ON NEGATIVE PARTICLES AND NEGATIVE POLARITY IN HUNGARIAN

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Proceedings of the LFG15 Conference

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(Editors)

2015

CSLI Publications

http://csli-publications.stanford.edu/

Abstract

In this paper, I modify and augment my LFG-XLE analysis of negation in Hungarian proposed in Laczkó (2014b) by (i) developing an account of the special uses of negative particles (ii) capturing their interaction with negative polarity items (iii) presenting a formal treatment of suppletive negative variants of the copula. In addition, I argue for a particular distribution of labour in my approach for the three standard XLE devices for handling negation phenomena across languages.

1 Introduction

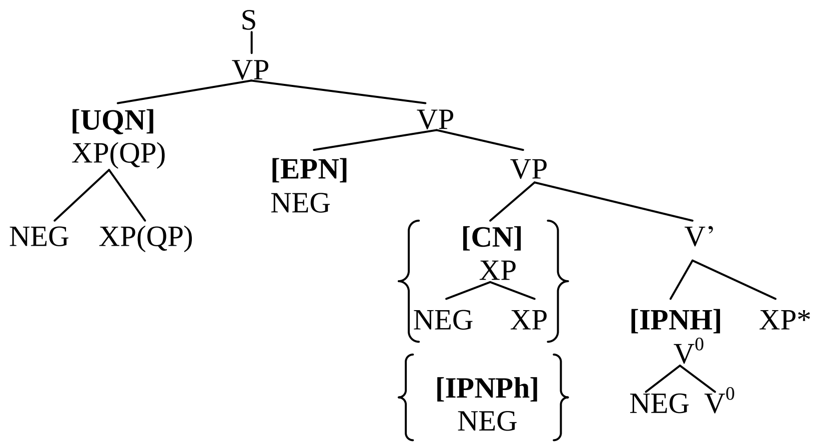
In Laczkó (2014a) I present the basic ingredients of a comprehensive LFG analysis of the preverbal portion of Hungarian finite clauses (designed to be XLE-implementable). I propose a general formal apparatus for handling constituents in the topic and the quantifier fields and in the specifier position of the VP. In Laczkó (2014b) I outline an LFG analysis of constituent and predicate negation in this model. I focus on c-structural, functional and lexical representational issues and leave semantic issues to future research. In this paper I set out to explore these latter issues and present an LFG-XLE treatment by (i) developing an account of the special uses of negative particles, (ii) capturing their interaction with negative polarity items (n-words), (iii) presenting a formal treatment of the two forms of the two suppletive negative variants of the copula. In addition, I argue for a particular distribution of labour in my approach for the three standard XLE devices for handling negation phenomena across languages.

The structure of the paper is as follows. In section 2, I summarize the relevant details of my analysis in Laczkó (2014b). In section 3, I present my generalizations about the behaviour of various types of negative particles and negative polarity items. In section 4, I develop my LFG-XLE analysis of these phenomena. In section 5, I make some concluding remarks.

2 On Laczkó (2014b)

In my analysis, I capitalize on É. Kiss’ (1994) structural approach to negation (in her GB framework). Consider the schematic representation of the five major types of negation in (1).[1]

[1] The abbreviations in square brackets indicate the following types of negation: [UQN] = universal quantifier negation, [EPN] = (VP)external predicate negation, [CN] = constituent negation, [IPNPh] = (VP)internal predicate negation, in a phrasal position, [IPNH] = (VP)internal predicate negation, head-adjunction. The curly brackets signal the complementarity of [CN] and [IPNPh].

(1) 

A) In my implemented rules, I use the NEG category label (as opposed to Laczkó & Rákosi's (2008-2014) ADV, for instance), which contributes to parsing parsimony to a great extent.
B) I assume NEG to be a uniformly non-projecting word (capable of occurring in both X^0 and XP positions), cf. the treatment of particles in particle-verb-constructions in English, German and Hungarian in Forst et al. (2010), using the category label PRT. My motivation for this is the fact that this Hungarian negative marker does not exhibit any phrasal behaviour in its own right. Most importantly: it can never be modified; thus, there is no empirical evidence for its phrasal projection.[2]
C) As (1) shows, in my analysis NEG can occupy three major types of syntactic positions: it can be in [Spec,VP]: IPNPh, and it can also be either head-adjoined: IPNH or phrase-adjoined: UQN, EPH, CN.
D) In all its uses, it has the ADJUNCT functional annotation in c-structure.
E) I assume the following lexical form for the negative marker.

(2) *nem* NEG (↑ PRED) = 'nem'
(↑ ADJUNCT-TYPE) = neg.

3 Negative particles and negative polarity items

Let me start with an overview of Hungarian pronouns with two sets of examples in Table 1 (next page).

- The first part of the compounds in the first two columns encodes the universal or existential aspect and the second carries the specific pronominal content: 'person, thing, place, etc.'. This second member is typically the corresponding interrogative pronoun in present day Hungarian.

[2] For further discussion, see sections 4 and 5.

- Negative polarity pronouns consist of an allomorph of the *se(m)* negative particle and the usual interrogative pronominal second member.
- They can never occur in a positive clausal environment (as opposed to English negative pronouns): they must always be licensed by a negative particle.
- Negative polarity items are also often called n-words; below I will use this term, and I will also use its acronym: NW.

universal	**existential**	**negative polarity**
MINDEN-	VALA-	SE-
minden-ki every-who 'everybody'	*vala-ki* some-who 'somebody'	*sen-ki* no-who 'nobody'
minden-hol every-where 'everywhere'	*vala-hol* some-where 'somewhere'	*se-hol* no-where 'nowhere'

Table 1. The system of Hungarian pronouns

Consider the examples in (3) and (4), illustrating the basic Hungarian facts.

(3) *János* **(nem)* *látott* *senki-t.*
John.NOM not saw #nobody-ACC
'John didn't see anybody.' or 'John saw nobody.'

(4) *Senki* **(nem)* *látott* *senki-t.*
#nobody.NOM not saw #nobody-ACC
'Nobody saw anybody.'

Given that Hungarian n-words have negative morphological forms, I gloss them with the combination of the hash mark and the corresponding English negative pronouns, e.g. *senki-t* #nobody-ACC, as in (3) and (4). As the customary **(nem)* representation indicates, (3) and (4) are ungrammatical if the negative particle is missing from these sentences. Notice that the negative particle licenses both the n-word preceding it, which is a special case,[3] and the n-word following it, which is the regular situation.

Let me now turn to the types and distribution of negative particles. In addition to the ordinary negative particle *nem* 'not', which we have been dealing with so far, there is another, special particle meaning 'also_not', which has two forms: *sem*[4] and *se*.[5] The two forms have exactly the same

[3] In section 4 I will point out the challenge this poses for a formal analysis, and then I will present my solution.

[4] This variant transparently reflects the relationship between the meaning and the etymology of this particle: ***iS*** 'also' + ***nEM*** 'not' → ***SEM***. É. Kiss (2011) points out that the original forms of the two elements were *es* and *nem*, and they got merged. The former later developed into *is* 'also', an additive particle, and into *és* 'and', a

meaning and distribution, and the only difference between them is that the latter is more informal, and typically it occurs in casual speech. For this reason, I will discuss and represent them jointly by using the *sem* form.

The GB/MP literature on negation in Hungarian in general and on the treatment of negative polarity items in particular is enormous; for a variety of analyses, see É. Kiss (1992, 1994, 2008, 2011, 2015), and the references therein. Therefore, I defer the detailed and systematic comparison of my LFG analysis with several salient GB/MP accounts to another forum.

My basic generalizations about the distribution of the negative particles and negative polarity items are as follows.[6]

- The ordinary negative particle *nem* precedes the constituent that it combines with (by being left-adjoined to it): **nem^XP**),[7] see (1).
- *Sem* is right-adjoined to its respective constituent.
- In addition to its combinability with intrinsic n-words: **NW^sem**, *sem* turns ordinary constituents into n-words: **XP^sem = n-word**.
- N-words (but not ordinary constituents) can also be combined with *nem* (also right-adjoined to them): **NW^nem**.

Table 2 offers an overview of the distribution of NWs alone, NWs combined with *sem* or *nem*, and XPs converted into n-words by *sem*.

<table>
<tr><th colspan="2">PREVERBAL DOMAIN</th><th rowspan="4">VERB</th><th>POSTVERBAL DOMAIN</th></tr>
<tr><td>VP-adjoined</td><td>[Spec,VP]</td><td rowspan="2">{ YP^sem | NW }</td></tr>
<tr><td>{ NW* YP^snem | NW* }</td><td>YP^snem</td></tr>
<tr><td>const. neg.</td><td>const. neg. & clause neg.</td><td>const. neg.</td></tr>
<tr><td colspan="4">YP^snem: { NW^sem | NW^nem | XP^sem }
YP^sem: { NW^sem | XP^sem }</td></tr>
</table>

Table 2. The distribution of n-words

conjunction. *Sem*, in turn, developed into a minimizing particle, the negative counterpart of *is*, and into s*em… sem*…, a correlative pair of conjunctions. For further details, see É. Kiss (2011).

[5] There is one more negative particle: *ne* ‘not’. Its use is constrained to imperative, subjunctive and optative sentences. In these sentences it has the same distribution and the same basic negative polarity licensing potential as *nem* ‘not’. I leave the analysis of negative polarity in these sentence types (covering the distribution of all the other negative particles) and the XLE implementation of this analysis to future work.

[6] I will give the relevant examples when I present my analysis in section 4.

[7] In the distributional schemas I use the following symbols: NW = (intrinsic) n-word, XP = any constituent other than NW, YP = { XP | NW }.

- An n-word can appear without a right-adjoined negative particle postverbally, see NW in the rightmost column of the table, naturally in the presence of an appropriate preverbal negative polarity licensor, see (3).
- Even in such a (postverbal) configuration, it can be combined with *sem*, right-adjoined to it, see the NW^sem disjunct of YP^sem. (Postverbally, *nem* cannot right-adjoin to it.) For instance, in (3) we could have *senki-t se(m)* '#nobody-ACC also_not'. This version would be more emphatic, given the semantics of *sem*. Thus, in this case the contribution of *sem* is adding emphasis in the sense of 'not even'.
- This latter case and all the other cases are instances of what I loosely and informally call overt constituent negation, in which the negative particle (*sem* or *nem*) right-adjoins to the target constituent,[8] see Table 2, for the distributional facts of right-adjunction. The main empirical generalization here is that the negative particle in these configurations does not license the occurrence of other n-words in the sentence.
- *Sem* is also capable of converting an ordinary (non-n-word) into an n-word, see the second disjunct of YP^sem. This constituent is the "negative (i.e. negatable) counterpart" of YP^*is* ('YP^also').[9]
- In both the VP-adjoined position and the [Spec,VP] position, an intrinsic n-word can be combined with either *sem* or *nem* in such a way that the particle is right-adjoined to it; see the first two disjuncts of YP^snem.
- In both the VP-adjoined position and the [Spec,VP] position, a non-n-word can be converted into a ("derived") n-word by right-adjoining *sem* to it. *Nem* cannot be used in this role.
- When an intrinsic (or derived) n-word appears in [Spec,VP] both constituent and predicate negation takes place: it licenses additional n-words postverbally, also see Footnote 3. In this case, several n-words can be licensed in VP-adjoined positions; however, they must not be combined with *sem* or *nem*.
- When an intrinsic (or derived) n-word appears in a VP-adjoined position, only constituent negation takes place, and these negative polarity items licensed by *sem* or *nem* take scope over other operators to their right.
- In the VP-adjoined domain a *sem/nem*-negated intrinsic n-word can be preceded by one or more other (strictly non-negated) intrinsic n-words: NW* $\text{YPsnem}_{[\text{NW}]}$.

[8] Recall from section 2 that in ordinary constituent negation (including the negation of the universal quantifier) *nem* 'not' is employed, and it left-adjoins to the target constituent.
[9] Also see Footnote 4.

4 An LFG-XLE analysis

Let me start this section with the discussion and analysis of (inherent or derived) n-words in the postverbal domain. Consider the examples in (5) (next page).

- As these examples and (3) illustrate, n-words can occur postverbally iff they are licensed by a negative particle.
- *Sem* can turn an ordinary constituent into a (derived) n-word, compare (5a) and (5b).
- Only *sem* can right-adjoin to an intrinsic n-word in this domain, and *nem* cannot be used: (5c).[10]
- An intrinsic n-word can be used on its own (without being combined with a right-adjoined negative particle): (5d).

The sentences in (3) and (5) are ambiguous. *János* 'John.NOM' can be interpreted as (i) the focus or (ii) the topic of the sentence. In my approach the negative particle *nem* is a non-projecting word capable of occupying head-adjoined and phrasal positions. In Laczkó (2014b), in my analysis of (i) I assume that *János* 'John.NOM' occupies the regular [Spec,VP] focus position and the negative particle is left-adjoined to V^0, and in the case of (ii) I assume that *János* 'John.NOM' is in a topic position, and the negative particle is in [Spec,VP].[11] See the schematic structural representation in (1) in section 2.

(5) *János* *(nem) *lát* *meg* | (a) *egy lány-t.*
John.NOM not sees VM | a girl-ACC
| (b) *egy lány-t sem.*[12]
| a girl-ACC also_not
| (c) *senki-t sem / *nem.*
| #nobody-ACC also_not not
| (d) *senki-t.*
| #nobody-ACC

'John doesn't catch sight of | (a) a girl.' [+specific]
| (b) a girl, either.' [–specific]
| (c) anybody at all.'
| (d) anybody.'

[10] In the preverbal domain *nem* is also usable.

[11] This assumption is strongly supported by the fact that the VM appears postverbally.

[12] É. Kiss (2015) points out that constructions like (5a) and (5b) are radically different. If a [–specific] indefinite noun phrase occurs postverbally in the scope of a negative particle, it must be combined with a right-adjoined *sem:* (5b). Otherwise it will be interpreted as a [+specific] indefinite noun phrase: (5a).

Nem in [Spec,VP] and *nem* in the V^0-adjoined position manifest the default, basic configurations for the licensing of n-words.[13] The simplest case of this is when an intrinsic n-word occurs postverbally on its own. Recall that in Laczkó (2014b) I assume that the negative particle in all its five major uses, whether involved in predicate negation or constituent negation, has its own PRED feature and it has the ADJUNCT function. When the negative particle is involved in predicate negation (in [Spec,VP] or in a V^0-left-adjoined position), it is the entire f-structure of the clause that it is an adjunct of, while in the case of constituent negation it is an adjunct of the negated constituent (XPneg in my XLE representation). The crucial question from this perspective is how we can encode the n-word licensing potential of the negative particle in the relevant cases (and the lack of this potential in the rest of the cases).

This question needs to be posited in the larger context of treating negation phenomena in the ParGram community, which has been (and has remained) an unsettled issue from the perspective of uniformity since 2006.[14] Below are the most important aspects of this issue that are immediately relevant for us here.

- There are languages in which negation is encoded by a particle, an independent word (e.g. English, Polish and Hungarian). In others, a bound morpheme, a negative suffix is used (e.g. in Turkish). In certain others, both strategies are employed (e.g. in Wolof and Indonesian). On the basis of these morphological properties, the following intuitive solution suggested itself on the ParGram line: (i) if the negative particle is an independent word, it can be assumed that it has a PRED feature and it functions as a special negative adjunct (ii) if it is a bound morpheme, then it is naturally analyzed as an element without a PRED feature that contributes the NEG+ feature. It needs to be pointed out right away that LFG's basic assumptions also naturally accommodate the opposite view: (i) a free morpheme only contributing a feature (value), (ii) a bound morpheme encoding a PRED feature. I think it was primarily due to this principled flexibility of the LFG architecture that ParGram grammars went in radically different directions in the treatment of negation phenomena. This whole issue was even more complexly challenging in

[13] Below I will show that, as I briefly mentioned in section 3, there is an alternative strategy available for n-word licensing: it is possible to combine an intrinsic n-word with a right-adjoined *nem* or *sem*, or a non-n-word with *sem* in the [Spec,VP] position, and this also provides an appropriate postverbal domain for n-words, i.e. in addition to constituent negation, it will also have the n-word licensing predicate negation effect. Moreover, this configuration also licenses VP-adjoined n-words; however, in this case they cannot combine with *sem* or *nem*.
[14] For detailed discussions, see Rákosi (2013) and Laczkó (2015).

the case of languages which employ both the free and the bound morpheme strategies. See the points below.

- In the English and Hungarian ParGram grammars the negative particles are analyzed as special negative adjuncts with their own PRED feature, see the discussion of Laczkó (2014b) in section 2. Interestingly, the Polish ParGram grammar (in its 2014 version) employed the NEG+ implementational option.[15]
- The Turkish ParGram grammar, because of the affixal nature of the relevant element, assumes that it has no PRED feature, and it only contributes the NEG+ feature.
- Although Wolof has both strategies, the current Wolof ParGram grammar uniformly applies the NEG+ analysis.
- By contrast, while Indonesian, too, makes use of both strategies, the Indonesian ParGram grammar has uniformly implemented the neg-adjunct analysis.
- In addition to the neg-adjunct and NEG+ devices, there is a third alternative: the negative specification of polarity: POL = negative. For instance, the English ParGram grammar uses this for the analysis of the following construction type: *I had no time.* The particle *no* has its own PRED feature, it is treated as a quantifier and it encodes the negative value for the POL(arity) feature.

In this general ParGram context, I augment my XLE analysis of constituent and predicate negation in Laczkó (2014b) along the following lines, in order to capture n-word phenomena as well.

- The encoding of the relevant domain for licensing n-words is a syntactic issue in Hungarian that needs to be modelled in c-structure and f-structure (from the perspective of both parsing and generation).
- I keep the neg-adjunct treatment of the negative particle. The basic generalizations are as follows.
    - In all the five basic uses analyzed in Laczkó (2014b), it has a constituent negating function. When it is left-adjoined to a non-verbal constituent (i) any constituent in [Spec,VP] or (ii) a universal quantifier in $[\text{XP VP}]_{\text{VP,}}$ ordinary constituent negation takes place: it is an adjunct of the given constituent, it negates it, but for obvious reasons it cannot scope out of the constituent; therefore, it cannot have a scope-taking, n-word licensing function.
    - When it left-adjoins to the verbal head (V^0) or when it occupies the [Spec,VP] position,[16] it has the n-word licensing potential.
- In section 2 I pointed out that in Laczkó (2014b) I distinguish a third type of predicate negation: VP negation, when the negative particle left-adjoins

[15] For a modified analysis, see Przepiórkowski & Patejuk (2015).
[16] See the relevant configurations in (1).

to a whole VP. Note, however, that the particle in this use is not an n-word licensor. Compare (6) with (5b), for instance. (In (6) a verbal particle, i.e. a VM, occupies the [Spec,VP] position.)

(6)

János	*nem*	*meg*	*lát*	*valaki-t*	/ **senki-t,*
John.NOM	not	VM	sees	somebody-ACC /	#nobody-ACC

hanem	*fel*	*hív*	*valaki-t.*
but	VM	calls	somebody-ACC

intended meaning: 'It is not the case that John catches sight of somebody, instead, he calls up somebody.'

The above facts have the following consequences.

- It would not be appropriate to encode the n-word licensing effect of the negative particle by including the following specification in its lexical form (in one way or another): when it is an adjunct of any projection of a verb, it automatically contributes a feature[17] to the f-structure of the clause that licenses n-words. Instead, this has to be structurally encoded in the V^0-adjoined and [Spec,VP] cases. Notice that in all the three configurations the negative particle is an adjunct of the entire clause, but it is not capable of licensing n-words when it left-adjoins to a VP.
- It is important to note that in the case of (non-n-word-licensing) VP negation the negative particle only has scope over the VP (it cannot scope to the left, so topics are not in its scope: they have wide scope). In an important sense then this is an instance of constituent negation (VP-negation). The scope relationships can be straightforwardly captured by the f-precedence device.
- The previous point also provides an additional argument against analyzing this negation type by dint of the NEG+ feature, because such a feature cannot naturally be involved in f-precedence relationships.
- In addition to the previous two points, there is a further fact that lends considerable support to the neg-adjunct analysis: VP-negation and predicate negation of the [Spec,VP] type can be combined. Consider the following sentence.

(7)

János	*nem*	*NEM*	*lát*	*meg*	*senki-t,*
John.NOM	not	NOT	sees	VM	#nobody-ACC

hanem	*NEM*	*hív*	*fel*	*senki-t.*
but	NOT	calls	VM	#nobody-ACC

'It is not the case that John doesn't catch sight of anybody; instead, he does not call anybody up.'

[17] I discuss the nature of this feature below.

- The most natural way of modelling the sensitivity of n-words to the presence of a domain licensed by the negative particle is by making their occurrence dependent on a feature introduced by the negative particle. Recall that in the ParGram inventory currently there are three devices used for handling negation facts: neg-adjunct, NEG+ and POL = negative. As I pointed out above in a different context, it would not be an appropriate solution to constrain the appearance of n-words to the presence of neg-adjunct in the f-structure of the clause, because it is there in the case of VP negation as well, but VP negation does not license n-words. I think that the most natural feature here is POL = negative. This truly and even mnemonically expresses the essence of this phenomenon: n-words are negative polarity items.[18] I also think that the NEG+ device is most felicitously used for affixal negation, as in the Turkish ParGram grammar. I would find it counterintuitive to assume that a bound morpheme, attached to the verb stem, encodes a neg-adjunct.
- On the basis of the above considerations, in this augmented approach I maintain my treatment of the negative particle in Laczkó (2014b) as regards its lexical representation, see (2) in section 2.
- I assume that its n-word licensing potential must be associated with two of its possible syntactic occurrences: in the V^0-adjoined position and in [Spec,VP]. See the representations in (8a) and (8b) below.

(8) a.

VP
- @ADJUNCT (↑ FOCUS) = ↓ (↑ POL) = negative — NEG
- ↑ = ↓ — V’

b.

V^0
- @ADJUNCT (↑ POL) = negative — NEG
- ↑ = ↓ — V^0

The first two annotations in [Spec,VP] and the first annotation in the V^0-adjoined position are the same as in my earlier analysis in Laczkó (2014b),[19] and I have simply added the (↑ POL) = negative annotation, which n-words are to be represented as being sensitive to. In other words, the appropriate environment for n-words is c-structure-annotationally encoded. Naturally, it

[18] POL = negative could be treated in XLE either as an ordinary feature or as a CHECK feature. In my analysis I use the former solution because it more straightforwardly captures the fact that n-words and their licensors, the negative particles, are in various (semantic) scope relations, for details, see É. Kiss (2015), for instance. CHECK features, by contrast, simply ensure syntactic well-formedness (by checking certain constellations of constituents).

[19] The @ADJUNCT template introduces the following annotation: ↓ ∈ (↑ ADJUNCT).

also has to be encoded that the following (inherent or derived) n-words can occur in the postverbal domain: XP^sem, NW^sem and NW, see (5b), (5c) and (5d), respectively. In the current version of HunGram I have implemented the first two cases by the following two phrase structure rules.

(9) Vbar → V
YPsem: @YP-GF[20]
(↑ POL) =c negative.[21]

This encodes the fact that one of the possible sisters of V below V' is a special constituent with the YPsem label. Such labelling is rather standard in the XLE tradition: it even mnemonically signals the nature of this constituent: an ordinary constituent is combined with the right-adjoined *sem* particle. Such specific c-structure labels contribute to parsing and generating efficiency. @YP-GF is the usual template for the range of grammatical functions this constituent can have, and crucially the constraining equation restricts the occurrence of this constituent to the presence, in the f-structure of the clause, of the POL = negative feature-value pair.

(10) YPsem → YP
SEM: @ADJUNCT.

This rule encodes the fact that any constituent can be combined with a right-adjoined element of category SEM with an adjunct function. The lexical form of *sem* is given in (11).[22]

(11) *sem* SEM (↑ PRED) = 'sem'
(↑ ADJUNCT-TYPE) = neg.

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[20] In my rules I use the YP label, because the relevant range of categories is DP, ADVP and PP, and XP is reserved for a larger, more general range of categories in other syntactic positions.

[21] In this analysis I only cover negative polarity in finite clauses and leave developing an account of negation in non-finite (infinitival) clauses to future work. One of the differences will be that the polarity annotation for the YPsem constituent in the Vbar of an infinitival clause will contain an extended path: (↑ XCOMP* POL) =c negative. This will encode the fact that a negative particle in an appropriate licensing position in the finite matrix clause has the entire infinitival clause in its negative polarity scope. I thank one of my reviewers for asking a question that prompted me to point this out. Consider the following example.

(i)	*Kati*	*nem*	*akar*	*meg*	*lát-ni*	*senki-t.*
	Kate.NOM	not	wants	VM	see-INF	#nobody-ACC

'Kate doesn't want to catch sight of anybody.'

Here the n-word object of the infinitive is licensed by the negative particle in the [Spec,VP] position of the finite matrix clause.

[22] Recall that the other variant of this particle, *se*, behaves in the same way in all possible respects; therefore, it has exactly the same lexical form.

It is worthwhile comparing the rules and representations of ordinary constituent negation with the *nem* particle in my analysis in Laczkó (2014b) and those of this special constituent negation with *sem*. In section 2 I gave the lexical form for *nem* in (2), which I repeat here as (12) for convenience.

(12) *nem* NEG (↑ PRED) = 'nem'
(↑ ADJUNCT-TYPE) = neg.

And my phrase structure rule for constituent negation in Laczkó (2014b) is given in (13) below.

(13) XPneg → NEG: @ADJUNCT;
XP.[23]

The formal parallels between (10) and (13), on the one hand, and between (11) and (12), on the other hand, are straightforward. In addition, they are also similar semantically: they are used to express constituent negation in these configurations.[24]

As (5d) illustrates, an intrinsic n-word can also occur in the postverbal negative polarity domain on its own (without the "support" of *sem*). I have implemented this by dint of the following annotated phrase structure rule.

(14) Vbar → V
XP: @XP-GF
{ (↓ POL-TYPE) ~= negative
| (↓ POL-TYPE) =c negative (↑ POL) =c negative }.

In the second line, the @XP-GF template is the usual grammatical function specification for postverbal constituents. In the current system, n-words are specified as belonging to the quant PRON-TYPE, and their polarity is negatively specified: (↑ POL-TYPE) = negative. On the basis of this, the disjunction in the third and fourth lines encodes the following: the XP is not an n-word ***or*** if it is an n-word, the f-structure of the clause must contain the POL = negative feature-value pair. For this analysis to work, I use the following V^0-left-adjunction, i.e. Vneg, rule.

(15) Vneg → NEG: @ADJUNCT
(↑ FOCUS PRED FN) ~= nem
(↑ FOCUS POL-TYPE) ~= negative
(↑ POL) = negative;
V.

@ADJUNCT is the usual adjunct template. The negative constraint in the second line ensures that the [Spec,VP] and this NEG position cannot be

[23] XP here ranges over all the major non-verbal categories: DP, PP, AP and ADVP.
[24] For further details of their similarities and differences, see below.

simultaneously filled by the negative particle.[25] The constraint in the third line encodes the fact that in this configuration [Spec,VP] cannot be occupied by an n-word.[26] And the equation in the fourth line introduces the negative polarity domain.

Consider the examples in (17) and (18).

(16) *János* *sem* *lát* *meg* *senki-t.*
John.nom also_not sees VM #nobody-ACC
'John does not catch sight of anybody, either.' or:
'Neither / Not even John catches sight of anybody.'

(17) *Senki* *senki-vel* *nem/sem* *lát* *meg* *senki-t.*
#nobody.NOM #nobody-with not/also_not sees VM #nobody-ACC
'Nobody catches sight of anybody with anybody (at all).'

(18) *Senki* *senki-vel* *nem/sem* *KATI-T* *látja*
#nobody.NOM #nobody-with not/also_not KATE-ACC sees

meg *(*senki-nél).*
VM #nobody-at

'Nobody catches sight of KATE with anybody at anybody's place.'

They illustrate the following empirical generalizations I made in section 3.

- *Sem* can turn an ordinary constituent into a (derived) n-word by right-adjoining to it, and when this combination occupies the [Spec,VP] it functions as a negative polarity licensor, see (16).
- When an intrinsic n-word in [Spec,VP] is combined with either *nem* or *sem*, also right-adjoined to it, the same negative polarity licensing takes place. In this case, left-VP-adjoined n-words are also licensed by this NW^sem/nem; however, in such positions they must not be combined with *sem* or *nem*, see (17)
- In the VP-adjoined domain a *sem/nem*-negated intrinsic n-word can be preceded by one or more other (strictly non-negated) intrinsic n-words: NW* $\text{YPsnem}_{[\text{NW}]}$, see (18)

My rules for the treatment of (16) and (17) are as follows.

[25] Given that I use the neg-adjunct treatment of the negative particle, this makes it very convenient and straightforward for me to encode this constraint, because I can (negatively) indicate the PRED value without argument structure (i.e. PRED FN) of the particle in the focus position. This would be much more complicated in a NEG+ approach.

[26] The reason for this is that, as I will show next, when an n-word occupies the focus position, *sem* or *nem* must be right-adjoined to it, and this complex will encode the negative polarity licensing (POL=negative) feature-value pair as well, and in this case V^0-left-adjunction is blocked.

(19) VP → YPsnem: (↑ POL) = negative;
Vbar.

Just like in the postverbal domain, where I use YPsem, in the preverbal domain, too, I use a special c-structure category: YPsnem. The major difference between them is that the postverbal variant can only contain *sem*, while the preverbal one can also contain *nem* if it is right-adjoined to an intrinsic n-word.[27] The only annotation associated with YPsnem is the marking of the negative polarity domain. All the other aspects are encoded in the c-structure rule for YPsnem in (20).

(20) YPsnem → { YP: @YP-GF
(↓ POL-TYPE) ~= negative
{ (↑ FOCUS) = ↓ | (↑ FOCUS) }
SEM
| YP: @YP-GF
(↓ POL-TYPE) =c negative
{ (↑ FOCUS) = ↓ | (↑ FOCUS) }
{ SEM
| NEG} }.

In the first main disjunct I model the combination of an ordinary constituent and *sem*. The particle can only be *sem* (*nem* is excluded). The (↓ POL-TYPE) ~= negative constraint makes sure that only ordinary (i.e. non-n-word) constituents are involved. The { (↑ FOCUS) = ↓ | (↑ FOCUS) } disjunction handles the distribution of YPsnem. It can only occur in the preverbal domain in two positions: (a) in [Spec,VP], see the first disjunct: it will be the focused constituent; (b) in $[XP,VP]_{VP}$, see the second disjunct: it requires the presence of focus elsewhere (i.e. in [Spec,VP]).

In the second main disjunct the (↓ POL-TYPE) =c negative equation constrains this configuration to n-words. The function of the { (↑ FOCUS) = ↓ | (↑ FOCUS) } disjunct is the same as that of the similar disjunct in the first main disjunct. Finally, the { SEM | NEG } disjunction encodes the fact that either *sem* or *nem* can right-adjoin here.

[27] The label *snem* is meant to indicate this: *sem* or *nem*. Let me also point out that it is one of the most controversial empirical and theory-sensitive issues whether it can be assumed that *senki sem* '#nobody also_not' and *senki nem* '#nobody not' have an isomorphic structure or not (i.e. whether *nem* is also really right-adjoined to the n-word). In my generalizations and analysis here I assume this isomorphism without justification, and I will argue for this assumption when I compare my LFG account with mainstream GB/MP approaches in future work. I will present functional, distributional and prosodic arguments.

The relevant c-structure rule for (18) is as follows.

(22) VPquantneg → { YPsnem: (↑ FOCUS)
(↑ FOCUS PRED FN) ~= nem
(↑ FOCUS POL-TYPE) ~= negative
| YP+: (↓ POL-TYPE) =c negative;
YPsnem: (↓ PRON-TYPE)
(↑ FOCUS)
(↑ FOCUS PRED FN) ~= nem
(↑ FOCUS POL-TYPE) ~= negative }
VP.

The first disjunct in the disjunction handles the case in which there is only a single derived (i.e. non-pronominal) or non-derived n-word in the adjoined position. (↑ FOCUS) encodes the fact that YPsnem can be VP-adjoined if there is a focused constituent in [Spec,VP]. (↑ FOCUS PRED FN) ~= nem expresses the fact that this constituent is not the negative particle. (↑ FOCUS POL-TYPE) ~= negative means that this YPsnem cannot co-occur with YPsnem in [Spec,VP]. In the second disjunct YP+ with its (↓ POL-TYPE) =c negative annotation encodes the fact that optionally the single obligatory YPsnem can be preceded by one or more n-words. This captures the generalization that the occurrence of n-words in a VP-adjoined position is conditional on the presence of a single YPsnem phrase, i.e. it is in this way that YPsnem licenses an n-word in a pre-VP position.[28]

Now consider the example in (23) and its c-structure representation in Figure 1.

(23) *Soha* *senki* *senki* *mellett* *sem* *lát* *meg*
#never #nobody.NOM #nobody beside also_not sees VM

senki-t *sehol* *sem* *János-sal* *sem.*
#nobody-ACC #nowhere also_not John-with also_not

'Nobody catches sight of anybody anywhere beside anybody ever also without John.'

[28] This is the current implemented encoding of n-word licensing in this configuration, which seems to be the simplest solution, and the most efficient one from the perspective of both parsing and generation. Notice, however, that in this case the n-words preceding YPsnem are not licensed by the (↑ POL) = negative feature; instead, the presence of a right-adjacent, negated n-word is the licensor. In future work, when I compare my LFG account with mainstream GB/MP approaches, I will return to this issue by also taking other possible LFG-XLE solutions into consideration and assessing their strengths and weaknesses. At this stage let me only point out that YPsnem in the VP-adjoined position is not a negative polarity licensor for the VP domain. This fact may yield independent motivation for treating this case differently.

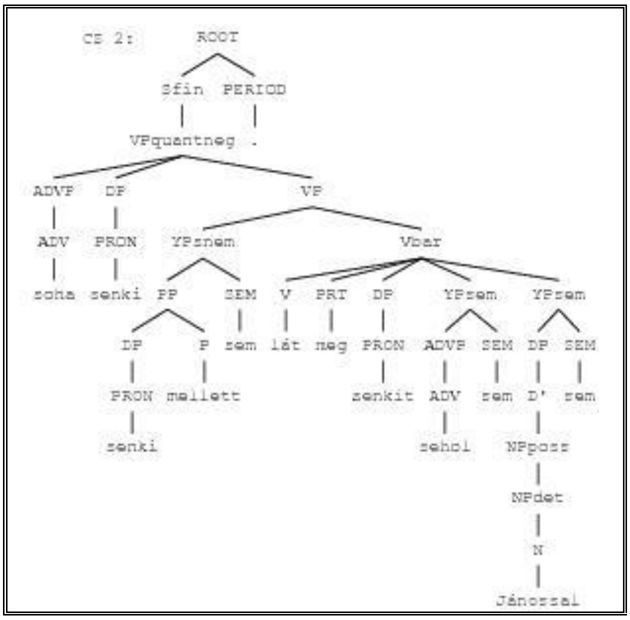

Figure 1. The c-structure of (23)

In this sentence an YPsnem constituent occupies the [Spec,VP] position, and it licenses the two VP-left-adjoined n-words as well as the postverbal negative polarity items: an n-word on its own (DP), an n-word combined with *sem* (the first YP) and an ordinary constituent combined with *sem*.

Finally, let me show that I have extended this implemented analysis of negative polarity to the two suppletive forms of the copula *van* 'be'. As is well-known, in certain functions[29] the indicative, present tense, 3SG and 3PL forms are: *nincs* 'not.be.PRES.3SG', *nincsenek* 'not.be.PRES.3PL', *sincs* 'also_not.be.PRES.3SG', *sincsenek* 'also_not.be.PRES.3PL'. Consider the following examples.

(24) *János* / *JÁNOS* *nincs* *senki-nél.*
John.NOM John.NOM not.be.3SG #nobody-at
'John/JOHN isn't at anybody's place.'

(25) *JÁNOS* *sincs* *senki-nél.*
JOHN.NOM also_not.be.3SG #nobody-at
'JOHN isn't at anybody's place, either.'

(26) *Senki* *SENKI-VEL* *nincs / sincs* *senki-nél.*
#nobody.NOM #nobody-with (also_)not.be.3SG #nobody-at
'Nobody is at anybody's place with anybody (either).'

As (24) shows, if a constituent precedes *nincs*, the sentence is ambiguous, and the constituent can be interpreted as either the topic or the focus of the

29 In the existential, locative and possessive uses of the copula.

sentence. (25) demonstrates the fact that the constituent preceding *sincs* must be interpreted as the focus. (26) illustrates the fact that an n-word can be combined with either *nincs* or *sincs*, cf. its combinability with either *nem* or *sem*. Here I can only show the c-structures of (25) and (26) in Figure 2. In the latter, I show the *nincs* version.

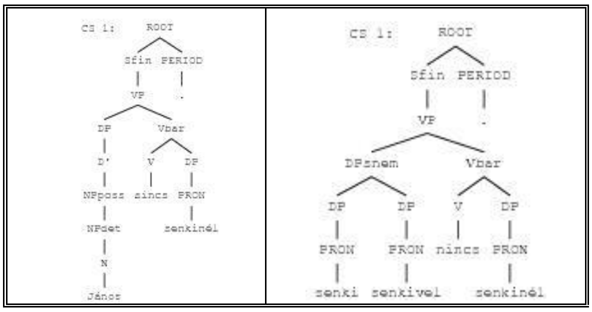

Figure 2. The c-structures of (25) and (26)

The crucial aspects of my analysis are as follows. I use the following lexical form for *nincs*.

(27) *nincs* V (↑ PRED) = 'nincs < (↑ SUBJ) (↑ OBL) >'
(↑ POL) = negative
(↑ NEG) = +
{ ~(↑ FOCUS)
| (↑ FOCUS)
(↑ FOCUS PRED FN) ~= nem }.

In the PRED value I give the actual (singular) form of the copula: *nincs*. The argument structure is that for the locative use of the copula. This word itself encodes negative polarity. Notice that this phenomenon is a strong argument from Hungarian for the dual neg-adjunct and NEG+ approach that I am proposing here for the following reason. Typically, negation in Hungarian is marked by a syntactic atom, a negative particle, which in certain configurations also introduces a negative polarity domain (but not always even in the case of predicate negation). However, these suppletive forms merge the usual copula features, predicate negation and the negative polarity feature. This can be taken to be an extreme instance of the affixal encoding of negation and negative polarity. For this reason, in the lexical forms of *nincs* and *sincs* I use the NEG+ feature. It would be highly counterintuitive (although it would, of course, be technically possible) to handle this along the neg-adjunct lines, by using the usual neg-adjunct annotations. *Sincs* has the same lexical form, except that it requires the [Spec,VP] position to be filled obligatorily by a focussed element: an n-word or an ordinary constituent; thus, instead of the disjunction in (27) it only has the (↑ FOCUS) annotation.

I also need to modify my YPsnem rule, because in these copula constructions the YPsnem constituent must not contain *nem/sem,* because negation is encoded by the special negative forms of the copula *nincs/sincs*. This can be captured by adding the following disjunct, which itself contains two disjuncts, to the YPsnem rule.

```
(28)     YPsnem →  { YP:   @YP-GF
                           (↓ POL-TYPE) =c negative
                           { (↑ PRED FN) =c nincs
                            | (↑ PRED FN) =c sincs }
                           (↑ POL) =c negative
                           (↑ FOCUS) = ↓
                   | YP:   @YP-GF
                           (↓ POL-TYPE) ~= negative
                           (↑ PRED FN) =c sincs
                           (↑ POL) =c negative
                           (↑ FOCUS) = ↓ }
```

The peculiarity of this disjunct is that the rule does not contain SEM or NEM: it simply rewrites YPsnem as YP for intrinsic n-words and for ordinary constituents, see the values of the (↓ POL-TYPE) attribute in the two disjuncts. Both disjuncts are constrained to a special negative polarity environment, see (↑ POL) =c negative, in which the predicate is *nincs* or *sincs* in the case of intrinsic n-words and *sincs* in the case of ordinary constituents, which is captured by the (↑ PRED FN) =c nincs/sincs equations.

5 Concluding remarks

In this paper, I have modified and augmented my LFG-XLE analysis of negation proposed in Laczkó (2014b) by (i) developing an account of the special uses of negative particles (ii) capturing their interaction with negative polarity items (iii) presenting a formal treatment of the two forms of the two suppletive negative variants of the copula.

In order to ensure parsing and generating efficiency, I have made use of the standard XLE devices: special syntactic categories: NEG and SEM, and specifically labelled phrasal projections: YPsnem and YPsem.

I have argued for using all the three modes of treating negation phenomena in the analysis of Hungarian.

In the spirit of Forst et al. (2010) and Laczkó & Rákosi (2011) I use the non-projecting categories PRT and NEG in both head-adjunction and phrasal configurations. This is different from Toivonen's (2001) proposal. She assumes that certain categories in Swedish have projecting and non-projecting variants. The non-projecting versions are head-adjoined to the verb and the projecting versions have the regular phrasal behaviour. Note that this approach could also be straightforwardly accommodated in my analysis: head-adjoined NEG vs. phrasal NEGP. However, I am not aware of any phrasal projection property of the negative particle; that is why I treat it uniformly as a non-projecting word. Moreover, technically it would also be possible to do without the non-projecting treatment. Instead of assuming that the negative particle is left-head-adjoined to the verb when the focus position is filled by a constituent: NEG^V^0, one could assume that NEGP left-adjoins to V'.[30]

In general, the special functional categories NEM and SEM, and the specifically labelled phrasal nodes YPsnem and YPsem could also be dispensed with. It would be possible to assume that negative particles are adverbs and they project ADVPs, and these (special) ADVPs occupy the positions my non-projecting NEGs and SEMs occupy. Naturally, such an approach would conform to standard X-bar-syntactic assumptions and conventions to a greater extent. The cost would be that a more complex system of constraining equations and CHECK features would be needed to prevent overgeneration from the perspective of both parsing and generation. In future work I will set out to explore the behaviour and a possible (generalized) treatment of a range of "small words" in Hungarian including preverbs, *csak* 'only', *is* 'also', *volna* (the marker of irrealis mood), *-e* (the yes-no question marker), *nem* 'not', *ne* 'not' in imperative, subjunctive and optative sentences, *se(m)* 'also_not', and I will address such general aspects of possible alternative approaches. One of the most likely conclusions of my investigation will be that LFG's architecture and assumptions make it possible to capture generalizations about such complex phenomena in an explicit and principled way based on the trade-off between c-structure and f-structure representations.

Acknowledgements

I thank the participants of the LFG15 conference for useful remarks. I am also grateful to my anonymous reviewers, because their very helpful comments prompted me to extend and sharpen my analysis as well as to improve certain presentational aspects of the paper. I am solely responsible for all remaining errors.

This research was supported by the Hungarian Scientific Research Fund (OTKA), grant No. 111918.

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[30] For instance, in her GB framework, É. Kiss (1992) has a V'-adjunction analysis and in É. Kiss (1994) she assumes V^0-adjunction.

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