP} : { quantifier WH } | [Spec,VP]: { focus WH VM } |
|---|---|
| (↑ GF) = ↓ (↑ CHECK _VM-INTER) =c + (↓ CHECK _QP-INTER) =c + (↓ SPECIFIC) =c + | (↑ GF) = ↓ (↓ CHECK _VM-INTER) =c + ((↑ CHECK _VM-INTER) = +) |

Table 12. Basic functional annotations for the treatment of multiple questions

In the spirit of my current analysis, the annotations for the question phrase in [Spec,VP] need to be supplemented with the customary prosodic information characteristic of exhaustive focus: [\nearrow = \swarrow , ρ : erad].

- (M39) [János]_{TOPIC} [ki-nek]_{FOCUS} nem=[Mari-t]_{FOCUS} mutatta be?
John.NOM who-DAT NEG=Mary-ACC introduced VM
 [lit.] ‘Who did John introduce not MARY to?’
 (‘Who did John introduce someone other than MARY to?’)

I did not analyze this special construction earlier. In the general frame of the analysis I am developing in this paper, it can be treated in the following way.

(A) Fundamentally, the special and unpredicted occurrence of the question phrase needs to be encoded in the annotations for multiple questions associated with the quantifier position.

| Laczkó (Table 1) | Laczkó (augmented version) |
|---|--|
| [XP,VP] _{VP} | [XP,VP] _{VP} |
| (↑ GF) = ↓ (↑ CHECK _VM-INTER) =c + (↓ CHECK _QP-INTER) =c + (↓ SPECIFIC) =c + | { (↑ GF) = ↓ (↑ CHECK _VM-INTER) =c + (↓ CHECK _QP-INTER) =c + (↓ SPECIFIC) =c + (↑ VM-FOCUS-TYPE) =c exh (↑ VM-FOCUS POL) =c neg (↓ CHECK _QP-INTER) =c + (↑ CHECK _QP-INTER) = + (↓ SPECIFIC) =c + { [\nearrow = \swarrow , ρ : erad] ~(↑ _{ρ} VM-FOCUS [\nearrow = \swarrow , ρ]) = erad ~[\nearrow = \swarrow , ρ : erad] (↑ _{ρ} VM-FOCUS [\nearrow = \swarrow , ρ]) = erad } } |

Table 13. Modified annotations for question phrases in [XP,VP]_{VP}

³⁵ It is the immediately preverbal (final) question phrase that receives the H+L accent, as the shading indicates.

³⁶ For details, see the discussion of Table 1 above.

Recall that in my earlier treatment of multiple constituent questions, I use the annotations shown in the left column of Table 13 (taken from Table 1). Two constraining CHECK features ensure that a question phrase can occur in this quantifier position: (\downarrow CHECK _QP-INTER) =c +, if the [Spec,VP] position is occupied by another question phrase: (\uparrow CHECK _VM-INTER) =c +. In order to cover the special construction type in (M39), this treatment needs to be augmented by the disjunction shown in the right column of Table 13. Its first disjunct is the previous set of annotations for multiple questions (see the left column again), and the second disjunct handles the special construction. The annotational strategy is basically the same here, too. A question phrase is licensed to occur in the quantifier position: (\downarrow CHECK _QP-INTER) =c +, if the [Spec,VP] position is occupied by a designated constituent type. Here this designated constituent is an exhaustive focus: (\uparrow VM-FOCUS-TYPE) =c exh that is negated (that is, its polarity is negative): (\uparrow VM-FOCUS POL) =c neg. The prosodic disjunction in this second disjunction formally captures Mycock’s (2010) empirical findings: either the question phrase in the quantifier position (first prosodic disjunct) or the negated exhaustive focus in [Spec,VP] receives the H+L pitch accent (i.e. eradicating stress).

(B) All this has to be coupled with a modification in the annotations associated with the exhaustive focus in [Spec,VP]. Recall that the exhaustive focus, as a rule, gets eradicating stress, except when it is preceded by a universal quantifier, in which case it is the universal quantifier that receives eradicating stress. I captured this by the modified annotations in Table 10. In Table 14, I modify those annotations to also cover the prosodic behaviour of the question phrase + negated exhaustive focus construction.

| | | |
|--|---|--|
| $(\uparrow$ GF) = \downarrow $(\uparrow$ VM-FOCUS) = \downarrow $(\downarrow$ VM-FOCUS-TYPE) = exh { [\nearrow = \swarrow , p: erad] (\uparrow CHECK _QP) =c + } | → | $(\uparrow$ GF) = \downarrow $(\uparrow$ VM-FOCUS) = \downarrow $(\downarrow$ VM-FOCUS-TYPE) = exh { [\nearrow = \swarrow , p: erad] (\uparrow CHECK _QP) =c + (\uparrow CHECK _QP-INTER) =c + } |
|--|---|--|

Table 14. Modification of prosodic annotations for the exhaustive focus preceded by a universal quantifier or a question word

Recall that in the case of the “universal quantifier + focus” construction type I formally encoded the fact that the two elements “see each other” by using an optional up-arrow defining CHECK feature associated with the universal quantifier: (\uparrow CHECK _QP) = +, and an obligatory constraining CHECK feature associated with the exhaustive focus, and if this feature match requirement is satisfied then the focus has no eradicating stress (and the quantifier has this stress as usual).³⁷ In the case of our “question phrase +

³⁷ See the second disjunct in the left column in Table 14. In essence, this is the way in which I capture the context-sensitivity aspect of these constructions.

negative focus” construction, I also employ an up-arrow defining CHECK feature associated with the question phrase in [Spec,VP]: (\uparrow CHECK _QP-INTER) = +, but this time it is obligatory, because it appears among the annotations directly linked to a negated exhaustive focus,³⁸ and its constraining counterpart, (\uparrow CHECK _QP-INTER) =c +, is included in the prosodic disjunction of annotations associated with the focus, see the right column in Table 14. The scenario is the same: the focus has no eradicating stress, or, rather, it is not specified for eradicating stress when the [Spec,VP] position is filled by a question phrase (see the third disjunct). The distribution (i.e. alternation) of eradicating stress is encoded by the annotations associated with the question phrase in the right column in Table 13.

5 Conclusion

In this paper I have considerably modified my LFG-XLE analysis of the preverbal domain of Hungarian finite sentences presented in Laczkó (2014a). I concentrated on the distribution and interaction of operators (question phrases, focused constituents, universal quantifiers and the negative particle). I complemented some aspects of my earlier analysis. I enlarged the empirical coverage to a great extent by developing an account of all the construction types investigated by Mycock (2010).

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³⁸ See the (\uparrow VM-FOCUS POL) =c neg and (\downarrow CHECK _QP-INTER) =c + constraining equations in the right column in Table 13.

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