

Substitution or adjunction?
Quantifiers and adverbials in the Hungarian sentence¹

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1. Introduction

This paper will be concerned with scope-bearing elements in the left periphery of the Hungarian sentence, among them negative particles, identificational foci, adverbial modifiers, and quantifiers. It will examine whether or not they all display a uniform syntactic behavior, that characteristic of specifiers participating in feature checking. It will be argued that adverbials and Q-raised quantifiers have syntactic properties that set them apart from the rest of left-peripheral elements. The uniform 'feature checking via substitution' analysis of the left periphery of the Hungarian sentence (see Brody & Szabolcsi 2003) will be shown to give rise to various theoretical and empirical problems. These problems will be claimed to disappear if adverbial placement and Q-raising are treated as adjunction, which is defined as a spatial operation linearizable either as left-adjunction or as right-adjunction.

2. The substitution–adjunction distinction

In the Government and Binding framework, substitution and adjunction represented movement operations with different properties (cf. e.g. Chomsky 1981:47). The various types of substitution, e.g. wh-movement or NP-movement, filling an empty specifier slot, could move a single constituent per clause – at least in visible syntax. Adjunction, having no pre-generated landing position, on the other hand, could be iterated – also in visible syntax in some languages, e.g. in Hungarian (cf. É. Kiss (1991)). Furthermore, constituents subjected to substitution had fixed landing sites (e.g. wh-expressions landed in Spec,CP). Constituents subjected to adjunction, on the other hand, had multiple adjunction positions; e.g., a quantifier could surface adjoined either to VP or to IP. Various versions of the theory also allowed rightward adjunction, e.g., in the case of extraposition. Substitution, on the other hand, always meant movement to the left.

The emergence of head movement has somewhat blurred the sharp dividing line between substitution and adjunction. Head movement usually involves adjunction to an empty higher head, in which case its output is indistinguishable from substitution. The possibility of multiple specifiers has made the substitution–adjunction distinction less clear also in the case

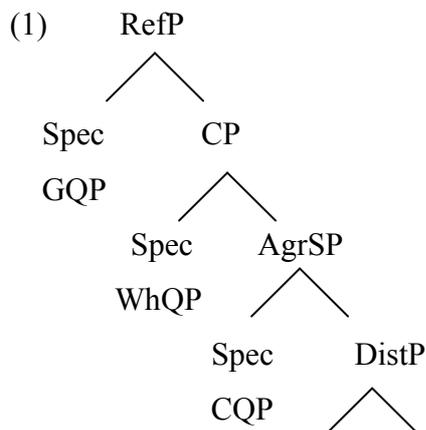
¹ This study has been written in the framework of project TS49873 of OTKA, the Hungarian National Scientific Research Fund. I owe thanks to Anna Szabolcsi and two anonymous reviewers for their many useful comments.

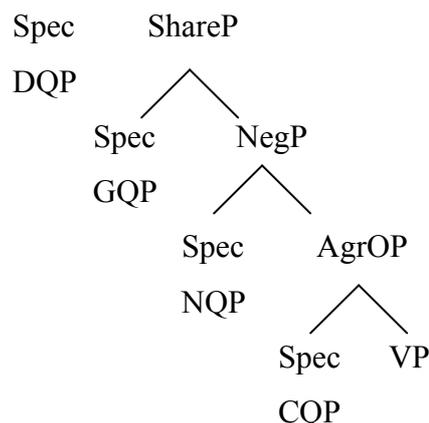
of phrasal movement. Kayne's 'antisymmetry of syntax' theory (1994) explicitly identified movement into a specifier position with adjunction.

In the Minimalist framework (Chomsky 1995), canonical movement is triggered as a last resort by the requirement that a morphological feature of the moved category and that of a functional head enter into a checking relation in a specifier–head configuration. Q-raising, and adjunction, in general, do not match this pattern. There seems to be no functional head in need of feature checking, and – depending on which theory of Q-raising we adopt – either Q-raising itself, or the selection of its landing site involves optionality.

Fox (1995), Chomsky (1995), and Reinhart (1995) have proposed to relax the Minimalist machinery in order to allow Q-raising via adjunction. According to Chomsky (1995:377), certain maximal functional projections (those providing landing sites for Q-raising) have an optional affix feature allowing them to host a [quant] category. This affix feature is regulated by economy considerations; it is licensed if „it makes a difference”, i.e., if it leads to a new interpretation.

Beghelli & Stowell (1997) and Szabolcsi (1997) have put forth a substitution analysis of Q-raising. They claim that various types of quantifiers have various morphological features (a [+ref], [+dist], [+neg], or [+share] feature) to check, which are attracted by syntactic heads with the same features. Movement to Spec,RefP, Spec,DistP, Spec,NegP, or Spec,ShareP is covert in English, but is overt e.g. in Hungarian. In this theory, scope is the by-product of feature-checking movement. Beghelli and Stowell distinguish five types of quantifiers: group-denoting quantifiers (GQPs), e.g., *the man, a man* (under the [+specific] reading); interrogative quantifiers (WhQPs), e.g., *which man*; counting quantifiers (CQPs), e.g., *few men, at most six men, a man* (under the [-specific] reading); distributive-universal quantifiers (DQPs), e.g., *every man, each man*; and negative quantifiers (NQPs), e.g., *nobody, no man*. They have the following landing sites in the functional structure of the English sentence:





The theory is claimed not only to eliminate the theoretically problematic optionality from Q-raising, but also to be able to predict the possible and impossible scope relations among different types of quantifiers. Szabolcsi (1997) and Brody & Szabolcsi (2003) have elaborated a version of this theory for Hungarian.

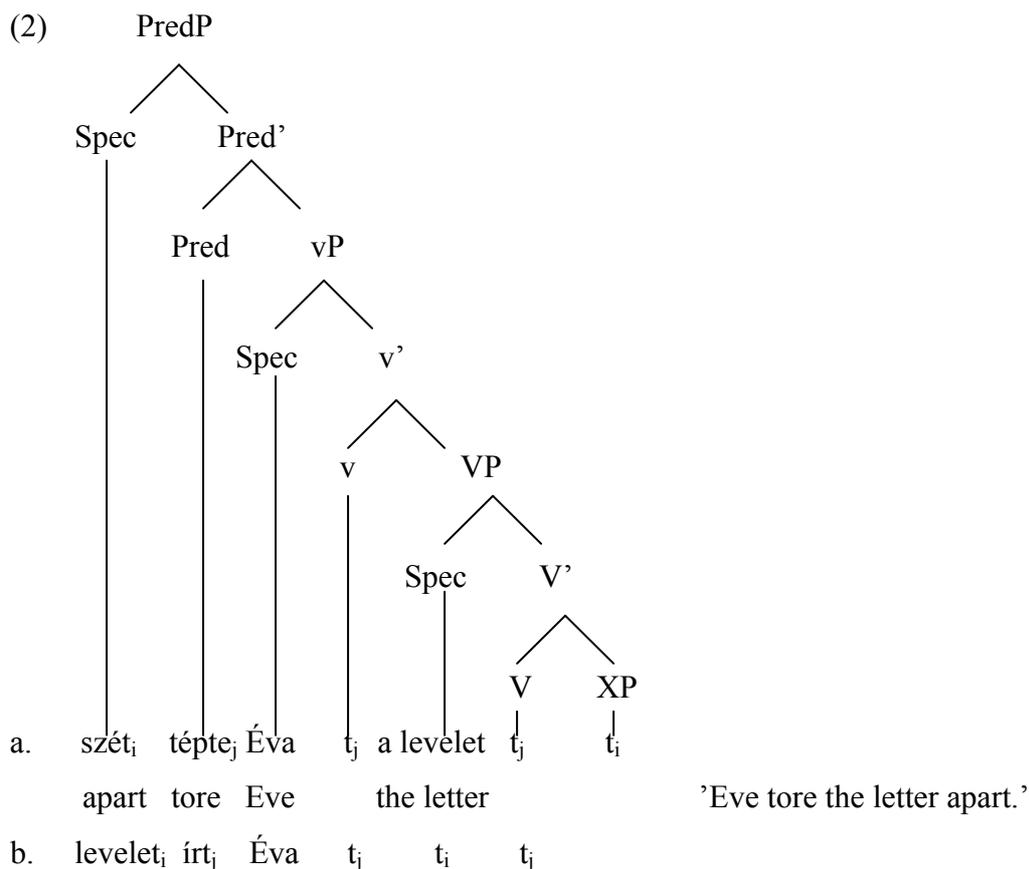
Whereas in Beghelli and Stowell's theory the English substitution rules affecting quantifiers are mostly covert, Kayne (1998) argues that quantifiers move into the specifier of a NegP, *only*P, or DistP projection overtly in English, too; merely the output of these operations is often covered up by subsequent remnant movement. Kayne's theory has been criticized because the remnant movement following Q-raising is unmotivated, it is not triggered by a lexical feature. For the most recent discussion of these issues, see Bernardi & Szabolcsi (2006).

Adverbial placement also has competing substitution and adjunction analyses. Alexiadou (1997) and Cinque (1999) claim that different types of adverbials occupy the specifier positions of designated functional projections, and they are licensed there by the relevant feature of the respective functional head. Ernst (2002), on the other hand, argues that adverbs and adverbial adjuncts are merged into the sentence by adjunction. He allows free adjunction to any category, including non-maximal projections, both on the left and on the right.

Below, I will examine Q-raising and adverbial placement in Hungarian, as opposed to focussing/wh-movement and negation, operations generally believed to target structural slots of designated functional projections. The Hungarian facts will support Fox's (1995), Reinhart's (1995), and Chomsky's (1995) theory of Q-raising, and Ernst's (2002) adjunction analysis of adverbial placement, i.e., they will argue for the necessity of maintaining the substitution–adjunction distinction.

3. Functional projections in the Hungarian sentence

Q-raising and adverbial placement will be examined in the framework of the Hungarian sentence structure that has emerged from Hungarian syntactic research in the past decade, and which is argued for in detail in É. Kiss (2008a). The lexical kernel of the Hungarian sentence is a hierarchical verb phrase, involving – at least in the case of transitive verbs – a VP shell and a vP shell.² In accomplishment and achievement predicates, the VP realizes a predication relation between the internal argument and a resultative or terminative element predicating its result state or result location (e.g., between *a levelet* 'the letter-ACC' and *szét* 'apart' in (2a)). This resultative or terminative secondary predicate enters into a spec-head relation with the V in a PredP projection subsuming vP.³ In activity sentences, Spec,PredP is often occupied by a predicative nominal (such as *levelet* 'letter-ACC' in (2b)) predicated of the implicit internal argument. The PredP projection has been claimed to be subsumed by inflectional projections.⁴ Since these projections do not alter the relative order of elements, I disregard them here.⁵



² See Bene (2005).

³ This assumption goes back to Zwart's (1994) and Koster's (1994) analysis of Dutch, and Csirmaz's (2004) and É. Kiss's (2008b) proposal concerning Hungarian.

⁴ For detailed analyses of the morphosyntactic projections of the Hungarian verb phrase, see Bartos (2000) and Csirmaz (2006).

⁵ For a possible exception, involving telic imperfective sentences, see Csirmaz (2006).

letter wrote Eve

'Eve was letter-writing.'

Under these assumptions, the V surfaces in Pred position in neutral sentences. PredP might be subsumed by a (possibly iterated) TopP projection, harboring a referential constituent functioning as the logical subject of predication, but the V never leaves the logical predicate. It is claimed in É. Kiss (2008a) that the highest, overt copy of the V acts as a phasal head. The lower, silent copies of the V are pruned, hence the phasal domain, deprived of its verbal head, is flattened (which results in the subject-object symmetries attested in the postverbal section of the Hungarian sentence, discussed in É. Kiss (1987)). In PF, the postverbal string is claimed to be linearized freely. The most unmarked linear order of postverbal constituents is that observing Behaghel's Law of Growing Constituents (Behaghel 1932), requiring that constituents be ordered according to their phonological weight, with lighter constituents preceding heavier ones.

Non-neutral sentences also involve a negative particle, and/or a focus expressing exhaustive identification. Compare the neutral (3a) with its negated version in (3b), and with the focus construction derived from it in (3c). (For perspicuity's sake, the sentences contain no topic, even though the topicalization of either the subject or the object would make them sound better.)

(3)a. Gyakran meg-látogatta Péter Évát.

often PRT visited Peter Eve-ACC

'Peter often visited Eve.'

b. **Nem** látogatta meg gyakran Péter Évát.

not visited PRT Peter Eve-ACC

'Peter didn't visit Eve.'

c. ÉVÁT látogatta meg gyakran Péter.

'It was Eve who Peter visited.'

In a focus construction, either the presupposition (4a), or the identificational focus (4b), or both (4c) can be negated.

(4)a. ÉVÁT **nem** látogatta meg Péter.

'It was Eve who Peter didn't visit.'

b. **Nem** ÉVÁT látogatta meg Péter.

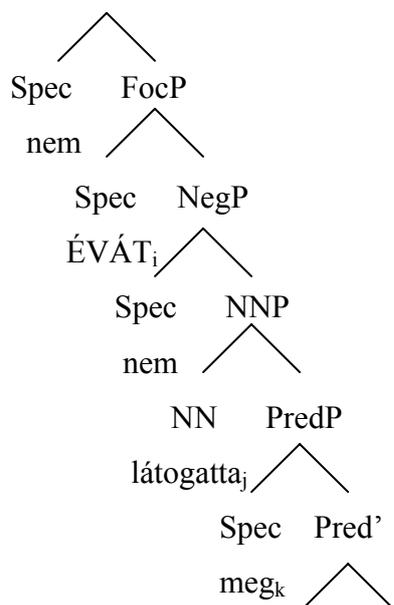
'It wasn't Eve who Peter visited.'

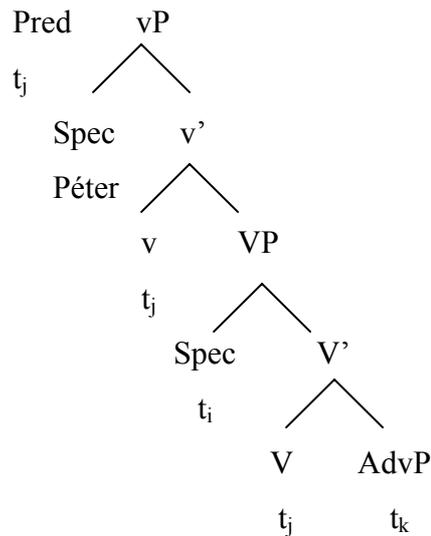
c. **Nem ÉVÁT nem** látogatta meg Péter.

'It wasn't Eve who Peter didn't visit.'

In the Hungarian sentence structure assumed, the focus constituent occupies the specifier position of a focus projection (FocP) (as proposed by Brody 1990; 1995). The negative particle has been argued to occupy the specifier (Olsvay 2000) or head position (Puskás 2000) of a NegP. The V, following the adverb and the verbal particle in neutral clauses like (3a), precedes both of them in the non-neutral (3b,c) and (4a-c), which is regarded as evidence of V-movement taking place in non-neutral sentences. As regards the landing site of V-movement, a large body of evidence testifies that it must be lower than the Foc or Neg head (e.g., the V-initial section of focus constructions can undergo operations targeting maximal projections such as coordination and deletion; the V is non-adjacent to the focus in the case of PredP negation; whereas the lower negative particle is adjacent to the V, the higher negative particle is not, etc. – see Horvath (2006)). Olsvay (2000) accounts for these facts by claiming that the PredP projection of non-neutral sentences is dominated by a Non-Neutral Phrase, and it is the Non-Neutral (NN) head that attracts the V. In É. Kiss (2008a), NN is analyzed as a functional head (perhaps a realization of Rizzi' Fin) turning PredP into the argument of a logical functor. V-movement from Pred to NN extends the phasal domain to PredP in non-neutral sentences; it is the whole PredP that is subjected to flattening. Observe the structure built up in (4c). (In lack of a topicalized constituent, no TopP is generated above NegP.)

(5) NegP





It seems uncontroversial that the identificational focus and the negative particles illustrated in (4)-(5) occupy empty slots of designated functional projections (even if it cannot be determined unequivocally whether the negative particle occupies the specifier or head position of NegP). The focus and the negative particles have the following properties supporting this analysis:

(i) They are accompanied by V-movement. A sentence involving negation and/or focussing is ungrammatical without V-movement having taken place. Cf.

(6)a. *Nem meg-látogatta Péter Évát.

not PRT visited Peter Eve-ACC
'Peter didn't visit Eve.'

b. Nem látogatta meg *t* Péter Évát

(7)a. *Csak ÉVÁT meg-látogatta Péter.

only Eve-ACC PRT visited Peter-NOM
'It was only Eve who Peter visited.'

b. Csak ÉVÁT látogatta meg *t* Péter.

Head movement is motivated by feature checking in Minimalism. The fact that the V must be spelt out in NN in sentences with a focus and/or negation indicates that V movement to the Neg and Foc heads consists of an overt step and one or more covert steps. V-movement from Pred to NN, and the subsequent feature movement from NN to Neg and/or Foc and possibly

another Neg presumably serves to establish a checking relation between the non-neutral V and the focus/negative particle.

(ii) The negative particle and the focus have fixed positions in the left periphery of sentence structure. In fact, a focus construction has fixed places for two negative particles; the lower one (negating the event represented by PredP) merges with NNP, and the higher one (negating the exhaustive identification expressed by the focus) merges with FocP.⁶

4. Q-raising in Hungarian

Quantifiers are known to move to scope positions in the Hungarian sentence (cf. Hunyadi 1981, É. Kiss 1987, 1991).⁷ Monotone decreasing and non-monotonic quantifiers such as *kevés fiú* 'few boys' are focussed⁸, whereas monotone increasing quantifiers (among them universals, the proportional *sok* 'many', and numerical expressions supplied with the distributive particle *is* 'also') undergo overt Q-raising, landing in front of the verbal particle in Spec,PredP (8a), or in front of the focus (8b).⁹ Q-raising can be iterated, as shown in (8) and (9). These quantifiers bear primary stresses, indicated by '.

(8)a. 'Minden gyereket 'kétszer is [PredP meg -hívott az osztályfőnök]

⁶ The analysis of topicalization is beyond the scope of the present paper. Tentatively I assume that topicalization is substitution into the specifier of a TopP projection. Topicalization, taking place in neutral and non-neutral sentences alike, serving to externalize an argument of the V, thereby creating a logical subject – logical predicate structure, does not involve any V-movement. At the same time, it shares property (ii) of NegP and FocP constructions: topic constituents have a fixed position in the left periphery of the sentence.

⁷ Pronouns involving a *vala-* 'some' or a *né-* 'some' element are not analyzed as quantifiers. They behave like indefinites: they either remain in situ, or they are topicalized, in which case they are interpreted as [+specific].

⁸ For an explanation, see É. Kiss (2006).

⁹ A reviewer has called my attention to the fact that according to Kálmán et al. (2001: 84), *sok* 'many' phrases have ordering restrictions which are different from those of universally quantified expressions. This claim, with which I disagree, is illustrated by example (i), which, containing *sokan* 'many' in the position of the Q-raised universal quantifier of e.g. (9b), is allegedly ungrammatical:

- (i) *'Sokan PÉTERT hívták meg.
many PETER-ACC invited PRT
'It was Peter who many people invited.'

The informants I have asked, as well as I myself, find this sentence perfectly grammatical. Here are two further examples, involving a *sokan* in the position of universal quantifiers, predicted to be ungrammatical by Kálmán et al. but found perfectly grammatical by my informants:

- (ii) A 'szintaxiskurzuson is 'sokan dolgozatot írnak vizsgázás helyett.
the syntax-course-on also many essay-ACC write exam instead-of
'In the syntax course, too, many write an essay instead of taking an exam.'

- (iii) 'Mindegyik kurzusomon 'sokan csak a LEGUTOLSÓ ÓRÁRA jöttek el.
each course-my-on many only the last class-to came PRT
'On each of my courses, many came only to the last class.'

every child-ACC twice DIST PRT invited the form-master
'The form-master invited every child twice.'

- b. 'Minden gyereket 'kétszer is [FocP AZ OSZTÁLYFŐNÖK hívott meg]
every child-ACC twice DIST the form-master invited PRT
'Every child was twice invited by the FORM-MASTER.'

Q-raised quantifiers are in scope positions. The reversal of their order results in a reverse scope reading. Compare (8a,b) with (9a,b):

- (9)a. 'Kétszer is 'minden gyereket [PredP meg-hívott az osztályfőnök]
'On two occasions, the form-master invited every child.'
b. 'Kétszer is 'minden gyereket [FocP AZ OSZTÁLYFŐNÖK hívott meg]
'On two occasions, every child was invited by the FORM-MASTER.'

The postverbal section of a non-neutral sentence can contain one or more destressed quantifiers that have narrow scope with respect to the preverbal focus and/or negation:

- (10)a. AZ OSZTÁLYFŐNÖK hívott meg **minden gyereket**.
'It was the form-master who invited every child.'
b. Nem hívott meg az osztályfőnök **minden gyereket**.
not invited PRT the form-master every child-ACC
or: Nem hívott meg **minden gyereket** az osztályfőnök.
'The form-master didn't invite every child.'

The relative scope of postverbal destressed quantifiers is not fixed. Thus (11a) and (11b) have the same two meanings; whereas both quantifiers are in the scope of focus, either of them can have scope over the other:

- (11)a. AZ OSZTÁLYFŐNÖK hívott meg **minden gyereket kétszer is**.
'It was the form-master that invited every child twice.'
'It was the form-master that, on two occasions, invited every child.'
b. AZ OSZTÁLYFŐNÖK hívott meg **kétszer is minden gyereket**.
'It was the form-master that, on two occasions, invited every child.'

'It was the form-master that invited every child twice.'

Not only unstressed, narrow-scope quantifiers can stand postverbally. Stressed, wide-scope quantifiers can also appear behind the verb in neutral and non-neutral sentences alike. Thus (8a) also has the permutations in (12a-d), and (8b) also has the permutations in (13a-d), which appears to suggest that overt Q-raising is optional in Hungarian.

(12)a. '**Kétszer is** meg-hívott az osztályfőnök '**minden gyereket**.

'On two occasions, the form-master invited every child.'

'The form-master invited every child twice.'

b. '**Minden gyereket** meg-hívott az osztályfőnök '**kétszer is**.

c. Meg-hívott az osztályfőnök '**minden gyereket** '**kétszer is**.

d. Meg-hívott az osztályfőnök '**kétszer is** '**minden gyereket**.

(13)a. '**Kétszer is** AZ OSZTÁLYFŐNÖK hívott meg '**minden gyereket**.

'On two occasions, every child was invited by the FORM-MASTER.'

'Every child was invited twice by the FORM-MASTER.'

b. '**Minden gyereket** AZ OSZTÁLYFŐNÖK hívott meg '**kétszer is**.

c. AZ OSZTÁLYFŐNÖK hívott meg '**kétszer is** '**minden gyereket**.

d. AZ OSZTÁLYFŐNÖK hívott meg '**minden gyereket** '**kétszer is**.

It also holds for stressed postverbal quantifiers that their relative scope is undetermined. What is more, their relative scope is also free with respect to preposed quantifiers. Whereas (8a) and (8b) were scopally disambiguated, all the permutations in (12) and (13) are ambiguous in the same way.

Negation further complicates this picture. In negative sentences, a positive universal quantifier is bound to have narrower scope than negation (14a), and to be unstressed, whereas a negative universal quantifier is bound to have wider scope than negation (14b), and to be stressed. An existential quantifier cannot have narrower scope than negation – see (15).

(14)a. Nem találkoztam **mindenkivel**.

not met-I everybody-with

'I didn't meet with everybody. [It is not the case that I met with everybody.]'

b. Nem találkoztam '**senkivel**.

not met-I nobody-with

'I didn't meet with anybody. [For everybody, I didn't meet him.]'

(15) Nem találkoztam **valakivel**.

not met-I somebody-with

'I didn't meet with somebody. [There is somebody that I didn't meet.]'

These facts raise a number of difficult descriptive questions. Is Q-raising optional? How do postverbal stressed quantifiers assume wide scope? Why do postverbal wide-scope quantifiers bear obligatory stress?¹⁰ Why do unstressed postverbal quantifiers have narrow scope with respect to the focus or to negation? How come that postverbal quantifiers – whether stressed or unstressed – have a free relative scope with respect to one another, whereas the relative scope of preverbal quantifiers is determined by c-command, and is also reflected by surface order? How are negative quantifiers licensed?

In the earliest, Government and Binding style attempt to answer these questions (É. Kiss 1987; 1991; etc.), Q-raising is analyzed as adjunction, which invariably takes place in overt syntax in Hungarian. Scope-interpretation is determined by the Scope Principle, according to which quantifiers have scope over their c-command domain. Postverbal narrow-scope quantifiers are claimed to be interpreted in situ, i.e., May's (1985) Condition on Quantifier Binding, requiring that every quantified phrase bind a variable, is not observed by the description. The free word order of postverbal quantifiers follows from the general assumption that the Hungarian VP is a head-initial flat structure. The free relative scope of postverbal quantifiers is a consequence of their c-commanding each other. As for postverbal

¹⁰ Universal quantifiers can also occur in topic position, pronounced with a contrastive intonation. These cases are disregarded here because they presumably do not represent outputs of Q-raising. These quantifiers appear not to occupy scope positions, as they have narrow scope with respect to a subsequent operator that they c-command – provided they are pronounced with a fall-rise:

- (i) **Mindenkit** 'nem látogatott meg Péter.
everybody-ACC not visited PRT Peter.
'Everybody, Peter didn't visit.'

Such clause-initial quantifiers pronounced with a contrastive intonation have been analyzed in a study by É. Kiss & Gyuris (2003) as contrastive topics, occupying Spec,TopP. The paper argues that non-individual-denoting expressions, among them quantifiers, can be made suitable for the topic role if they are individuated by being set into contrast. Individuation by contrast enables non-individual-denoting expressions to be interpreted as semantic objects (properties) which the rest of the sentence predicates a (higher-order) property about. A quantifier functioning as a contrastive topic denotes a property of plural individuals, and its apparent narrow scope arises from the fact that it is considered to be a predicate over a variable inherent in the lexical representation of the verb.

stressed, wide-scope quantifiers, they are assumed to undergo Q-raising (i.e., left-adjunction to the maximal verbal projection) in syntax, and their postverbal position is derived by an optional stylistic postposing rule taking place in PF, invisible to LF-interpretation. Negative quantifiers are universal and existential quantifiers participating in negative concord. All expressions that are immediately dominated by a segment of the maximal verbal projection in S-structure are assigned primary stresses in PF, which are preserved also under postponing into postverbal position.

Surányi (2002) also treats Q-raising as adjunction (after giving a detailed criticism of Szabolcsi's (1997) feature-checking theory of Hungarian). He analyzes the apparent optionality of Q-raising as optionality in the overtness of Q-raising. The questions how to distinguish stressed wide-scope postverbal quantifiers from unstressed narrow-scope postverbal quantifiers apparently interpreted *in situ*, and how to associate stress with wide scope in the T-model of grammar, in which there is no direct interaction between prosody and interpretation, are not discussed by him.

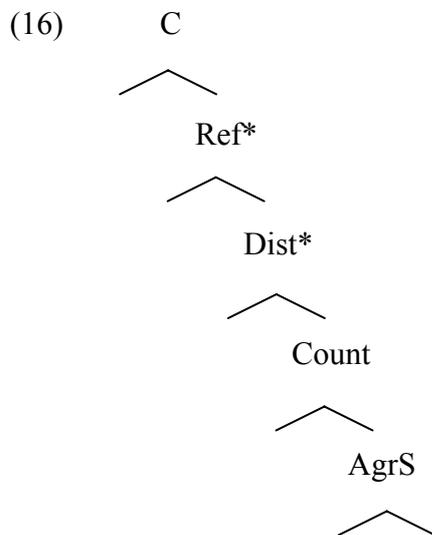
5. A substitution analysis (Brody & Szabolcsi 2003)

The theoretical problems involved in Q-raising as adjunction, as well as the descriptive problems raised by the Hungarian facts, and the *ad hoc* nature of some of the solutions provided by É. Kiss (1991) have inspired other analyses of Hungarian Q-raising, as well,¹¹ the most influential one of which has been Szabolcsi's (1997), and Brody & Szabolcsi's (2003) version of the Checking Theory of Scope, elaborated for English by Beghelli & Stowell (1994, 1997).¹² Recall that in the Beghelli–Stowell theory, different types of quantifiers move to the specifier positions of designated functional projections (RefP, CP, AgrSP, DistP, ShareP, NegP, and AgrOP). In Szabolcsi's version of the theory, distributive QPs (such as *mindenki* 'everybody', *mindegyik diák* 'each student') move to the specifier of a DistP projection, and Counting QPs (such as *kevés diák* 'few students', *hatnál több diák* 'more than six students', *hat diák* 'six students' under a non-specific interpretation) land in the specifier of a CountP projection, which we can identify with FocP. Group-denoting QPs (i.e., definite and specific indefinite noun phrases) land in Spec,RefP (referred to in the Hungarian literature as Spec,TopP) or in Spec,CountP. Szabolcsi does not discuss negative quantifiers such as *senki* 'nobody', *egy ember sem* 'not one man, no man', but according to Beghelli & Stowell,

¹¹ Surányi's (2002) adjunction analysis of Q-raising has been briefly touched upon above; see also his analyses of Hungarian negative quantifiers in Surányi (2006a; 2006b). Hunyadi (2002) put forth a prosodic theory of quantifier interpretation.

¹² Szabolcsi's (1997) theory has been adopted by many, including myself – see, for example, É. Kiss (2002).

they should land in Spec,NegP. This is the series of clausal functional projections assumed in the Hungarian sentence by Brody & Szabolcsi:



Brody & Szabolcsi (2003) eliminate the apparent optionality of Q-raising by assuming that the RefP–DistP–FocP series of functional projections is repeated above the lexical as well as the morphosyntactic projections of the V, i.e., above vP, AgrOP, TP, and AgrSP. The V raises to the AgrS head, which is why quantifiers raised into the lower series surface postverbally.

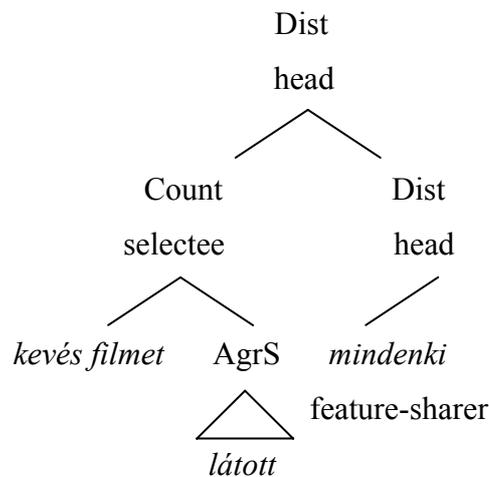
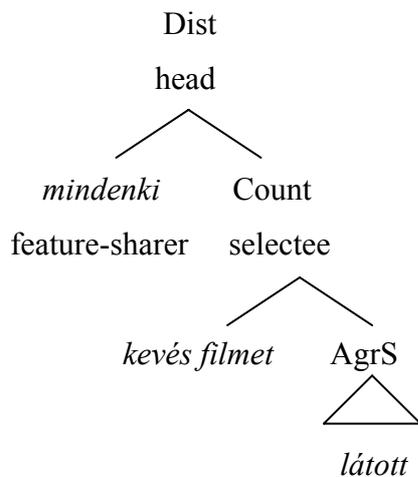
The possibility of inverse scope is derived from Brody’s Mirror Theory (Brody 1997). Brody claims that the syntactic head–complement relation is the mirror image of the morphological head–complement relation, i.e., whereas a syntactic head precedes its complement, a morphological head (forming a morphological word with it) follows its complement. He separates two senses of the terms *specifier* and *complement*. In the interpretive sense, the specifier is a feature-sharer and the complement is a selected dependent. In the structural sense, the specifier is a left daughter node. The complement, on the other hand, is a right-daughter of a syntactic head, and a left-daughter of a morphological head. Brody and Szabolcsi (2003) stipulate that invisible scope-bearing heads, i.e., Ref, Dist, and Count, can act either as syntactic heads or as morphological heads. Quantifiers taking inverse scope are specifiers of a morphological Dist head. The spec-head order within DistP is reversed by the following technical solution: the Dist head is assumed to be composed of two segments, and whereas the specifier (i.e., the distributive quantifier) is the left daughter of the lower Dist segment, the lower Dist segment itself is the right daughter of the higher Dist segment. Scope is interpreted in terms of feature dominance, i.e.:

(17) Scope: α scopes over β iff α 's features dominate β .

Observe the two structures in (18). (18a) yields a direct scope reading, and (18b) yields an inverse scope reading.

(18)a. 'Mindenki KEVÉS FILMET látott.
 everybody few film-ACC saw
 'Everybody saw few films.'

b. KEVÉS FILMET látott 'mindenki.
 few film-ACC saw everybody-NOM
 'Everybody saw few films.'

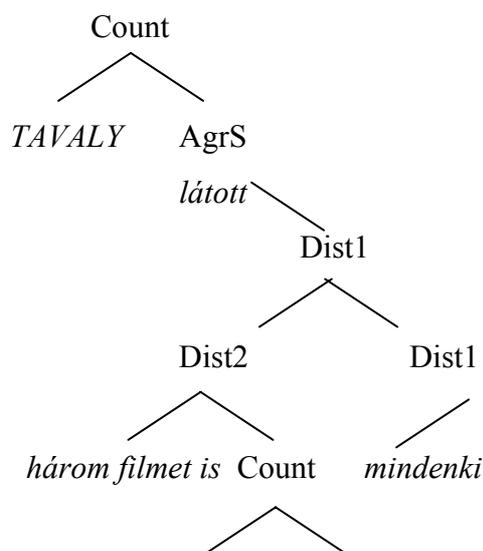


In (18a) *mindenki* has scope over *kevés filmet* because the features of *mindenki*, shared by Dist, dominate *kevés filmet*. In (18b), the features of *mindenki* are shared by the lower Dist segment, but they also percolate up to the higher Dist segment, hence the features of *mindenki* dominate *kevés filmet* in (18b), as well, despite their reverse surface order. Crucially, the features of *kevés filmet* are trapped because Count is a selected dependent, not a feature-sharer.

Scope reversal may also take place in a lower series of functional projections. In (19), the second highest series, located between AgrS and T, contains two DistPs (RefP and DistP are iterable in every series, whereas CountP is iterable everywhere except in the highest series). If the higher Dist (Dist1) is a morphological head, as in (19), its specifier, *mindenki*, appears on the right-hand side of its complement (Dist2); nevertheless, it has scope over Dist2.

(19) TAVALY látott három filmet is mindenki.
 last.year saw three film-ACC DIST everybody-NOM

'It was last year that everybody saw three films.'



This theory raises various problems (some of which have already been pointed out by Surányi (2002)).¹³ Among them:

¹³ At the same time, it also aims to solve problems which do not exist in my dialect. Thus Brody & Szabolcsi formulate the following generalization: when in a [Q1 Q2] string Q2 ranks lower than Q1, Q2 can have scope over Q1 only if Q2 itself is not a counter. I disagree with their judgment. In my dialect, (i) below is perfectly possible with an inverse scope reading, hence this constraint is unnecessary. (Recall that whereas numerical expressions supplied with the distributive particle *is* are Q-raised to Spec,DistP, noun phrases with a bare numerical determiner land in Spec,CountP.)

- (i) TAVALY látott mindenki KEVÉS FILMET.
 last.year saw everybody few film
 'It was last year that everybody saw few films.'
 'It was last year that few films were seen by everybody.'

Reinhart (2006) also argues that inverse scope with numerical indefinites is not impossible but is merely difficult to process.

Another alleged problem makes Brody & Szabolcsi introduce reconstruction, in addition to substitution, but in my dialect, the data necessitating reconstruction do not exist. According to Brody & Szabolcsi, (ii) is ungrammatical; its meaning can only be expressed by the permutation in (iii) – because *a legtöbb x* 'the most x' has a [+ref] feature, which must be checked in Spec,RefP.

- (ii)*Minden tanár a legtöbb osztályban HATNÁL TÖBB PÉLDÁT adott fel.
 every teacher the most class-in six-from more problem gave PRT
 'Every teacher gave more than six problems in most classes.'

- (iii) Minden tanár HATNÁL TÖBB PÉLDÁT adott fel a legtöbb osztályban.
 'Every teacher gave more than six problems in most classes.'

Brody & Szabolcsi derive the reading of (iii) under which *a legtöbb osztályban* 'in most classes' has scope over *hatnál több példát* 'more than six problems' by reconstructing *hatnál több példát* into the Spec,CountP of a lower series.

(i) CountP and DistP, i.e., focussed quantifiers and quantifiers Q-raised to Spec,DistP, behave differently in various respects not predicted by the theory. For example, DistP (and RefP) are iterable in every series, whereas CountP is not iterable in the highest series. It is not explained why (it is suggested the constraint may be related to focus function)

In fact, Brody & Szabolcsi's assumptions concerning the iteration of RefP are also problematic (as has been pointed out in the discussion of Szabolcsi (1997) by Surányi (2002)). The problem is that the RefP of the highest series functions differently from the RefPs of the lower series: only the filler of the highest Spec,RefP acts as a topic/logical subject of predication.

(ii) A counting QP must always raise to the Spec,CountP of the highest series, that subsuming AgrSP. A distributive QP, on the other hand, can also land in a Spec,DistP in a lower projection, as happens in the following construction:

(20) KÉT TANÁR látogatott meg minden gyereket.

two teacher visited PRT every child

'It was two teachers who visited every child.'

For me, (ii) is fully grammatical (and the reviewer of the Hungarian version of Brody & Szabolcsi's article seems to share this judgment – see Brody & Szabolcsi (2001, footnote 11)). Noun phrases involving the determiner *legtöbb* 'most' are clearly ambiguous between a referential and a quantificational reading, so excluding them from Spec,DistP would seem unmotivated. In (iv), *a legtöbb tantárgyat* 'most subjects' has narrow scope, i.e., the subjects can co-vary with the children, which is unexpected in the case of a [+ref] expression. Furthermore, *legtöbb* phrases are obligatorily distributive, as illustrated in (v).

(iv) **Minden gyerek a legtöbb tantárgyból** jól teljesített.
every child the most subject-from well performed
'Every child performed well in most subjects.'

(v) **A legtöbb fiú** fel-emelte a zongorát.
the most boy PRT lifted the piano.
'Most boys lifted the piano.'

If (ii) is a grammatical sentence involving two preverbal DistPs, (iii) has a legitimate derivation also without reconstruction.

Szabolcsi & Brody (2003) also assume reconstruction in the derivation of the inverse scope reading of their (51), rewritten here as (vi).

(vi) **Valamit kölcsön-adott mindenki.**
something-ACC lent everyone-NOM
'Something, everybody lent.'

I assume that *valamit* under a seemingly narrow-scope reading is a contrastive topic, and it is to be analyzed as discussed briefly in footnote (8), and more in detail in É. Kiss & Gyuris (2003).

If CountP and DistP are functional projections of the same kind, this difference is unmotivated.

(iii) It seems to be an ad hoc stipulation that the heads of scopal projections are always categorially ambiguous; they can function either as morphological heads or as syntactic heads. The doubling of the Dist, Count, and Ref heads is uneconomical; furthermore, the optionality eliminated from Q-raising is reintroduced as optionality in the choice of the category of these heads.

(iv) Some word order possibilities do not follow from the proposal. In (21), for example, the theory predicts a clause-final position for the verbal particle; it is unclear how the particle comes to precede an operator series.

(21)

[_{CountP} KÉT TANÁR [_{AgrSP} hívott [_? meg [_{DistP} három hétvégén is [_{DistP} minden gyereket]]]]]
two teacher invited PRT three weekend-on DIST every child-ACC

'It was two teachers who invited every child on three weekends.'

(iv) The theory cannot predict every scope possibility.

Olsvay (2000) calls attention to examples of the following type:

(22) Ki nem válaszolt meg több mint tíz kérdést?

who not answered PRT more than ten questions

'Who didn't answer more than ten questions?'

(22) contains a distributive quantifier (*több mint tíz kérdést* 'more than ten questions') which scopes over negation but below Count in the highest series of functional projections. The problem is that Brody & Szabolcsi's series have positions for distributive quantifiers only above Count.

Although Brody & Szabolcsi (2003) do not discuss negative quantifiers, in Beghelli & Stowell's version of the theory they land in the specifier of a NegP. In Hungarian, the two NegPs must be part of the highest series, with the lower NegP located between AgrSP and FocP:

- (23)a. [CountP KI [NegP nem [AgrSP látogatta meg a gyerekeket?]]]
 who not visited PRT the children
 'Who (was it that) didn't visit the children?'
- b. [CountP Csak AZ OSZTÁLYFŐNÖK [NegP nem [AgrSP látogatta meg a gyerekeket]]]
 only the form-master not visited PRT the children
 'It was only the form-master who didn't visit the children.'

Negation is not present in the lower series; the negative particles always surface preverbally. Hence the distributive quantifier in (22) must be the right-hand side specifier of a projection intervening between Count and negation – but there is no DistP between CountP and the V in AgrS.

The theory of Szabolcsi and Brody appears to be incapable of predicting the structural positions and the scope interpretations of negative quantifiers in the Hungarian sentence. Observe the basic facts:

- (24)a. 'Senki nem bukott meg két tárgyból.
 nobody not failed PRT two subject-from
 'Nobody failed in two subjects.'
- b. Nem bukott meg két tárgyból 'senki.
 'Nobody failed in two subjects.'
- c. Nem bukott meg 'senki két tárgyból.
 'Nobody failed in two subjects.'

- (25) KÉT TÁRGYBÓL nem bukott meg **senki**.
 'It was two subjects that nobody failed in.'

- (26)a. 'Senki nem KÉT TÁRGYBÓL bukott meg.¹⁴
 'For nobody was it two subjects that he failed in.'
- b. Nem KÉT TÁRGYBÓL bukott meg 'senki.
 'For nobody was it two subjects that he failed in.'

¹⁴ Actually, (26a) would be more unmarked with the negative particle *sem*, instead of *nem*. I argue elsewhere (in É. Kiss 2007) that *sem* is a negative particle, the alternative of *nem*, preverbally, and a minimizer participating in negative concord postverbally.

In the framework elaborated by Beghelli and Stowell (1997), the negative quantifier occupies the specifier of a NegP, headed by the negative particle. Under this assumption, and those of Brody & Szabolcsi, the inverse scope of a negative quantifier indicates that *nem* acts as a morphological head. The difficulty is that *nem* is followed by its complement also as a morphological head in (24b), (25), and (26b) alike. (24c) is even more problematic: *senki*, having scope over the whole sentence, follows one half of its complement, and precedes the other half.

The interaction of negation and universal quantification also raises other problems. According to empirical evidence discussed above, negation can intervene between AgrS and Count, and between Count and Dist in the [C [Ref [Dist [Count [AgrS series. Surprisingly, a universal quantifier, expected to show up in DistP, above the negative particle, can also appear below it (in which case it does not participate in negative concord). The quantifier can also stand postverbally, under the same scope reading:

(27)a. Nem **mindenki** jött el.¹⁵

not everybody came PRT

'Not everybody came.'

b. Nem jött el **mindenki**.

I will argue below that the empirical problems of Brody & Szabolcsi's theory arise from the assumption that Q-raising is a substitution transformation into a predetermined specifier position. I will demonstrate that the problems disappear if we return to the adjunction analysis of Q-raising, and adopt the null hypothesis that adjunction is a spatial operation which can be linearized either as left-adjunction or as right-adjunction.

5. Q-raising as adjunction

¹⁵ Bernardi & Szabolcsi (2006) analyze *nem mindenki* as a negated constituent, presumably a counting quantifier. This analysis does not predict the following facts:

(i) Nem **mindenki** JÁNOST hívta meg.
not everybody John-ACC invited PRT
'Not everybody invited JOHN.'

(ii)*Nem **mindenki** meg hívta Jánost.

If *nem mindenki* is a counting quantifier, it is not expected to precede a focus, as happens in (i). If it can also be categorized as a distributive quantifier, then its pre-focus position in (i) is accounted for, but the ungrammaticality of (ii) is inexplicable.

Let us identify Q-raising with the syntactic operation affecting the distributive-universal class of quantifiers in Beghelli & Stowell's (1997), Szabolcsi's (1997), and Brody & Szabolcsi's (2003) theories. Let us adopt the standard assumption that Q-raising is adjunction to a functional projection; more precisely, let us assume that it is adjunction to any functional projection in the logical predicate of the sentence (i.e., it is adjunction to any clausal functional projection but TopP and CP). Let us also suppose that Q-raising is required to establish a c-command relation between the quantifier and the syntactic domain representing its scope, without the direction of c-command being fixed.¹⁶ Let us also maintain May's (1985) Condition on Quantifier Binding, requiring that every quantifier bind a variable. Under these assumptions, all the facts concerning the word order position, the scope interpretation, and the prosody of quantifiers can be predicted. (From now on, I will use the term 'quantifier' to refer to the class of distributive, monotone increasing quantifiers, landing in Spec,DistP in Szabolcsi's (1997) and Brody & Szabolcsi's (2003) theory.)¹⁷

In neutral sentences, quantifiers are left-adjoined (28) or right-adjoined (29) to PredP. (Right-adjunction is somewhat more marked than left-adjunction – perhaps for perceptual reasons.) Recall that the postverbal section of the Hungarian sentence is subject to free linearization in PF. Right-adjoined quantifiers also participate in free linearization, as shown in (29b).

(28) [_{PredP} 'Minden osztályfőnök [_{PredP} meg-látogatta a tanítványait]]
 every form-master PRT visited the students-his
 'Every form-master visited his students.'

(29)a. [_{PredP} [_{PredP} Meg-látogatta a tanítványait 'minden osztályfőnök]]
 'Every form-master visited his students.'

PF realizations:

- b. Meg-látogatta a tanítványait 'minden osztályfőnök
- c. Meg-látogatta 'minden osztályfőnök a tanítványait.

Quantifiers have scope over their c-command domains, i.e., their interpretation is determined by the Scope Principle. Scope is interpreted on the syntax/LF interface, represented in (28)

¹⁶ The direction of Q-raising does not seem to be inherently fixed in Fox (2003), either, where covert Q-raising is adjunction to the right.

¹⁷ Szabolcsi (1997) suggests that her distributive-universal class of quantifiers is non-distinct from Partee's (1995) „essentially quantificational DPs”, which are all distributive.

and (29a) above. The PF reordering of the postverbal section of (29a) is not visible at the interface, hence it does not affect interpretation.

In the case of multiple left-adjunction, precedence among quantifiers indicates asymmetric c-command and an asymmetric scope relation between them. In the case of simultaneous left- and right-adjunction, on the other hand, the c-command relation of the quantifiers cannot be reconstructed. The scopal ambiguity of (30a) derives from its structural ambiguity shown in (30b,c):

(30)a. **'Minden gyereket** meg-hívott az osztályfőnök **'kétszer is**.

every child-ACC PRT invited the form-master twice DIST

b. [_{PredP} **'Minden gyereket** [_{PredP} [_{PredP} meg-hívott az osztályfőnök] **'kétszer is**]]

'The form-master invited every child twice.'

c. [_{PredP} [_{PredP} **'Minden gyereket** [_{PredP} meg-hívott az osztályfőnök]] **'kétszer is**]

'On two occasions, the form-master invited every child.'

In the case of multiple right-adjunction, too, the free PF linearization of postverbal elements may mask the c-command relations among the quantifiers. Thus (31a) may be the PF realization of either the structure in (31b) or that in (31c) – hence its scopal ambiguity:

(31)a. Az osztályfőnök meg-hívta **'kétszer is** **'minden tanítványát**.

the form-master PRT invited twice DIST every student-his

'On two occasions, the form-master invited every student of his.'

'The form-master invited every student of his twice.'

b. [_{TopP} Az osztályfőnök [_{PredP} [_{PredP} [_{PredP} meg-hívta] **'kétszer is**] **'minden tanítványát**]]

c. [_{TopP} Az osztályfőnök [_{PredP} [_{PredP} [_{PredP} meg-hívta] **'minden tanítványát**] **'kétszer is**]]

Either (31b) or (31c) could also be realized by the PF string *Az osztályfőnök meg-hívta 'minden tanítványát 'kétszer is*, which is ambiguous the same way as (31a) is.

The stress of quantifiers can be predicted in a simple way (for a more complex, detailed analysis, see Hunyadi's Hungarian metrical phonology (1999; 2002)). We perceive a quantifier to bear primary stress when its word stress is not subject to reduction. Stress reduction affects presupposed material. In a FocP, the domain of stress reduction is the c-command domain of the focus constituent. In a NegP, the domain of stress reduction is the c-command domain of the negative particle.

The postverbal unstressed quantifiers illustrated in (10)-(11) above and in (32) below are PredP-adjoined quantifiers in non-neutral sentences. Since in non-neutral clauses, the V moves up into the NN head, PredP-adjoined quantifiers surface postverbally, where they are subject to free linearization in PF. In the case of multiple adjunction to PredP, free linearization covers up the c-command relation between the quantifiers, resulting in ambiguity. Owing to stress reduction taking place in the c-command domain of focus and in the c-command domain of the negative particle, these quantifiers lose their primary stress. Observe (32a), which may be the PF realization of either (32b) or (32c):

- (32)a. AZ OSZTÁLYFŐNÖK látogatta meg **kétszer is** **minden tanítványát**.
the form-master visited PRT twice DIST every student-his
'It was the form-master who visited every student of his twice.'
'It was the form-master who, on two occasions, visited every student of his.'
- b. [_{FocP} AZ OSZTÁLYFŐNÖK [_{NN} [_{PredP} [_{PredP} [_{PredP} látogatta meg] **kétszer is**] **minden tanítványát**]]]]
- c. [_{FocP} AZ OSZTÁLYFŐNÖK [_{NN} [_{PredP} [_{PredP} [_{PredP} látogatta meg] **minden tanítványát**] **kétszer is**]]]]

The functional projections FocP and NegP are also possible landing sites for Q-raising. (33) and (34) illustrate left-adjunction and right-adjunction to FocP, respectively. Right-adjoined quantifiers are subject to free linearization in PF.

- (33)a. [_{FocP} 'Minden gyereket [_{FocP} 'kétszer is [_{FocP} AZ OSZTÁLYFŐNÖK látogatott meg]]]]
every child-ACC twice DIST the form-master visited PRT
'Every child was visited twice by the FORM-MASTER.'

- (34)a. [_{FocP} [_{FocP} [_{FocP} AZ OSZTÁLYFŐNÖK látogatott meg] 'minden gyereket] 'kétszer is]
PF: b. AZ OSZTÁLYFŐNÖK látogatott meg 'minden gyereket 'kétszer is.
or: c. AZ OSZTÁLYFŐNÖK látogatott meg 'kétszer is 'minden gyereket.

(The postverbal quantifiers could also precede the verbal particle in PF, however, the resulting order, with the monosyllabic, unstressed particle following the much longer, and heavily stressed quantifiers, would badly violate the Law of Growing constituents, and would therefore sound rather marked.) The relative scopes in (33)-(34) again fall out from the Scope

Principle. The stress of quantified phrases is a consequence of the fact that they are not subject to stress reduction. If one or both of the quantifiers in (34a) were adjoined to PredP instead of FocP, they would lose their stress. Since stress reduction is a structure dependent operation (i.e., in a FocP, it affects postverbal quantifiers adjoined to PredP, but does not affect postverbal quantifiers adjoined to FocP), it must take place on the syntax–PF interface.

Universal quantifiers adjoined to NegP participate in negative concord, i.e., they are realized as *se*-pronouns. (35a,b) illustrate left- and right-adjunction to the lower NegP, whereas (36a,b) illustrate left- and right-adjunction to the higher NegP.

(35)a. [_{NegP} 'Senki [_{NegP} nem [_{NNP} látogatta meg a gyerekeket]]]
 nobody not visited PRT the children-ACC
 Nobody visited the children.

b. [_{NegP} [_{NegP} Nem [_{NNP} látogatta meg a gyerekeket]] 'senki]

PF: c. Nem látogatta meg 'senki a gyerekeket.

(36)a. [_{NegP} 'Senkit [_{NegP} nem [_{FocP} AZ OSZTÁLYFŐNÖK [_{NNP} látogatott meg]]]]
 nobody-ACC not the form-master-NOM visited PRT
 'Nobody was visited by the FORM-MASTER.'

b. [_{NegP} [_{NegP} Nem [_{FocP} AZ OSZTÁLYFŐNÖK [_{NNP} látogatott meg]]]] 'senkit]
 not the form-master-NOM visited PRT nobody-ACC
 'Nobody was visited by the FORM-MASTER.'

If the adjunction site is the lower NegP subsumed by a FocP, only adjunction to the right is allowed. This constraint is the consequence of an independently motivated phonological restriction (cf. Kenesei 1994:330), according to which the focus and the (negated) V must form one phonological word. This is illustrated by a quantifier subject to negative concord in (37), and by a numerical quantifier in (38).

(37)a. [_{FocP} CSAK JÁNOST [_{NegP} [_{NegP} nem [_{NN} látogatta meg]]] senki]]
 only John-ACC not visited PRT nobody
 'It was only John who wasn't visited by anybody.'

b. * [_{FocP} CSAK JÁNOST [_{NegP} senki [_{NegP} nem [_{NN} látogatta meg]]]]

(38)a. [_{FocP} CSAK JÁNOS [_{NegP} [_{NegP} nem [_{NN} bukott meg]]] több mint két tárgyból]]

only John not failed PRT more than two subject-from
 'It was only John who did not fail [who passed] in more than two subjects.'

only John > more than two > Neg

b. *_{[FocP CSAK JÁNOS _{[NegP **több mint két tárgyból** _{[NegP nem _[NN bukott meg]]]]]}}}

The string in (38a) is, in fact, ambiguous in three ways: the quantifier *több mint két tárgyból* could be adjoined not only to NegP, but also to PredP or to FocP, yielding different scope readings and different stress patterns. (When adjoined to FocP, *több mint két tárgyból* retains its primary stress). These are the other two possible structural analyses:

(39)a. <sub>[FocP CSAK JÁNOS <sub>[NegP nem <sub>[NN bukott _{[PredP _[PredP meg] **több mint két tárgyból**]]]]]}
 only John not failed PRT more than two subject-from
 'It was only John who did not fail in more than two subjects [who failed in two subjects or less].'
only John > Neg > more than two</sub></sub></sub>

b. <sub>[FocP <sub>[FocP CSAK JÁNOS _{[NegP nem _{[NN bukott meg]]]]] 'több mint két tárgyból}}
 only John not failed PRT more than two subject-from
 'In more than two subjects, it was only John who did not fail.'
more than two > only John > Neg</sub></sub>

The generalization emerging from these observations is that quantifiers can be adjoined to any functional projection in the logical predicate part of the sentence. If this is tenable, then NNP should also be a potential adjunction site. Indeed, examples (27a,b), rewritten here as (40a,b), involve left- and right-adjunction to NNP, respectively:

(40)a. <sub>[NegP Nem <sub>[NNP **mindenki** <sub>[NNP jött _[PredP el]]]]]]¹⁸
 not everybody came PRT</sub></sub></sub>

¹⁸ In É. Kiss (2002), I assumed that *nem mindenki* represents constituent negation, because its *nem* does not license negative concord; cf.

(i)*Soha nem mindenki A FELESÉGÉVEL táncol.
 never not everyone the wife-his-ACC called

In fact, if *nem* is replaced by *sem* (functioning as a negative particle preverbally), the sentence becomes grammatical:

(ii) Soha sem mindenki A FELESÉGÉVEL táncol.
 never not everyone the wife-his-ACC called
 'It is always the case that not everybody dances with his wife.'

'Not everybody came.'

b. [_{NegP} Nem [_{NNP} [_{NNP} jött [_{PredP} el]] **mindenki**]]

'Not everybody came.'

This kind of left-adjunction to NNP is blocked if NegP is dominated by a FocP – because the intervening quantifier would prevent the focus from forming a single phonological word with the negated V. Cf.

(41)a. * [_{FocP} CSAK A TEGNAPI ÓRÁRA [_{NegP} nem [_{NNP} **mindenki** [_{NNP} jött el]]]]
only the yesterday's class-to not everybody came PRT

'It was only to yesterday's class that not everybody came.'

b. [_{FocP} CSAK A TEGNAPI ÓRÁRA [_{NegP} nem [_{NNP} [_{NNP} jött el]] **mindenki**]]

In sum: Whereas preverbal quantifiers, preceding and c-commanding their scope in Hungarian, can easily be accounted for by a Q-raising qua substitution analysis, postverbal quantifiers, appearing in a random order in either a direct or an inverse scope relation, resist such an analysis. If, on the other hand, Q-raising is analyzed as adjunction without any directionality restriction, all the descriptive problems disappear. The free word order of right-adjoined quantifiers is a consequence of the fact that the postverbal constituents of the Hungarian sentence can be linearized freely in PF. Inverse scope is also a consequence of the free linearization of postverbal quantifiers. Scopal ambiguity arises when the adjunction site of a postverbal quantifier cannot be unambiguously reconstructed from the PF linearization.¹⁹

¹⁹ A reviewer has pointed out that my analysis cannot be extended to *ki-ki* (literally: 'who-who'), a particular type of universal quantifier. *Ki-ki* requires a distributive predicate, e.g.:

(i) Ki-ki meg-ette a vacsoráját.
who-who PRT ate the supper-his-ACC
'Everyone ate his supper.'

(ii) Ki-ki le -feküdt.
who-who down lay
'Everyone went to bed.'

but:

(ii)*Ki-ki aludt.
who-who slept
'Everyone slept.'

In fact, it is not obvious at all that *ki-ki* is a universal quantifier subject to Q-raising; it might as well be the *ki* indefinite pronoun used as a relative, analyzed by Kenesei (1994) to occupy Spec,TopP. The relative pronoun *ki/aki* 'who' is known to be interpreted as a universal quantifier in various constructions, e.g.:

(iii) Ki mint veti ágját, úgy alussza álmát.

In the next section, adverbial adjuncts will be shown to appear in the same structural positions as quantifiers, displaying the same kinds of scope relations and the same stress patterns. Therefore, the syntactic, semantic and prosodic facts related to adverbial adjuncts will be derived from the same assumptions as those introduced in the analysis of Q-raising.

6. Adverbial placement

Lower adverbials (in another terminology, predicate adverbials), those modifying an event, either precede PredP in a semantically determined, fixed relative order, or follow the V in a free order. Their postverbal occurrence is more marked, but is, nevertheless, fully grammatical. Adverbials left-adjacent to PredP precede and c-command their scope. Those following the V display the same scope relations as their preverbal counterparts – no matter what relative word order position they happen to occupy postverbally. They bear primary stresses in pre- and postverbal positions alike.

If adverbials are merged into the sentence in specifier positions of designated functional projections, as proposed by Cinque (1999), their postverbal appearance is unmotivated (except for cases involving V-movement). If, on the other hand, preverbal adverbials are assumed to be left-adjoined to PredP, and postverbal adverbials are assumed to be right-adjoined to it, all their properties fall out. The absolute and relative scopes of adverbials are determined by the Scope Principle interpreted on the syntax-semantics interface. The free postverbal order of right-adjoined adverbials is a consequence of the free PF linearization of the postverbal string of the Hungarian sentence. Their primary stress is due to the lack of stress reduction.

Compare (42a), (43), and (44). They are different linearizations of the same proposition, involving two event-modifying adverbials, a narrower-scope manner adverbial and a wider-scope frequency adverbial. In (42a) both adverbials are left-adjoined to PredP; whereas in (43) and (44), one of them is left-adjoined and the other one is right-adjoined. In (45) both adverbials are right-adjoined. The postverbal strings of (43a), (44a), and (45a) can

who how makes his.bed so sleeps his.dream-ACC
 'Everyone sleeps the way he has made his bed.'

(iv) Meg-hívhatsz, akit csak akarsz.
 PRT invite-poss-2SG who-ACC merely want-2SG
 'You can invite anybody/everybody you want.'

Universal interpretation may be a consequence of the distribution of the predicate over the possible realizations of an indefinite, non-referential subject.

be realized by different PF orders. (The ones spelled out are those observing the Law of Growing Constituents.) Since *gyakran* 'frequently' c-commands *hangosan* 'loudly' at the syntax–LF interface, it has scope over it everywhere.

(42)a. [_{TopP} A tanár [_{PredP} 'gyakran' [_{PredP} 'hangosan' [_{PredP} fel olvasta a dolgozatokat]]]]
the teacher often loudly out read the papers
'The teacher often read out the papers loudly.'

cf. b. *A tanár 'hangosan' 'gyakran' fel olvasta a dolgozatokat.

(43)a. [_{TopP} A tanár [_{PredP} [_{PredP} 'hangosan' [_{PredP} fel olvasta a dolgozatokat]] 'gyakran']]
the teacher loudly out read the papers often
'The teacher often read out the papers loudly.'

PF: b. A tanár 'hangosan' fel olvasta 'gyakran' a dolgozatokat.

(44)a. [_{TopP} A tanár [_{PredP} 'gyakran' [_{PredP} [_{PredP} fel olvasta a dolgozatokat] 'hangosan']]
the teacher often out read the papers loudly
'The teacher often read out the papers loudly.'

PF: b. A tanár 'gyakran' fel olvasta 'hangosan' a dolgozatokat.

(45)a. [_{TopP} A tanár [_{PredP} [_{PredP} [_{PredP} fel olvasta a dolgozatokat] 'hangosan]' 'gyakran']]

PF: b. A tanár fel olvasta 'gyakran' 'hangosan' a dolgozatokat.

If a PredP with adverbials adjoined to it is subsumed by a focus and/or negation, the PredP-adjoined adverbials surface postverbally. Since they are in the c-command domain of the focus or the negative particle, they are destressed. In PF, they are subject to free linearization, as expected.

(46)a. [_{FocP} A MAGYARTANÁR [_{NNP} olvasta [_{PredP} 'gyakran' [_{PredP} 'hangosan' [_{PredP} fel
the Hungarian-teacher read often loudly out
a dolgozatokat]]]]]
the papers
'It was the Hungarian teacher who often read out the papers loudly.'

PF: b. A MAGYARTANÁR olvasta fel 'gyakran' 'hangosan' a dolgozatokat.

Higher adverbials (in another terminology, sentence adverbials), those selecting a proposition or a speech act, precede everything but the topic constituents; and they can optionally even precede the topics. When they precede a topic, they are adjoined to TopP. It is less obvious what they are adjoined to in post-topic position and in topicless sentences. A possible solution is to adjoin them to the functionally extended verb phrase (a PredP, FocP, or NegP); however, according to native speakers' intuition, sentence adverbials are not part of the extended verbal projection functioning as the logical predicate of the sentence. (In the terminology of Rizzi (1997), they are felt to belong to the C-domain.) Sentence adverbials – as opposed to predicate adverbials – cannot bear primary stress, which gives rise to a further problem. If both predicate adverbials and sentence adverbials are adjoined to the same maximally extended verb phrase, then their different prosody cannot be structurally determined; the reduced stress of sentence adverbials can only be encoded as a lexical property. There are many adverbs which can have scope either over the predicate or over the whole clause. In the framework under discussion, such adverbs (e.g. that in (47)) have to be doubled in the lexicon, as they have reduced stress only as sentence adverbs. Compare:

- (47)a. [_{TopP} János [_{PredP} 'okosan [_{PredP} meg-válaszolta a kérdést]]]
 John cleverly PRT answered the question
 'John answered the question cleverly.'
- b. [_{TopP} János [_{PredP} okosan [_{PredP} 'meg-válaszolta a kérdést]]]
 'It was clever of John to answer the question.'

An alternative possibility is to assume an empty maximal projection above the functionally extended verb phrase as a potential adjunction site of sentence adverbials. Following Tenny (2000:319), and Haegeman (2006:1663), I identify this projection, located below the TopP and above the functionally extended verb phrase, as a S(peaker) D(eixis) Phrase, serving to introduce the speaker as a sentient, deictic argument, and his point of view. Sentence adverbials are adjoined either to SDP or to TopP.

Sentence adverbials can also be either left- or right-adjoined. They take scope over their c-command domain. The possible relative scopes of various types of sentence adverbials are usually fixed in the form of semantically motivated selectional restrictions. These restrictions determine the relative order of adverbials in the left periphery of the sentence (see (48a,b)). Right-adjoined sentence adverbials, on the other hand, participate in free linearization in PF (cf. (49a-c)). In the Hungarian sentence, the heaviest stress falls on the left

edge of the logical predicate (the functionally extended verb phrase). Being external to the logical predicate, whether on the left or on the right, sentence adverbials never bear the main stress of the sentence.

(48)a. [_{TopP} **Szerintem** [_{TopP} János [_{SDP} **valószínűleg** [_{SDP} [_{NegP} 'nem [_{NNP} bukik meg a
 according.to.me John probably not fails PRT the
 vizsgán]]]]]]]
 exam-on

'According to me, John probably will not fail in the exam.'

cf. b.*[_{TopP} **Valószínűleg** [_{TopP} János [_{SDP} **szerintem** [_{SDP} [_{NegP} 'nem [_{NNP} bukik meg a
 vizsgán]]]]]]]

(49)a. [_{TopP} [_{TopP} János [_{SDP} [_{SDP} [_{NegP} nem [_{NN} bukik meg a vizsgán]]] **valószínűleg**]
 John not fails PRT the exam-on probably
 according.to.me
szerintem]

'According to me, John probably will not fail in the exam.'

PF: b. János nem bukik meg **szerintem valószínűleg** a vizsgán.

or: c. János nem bukik meg **valószínűleg** a vizsgán **szerintem**.

etc.

Higher adverbials precede lower adverbials preverbally, but postverbally their linear order is free (while their scope relation remains fixed.) Observe the hierarchical structure in (50), and some of its possible PF realizations, with none (50), or one (51), or both quantifiers (52) right-adjoined:

(50) [_{TopP} János [_{SDP} **remélhetőleg** [_{SDP} [_{PredP} 'gyorsan [_{PredP} meg-oldotta a feladatot]]]]]]]
 John hopefully quickly PRT solved the problem

'John hopefully quickly solved the problem.'

(51)a. [_{TopP} János [_{SDP} [_{SDP} [_{PredP} 'gyorsan [_{PredP} meg-oldotta a feladatot]]] **remélhetőleg**]
 John quickly PRT solved the problem hopefully

'John hopefully quickly solved the problem.'

PF: b. János 'gyorsan meg-oldotta **remélhetőleg** a feladatot.

(52)a. [_{TopP} János [_{SDP} [_{SDP} [_{PredP} [_{PredP} 'meg-oldotta a feladatot] 'gyorsan]] **remélhetőleg**]]

PF: b. János 'meg-oldotta 'gyorsan a feladatot **remélhetőleg**.

or: c. János 'meg-oldotta **remélhetőleg** 'gyorsan a feladatot.

In a framework in which adverbials occupy specifiers of designated functional projections, the postverbal position of high adverbials is inexplicable. No invisible LF-movement can be evoked to account for their alternative pre- and postverbal occurrences, as adverbials modifying the whole proposition or the speech act itself cannot be generated adjoined to the VP, to be preposed in LF. These examples provide clear evidence of right-adjunction.

7. Summary

This paper has argued against the uniform analysis of the left-peripheral elements of sentence structure as specifiers of designated functional projections, participating in feature checking. It has shown on the basis of Hungarian evidence that quantifiers and adverbials – though sharing with specifiers the property of c-commanding their scope at the syntax–LF interface – also have properties which distinguish them from operators substituted into specifier positions. Namely,

(i) In the functionally extended verbal projection, substitution into the specifier of a functional projection triggers V-movement;²⁰ adjunction, on the other hand, does not trigger it.

(ii) Substitution operations fill fixed, predetermined positions in sentence structure.

Adjunction operations, on the other hand, have multiple potential merging sites; choice among them is determined by semantic considerations.

(iii) Substitution into specifier position is movement to the left; adjunction, on the other hand, has no fixed direction.

Right adjuncts surface in the postverbal section of the Hungarian sentence, which is subject to free linearization in PF. It is the independently motivated free PF linearization that is responsible for the mismatches between their structural positions determining their scope and their surface word order.

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²⁰ I identify the functionally extended verbal projection with the 'logical predicate' section of the sentence. The logical subject, i.e., the topic, is presumably substitution involving no V-movement.

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