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Aspects of Hungarian Syntax from a Lexicalist Perspective

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Preface

Until 2005, my main research areas had been the structure of noun phrases, nominalization, possessive constructions, participial constructions, and bracketing paradoxes in Hungarian in systematic comparison with English in the theoretical framework of Lexical-Functional Grammar (LFG). In 2005, I received a Fulbright research grant to Stanford University and Palo Alto Research Center (PARC). At PARC I was introduced to XLE (Xerox Linguistic Environment), the computational implementational platform of LFG. In 2008, at the Department of English Linguistics at the University of Debrecen I founded the Lexical-Functional Grammar Research Group, whose main project is to develop an LFG-XLE grammar of Hungarian (HunGram). Our HunGram project forced me and my colleagues to deal with LFG-theoretic and XLE-implementational aspects of the analysis of Hungarian finite clauses. My first single-authored paper and our joint papers on these topics came out in 2010. I have attended all the annual LFG conferences since then, and I gave at least one presentation at these conferences (sometimes two or three). In addition, I gave presentations at some ICSH conferences (International Conference on the Structure of Hungarian) and at the XLE workshops. In 2013, I was awarded a Péter Hajdú Guest Researcher grant at the Research Institute for Linguistics, Hungarian Academy of Sciences, many thanks to director István Kenesei for the hospitality I received at the institute. This grant gave me an enormous research impetus.

In this dissertation, I am reporting the results of 8 years of LFG-theoretic and XLE-implementational research. For valuable comments and suggestions, I am grateful to the participants of the conferences at which I gave presentations. I am also grateful to the anonymous reviewers of my publications, and, in particular, I am grateful to Tracy Holloway King and Miriam Butt, the constant editors of the LFG Conference Proceedings, for their very careful and helpful editorial comments. My thanks also go to Martin Forst, Vera Hegedűs, Csaba Olsvay and György Rákosi for discussions of certain theoretical and/or implementational issues. My special thanks go to Gábor Alberti, who provided very useful feedback for me on my sections on GASG, the theory he developed. I am indebted to Farrell Ackerman and Louise Mycock for their professional help to the largest extent. They kindly and generously commented on the first drafts of entire chapters (Chapter 3 and Chapter 4, respectively). Their very detailed and extremely helpful comments greatly enhanced the content and the presentational aspects of these two chapters. As usual, all remaining errors and shortcomings are my sole responsibility.

And there is someone, the most special person in my life, without whom this whole research and dissertation project would have been mission impossible. I am ever so grateful to my wife, Edit, for her understanding, patience, sacrifice, encouragement and support in all imaginable and unimaginable ways. As a humble token of my heartfelt gratitude, I dedicate this dissertation to her.

For Edit

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List of abbreviations

ABS	absolutive case
ACC	accusative case
ADJ(UNCT)	closed non-subcategorized grammatical function
AdvP/ADVP	adverbial phrase
AF-bar	non-argument function
Ag/ag	agent (semantic role)
AgrP	agreement phrase
ALL	allative (case)
AP	adjectival phrase
ARG	argument / argument feature
ASP	Autonomous Syntax Principle
AspP	aspect phrase
a-structure	argument structure
ATP	argument taking predicate
AuxSVO	auxiliary-subject-verb-object (word order)
AVM	attibute-value matrix
BACK.INF	background information
Ben/ben	beneficiary (semantic role)
CAR	verb-carrier
CAT	category
CAUS	causativizing suffix
CC	copula construction
CF	complement (= argument) function
CGRH	Comprehensive Grammar Resources: Hungarian (NKFI/OTKA project)
CN	constituent negation
COMP	closed propositional subcategorized grammatical function
COMP	complement; complementizer
Concat/CONCAT	concatenation
CONT	content
CONTR-TOPIC	contrastive topic
CP	complementizer phrase
CQ	constituent question
c-structure	constituent structure
DAT	dative case
Def/DEF/def	definite
DEFO	definite object marker
DEV	deverbal nominalizing suffix
DF	discourse function
DIR	directionality (feature)
DistP	distributional (quantifier) phrase
DO	direct object
DP	determiner phrase
D-structure	deep structure
E	Expression
EI-OpP	exhaustive identification operator phrase
EPN	(VP)external predicate negation

EPP	Extended Projection Principle
erad	eradicating (stress pattern)
EvalP	evaluation phrase
[+exh]	exhaustive (focus) feature
exh	exhaustive (focus-type feature value)
EXH	exhaustivity operator
Exp/exp	experiencer (semantic role)
FN	function name
[+foc]	focus feature
FOC	focus grammatical function
FocP	focus phrase
FP	functional phrase / focus phrase
FST	finite state transducer
f-structure	functional structure
GASG	Generative Argument Structure Grammar
GB	Government and Binding Theory
GeLexi	Generative Lexicon (project)
GEN	generator
GF	grammatical function
gf-structure	grammatical functional structure
H	high (accent)
H+L	high-low (accent)
HPSG	Head-Driven Phrase Structure Grammar
HunGram	Hungarian Grammar (LFG-XLE implementation)
ICSH	International Conference on the Structure of Hungarian
[+id]	identificational (focus) feature
id	identificational (focus-type feature value)
ILL	illative (case)
IMS	Institut für Maschinelle Sprachverarbeitung
INA	inherently negative adverb
INCORP	incorporation
Indef/INDEF/indef	indefinite
INE(SS)	inessive (case)
inf	infinitive marker
Infl	inflection
INQ	inherently negative quantifier
INST	instrumental case
Inst/inst	instrumental (semantic role)
INT	interrogative phrase
INTER	interrogative
inter	interrogative (focus-type feature value)
IntP	intonational phrase
IP	inflectional phrase
IPNH	(VP)internal predicate negation, head-adjunction
IPNPh	(VP)internal predicate negation, phrasal adjunction
IRA	intermittently repeated action
ITER	iterative suffix
Juxtap	juxtaposition
L	low (accent)
LF	Logical Form

LFG	Lexical-Functional Grammar
LiLe	Linguistic Lexicon (project)
LIP	Lexical Integrity Principle
LLF	Lexico-Logical Form
LMT	Lexical Mapping Theory
Loc/loc	locative (semantic role)
Mod	modality
MP	Minimalist Program
MSF	multiple syntactic focusing
NCI	negative concord item
neg	negative (focus-type feature value)
NEG	negative phrase / negative particle / negative feature
neg	negative (polarity value)
NegP	negation phrase
Nei	neighbour(ing)
NLH	Non-Lexicalist Hypothesis
NMR	negative marker
NNP	non-neutral phrase
NOM	nominative case
NP	noun phrase
NPI	negative polarity item
NUM	number (feature)
NUQ	negated universal quantifier
NW	n-word, negative polarity item
[–o]	–objective
[+o]	+objective
OBJ	object (grammatical function)
OBJ2	secondary object (grammatical function)
OBJ_{Θ}	thematically restricted object (grammatical function)
$OBL_{(\Theta)}$	$oblique_{(THETA)}$ (grammatical function)
Ord	word order
OT	Optimality Theory
P	plural
PARAM	parameter
PARC	Palo Alto Research Center
ParGram	Parallel Grammar
Part	participle
PART	particle
Pat/pat	patient (semantic role)
PathP	path phrase
PER(S)	person (feature)
Perf/PERF	perfectivizing preverb
PF	Phonological Form
PHON	phonological feature
PhP	phonological phrase
Pl/PL/pl	plural
PlaceP	place phrase
POL	polarity
pos	positive (polarity value)
POSS	possessor grammatical function

POSS	marker of a possession relation
PP	prepositional/postpositional phrase
PPP	prominent preverbal position
PRED	predicate feature
PREDLINK	a grammatical function in copula constructions
PredP	predicate phrase
PRES	present (tense)
PREV	preverb
PRO/pro	pronoun/pronominal
PrP	predicative phrase
PRT	particle
PST	past
PVC	particle-verb construction
PW	prosodic word
Q	‘wh’ constituent
Q_{+FIN}	final ‘wh’ constituent in multiple questions
$Q_{–FIN}$	non-final ‘wh’ constituent in multiple questions
QP	quantifier phrase
[–r]	–restricted
[+r]	+restricted
RBL	Realization-Based Lexicalism
ReALIS	(ℜeALIS) REciprocal And Lifelong Interpretation System
RelP	relator phrase
S	sentence
SC	small clause
SCC	sample content cell
sem-structure	semantic structure
SENT	sentential (feature value)
SFX	suffix
Sg/SG/sg	singular
SLH	Strong Lexicalist Hypothesis
SOV	subject-object-verb (word order)
SPEC/Spec	specifier
SQL	Structured Query Language
S-structure	surface structure
STMT	statement
SUBJ	subject (grammatical function)
SUBJUNC	subjunctive (mood marker)
SUB(L)	sublative (case)
SUP/SUPERESS	superessive (case)
SVO	subject-verb-object (word order)
SYNSEM	syntactic and semantic features
Th/th	theme (semantic role)
TLM	Totally Lexicalist Morphology
TOP	topic grammatical function
TopP	topic phrase
TP	tense phrase
TRANS	translative (case)
UG	Universal Grammar
UQ	universal quantifier

UQN	universal quantifier negation
Utt	utterance
$V_{[Part]}$	participle
VC	verbal complex
VM	verbal modifier
VoiceP	voice phrase
VP	verb phrase
VPART	particle
VSO	verb-subject-object (word order)
Vsuf	verbalizing suffix
[+wh]	wh(-question) feature
WLH	Weak Lexicalist Hypothesis
XADJ(UNCT)	open propositional non-subcategorized grammatical function
XCOMP	open propositional subcategorized grammatical function
XLE	Xerox Linguistic Environment
XP	categorially neutral phrase (X is a category variable)
XRCE	Xerox Research Center Europe
$\hat{Y}$	non-projecting category
∀	universal quantifier

Chapter 1. Introduction

In this introductory chapter, first I present the main goals of this dissertation (Section 1.1). Next, I show the traits of my chosen theoretical framework, Lexical-Functional Grammar (LFG), in systematic comparison with other generative linguistic frameworks (Section 1.2). Then I give an introduction to XLE (Xerox Linguistic Environment), the implementational platform of LFG (Section 1.3). Finally, I outline the structure of the dissertation (Section 1.4).

1.1. The main goals of the dissertation

The fundamental objective of this dissertation is to develop the first systematic analysis of the preverbal domain of Hungarian finite clauses in the theoretical framework of LFG and to test various crucial aspects of this analysis on the implementational platform of the theory, XLE. The most important research topics will include the development of the functionally annotated constituent structure of finite clauses, the treatment of verbal modifiers, preverbal focusing, operators (with particular attention to universal quantifiers and 'wh'-questions), negation, and copula constructions. Several parts of the analysis will be detailed either LFG-theoretically or XLE-implementationally (or both ways), while some other parts will be more programmatic, hopefully providing a solid basis for a detailed and comprehensive LFG analysis and its XLE implementation to be carried out in future research.

1.2. The framework: Lexical-Functional Grammar

Section 1.2.1 outlines the architecture of the classical version of LFG. It is to be noted that even subsequent developments have left most of the principles and assumptions of the original model intact. Section 1.2.2 highlights two special aspects of constituent structure representation in LFG which enable the theory to analyze phenomena across language types employing radically different (syntactic vs. morphological) ways of encoding of grammatical functional information.[1] The greatest change is that the newer versions have incorporated a substantial subtheory of mapping arguments onto grammatical functions. Section 1.2.3 is devoted to the description of this subtheory. In Section 1.2.4 I briefly compare the architecture and fundamental assumptions of LFG with those of Government and Binding Theory (GB) and the Minimalist Program (MP), on the one hand, and two lexicalist models: Generative Argument Structure Grammar (GASG) and Head-Driven Phrase Structure Grammar (HPSG), on the other hand.

1.2.1. The architecture of early LFG

In this section I highlight those aspects of classical LFG that are relevant for the purposes of the dissertation. In this theory, there are two structures assigned to every well-formed sentence of a language.

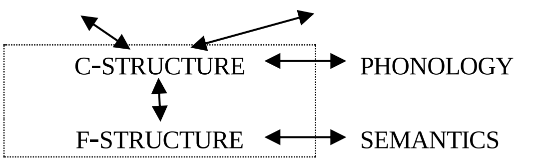
1. A **constituent structure** (c-structure), which is a version of standard X-bar syntactic representation designed to express "surface" constituency relations. A c-structure is *phonologically* interpreted.

2. A **functional structure** (f-structure), which represents the basic grammatical relations in the sentence. F-structures are *semantically* interpreted.

The architecture of the (classical) model comprising the original components is shown in (1).

[1] These three sections are considerably modified and augmented versions of Sections 1.3.1-1.3.3 in Laczkó (1995: 23-40).

(1)



Let me make five general remarks on this architecture.

a) LFG's name expresses the two most important distinguishing features of this model.
   - It has a very articulated and powerful lexical component: it captures phenomena captured in the syntax in the Chomskyan tradition by means of lexical rules. In this sense, it is a nontransformational generative grammar.
   - Grammatical functions (and grammatical relations in general) are the basic organizing notions and concepts in the system by the help of which a wide range of phenomena can be captured even across typologically radically different languages in ways that can potentially satisfy the principle of universality.[2]

b) In subsequent discussions I will point out and exemplify that LFG's phrase structure principles are considerably different from the standard Chomskyan system.
   - They are combined with functional annotations.
   - They admit exocentricity.
   - They allow headless constructions.
   - They reject empty categories.

c) C-structure and f-structure are the two dimensions of LFG's syntactic component. They roughly correspond to the traditional surface structure and deep structure, respectively, in the Chomskyan tradition. However, in addition to their formal-conceptual dissimilarities, there is a fundamental difference between the corresponding structures in the two approaches. The two LFG structures are simultaneously assigned to a sentence, i.e. they are parallel representations capturing two dimensions of the sentence. In this sense, LFG is a representational model. This contrasts with the fundamentally derivational nature of the Chomskyan mainstream: the surface structure is (transformationally) derived from the deep structure. The mapping mechanism linking c-structures and f-structures is discussed below these remarks.

d) The direct linkage between c-structure and the phonological component, on the one hand, and between f-structure and the semantic component, on the other hand, straightforwardly follows from the "surfacy" nature of c-structure and the "deep" nature of f-structure.

e) As the theory developed, several additional parallel levels of representation were introduced for the sake of separately modelling different types of information. From the perspective of the present dissertation, the most important development is the introduction of information structure (i-structure) for the representation of discourse functions like focus and topic. In the classical version of LFG both grammatical functions and discourse functions were encoded in f-structure. For two popular versions of the architecture of LFG augmented with i-structure, see point C) at the end of Section 1.2.3.

The correspondence between c-structures and f-structures arises from functional annotations associated with the nodes by general principles. C-structures are designed to encode language-particular phenomena, whereas f-structures are intended to capture grammatical generalizations across languages. In the classical version of the theory, the arguments of a

[2] For detailed argumentation, see Bresnan (1982a). This book also argues for LFG's being a psychologically realistic generative framework in terms of modelling the competence of native speakers and the process of first language acquisition.

predicate, represented in the argument structure included in the lexical form of that predicate, were associated with grammatical functions like SUBJ(ect), OBJ(ect), OBL(ique), etc., assumed to be primitives, that is, nonderived categories of the theory.[3] The grammatical function associations in the lexical form of the predicate and the grammatical function annotations in c-structure ensured the correct mapping of arguments onto grammatical functions in the syntax.

LFG was designed to observe two general constraints on grammar: monotonicity (a computational constraint) and universality (a linguistic constraint). Monotonicity was ensured by the principle of direct syntactic encoding. This principle prevents any syntactic rules from changing the grammatical relations of the elements of a sentence. The assumption that grammatical functions were universal primitives of grammar, their association with arguments in the lexical forms of predicates and the f-structure level of representing invariant grammatical relations across languages enabled the theory to achieve universality in the description of phenomena in different types of languages.[4]

Given that no grammatical function-changing rules are assumed to be operational at the syntactic level of representation, correspondences like the active ~ passive alternation or the dative shift are captured in terms of **lexical redundancy rules** which create new lexical forms. For instance, every passivizable transitive predicate is postulated to have two lexical forms: an active one and a passive one, the latter being the result of a lexical function-changing rule. Consider the examples in (2).[5]

(2)		(↑SUBJ)		(↑OBJ)	
	a. kill, V (↑PRED) = 'KILL <	Ag	,	Th	>'
		(↑OBL)/Ø		(↑SUBJ)	
	b. killed, V (↑PRED) = 'KILL <	Ag	,	Th	>'

(3) a. Morphological change: V $\Rightarrow$ $V_{[Part]}$

b. Functional change: (SUBJ) $\Rightarrow$ (OBL_{ag}) / Ø
(OBJ) $\Rightarrow$ (SUBJ)

Let us take a simple example of the active ~ passive correspondence as captured at the levels of c-structure and f-structure representations.

(4) John killed the bird.

[3] In more recent versions of the theory this assumption was considerably modified, and a new component, Lexical Mapping Theory, has been introduced for the sake of capturing the mapping of arguments onto grammatical functions in a principled and monotonically satisfactory fashion, see Section 1.2.3.

[4] This universality potential of LFG has been maintained and augmented with the introduction of Lexical Mapping Theory, see Footnote 3 and Section 1.2.3.

[5] The general representational schema of lexical forms of predicates is shown in (i).

(i)				(↑GF_1)		(↑GF_2)	grammatical functions
	form	CAT	(↑PRED) = 'FORM <	1	,	2 >'	arguments
				Θ_1		Θ_2	semantic roles

- (↑PRED): the semantic feature of the word — **'…'**: the value of the semantic feature
- FORM: indication of where the semantic description is to be given — **<…>**: argument structure

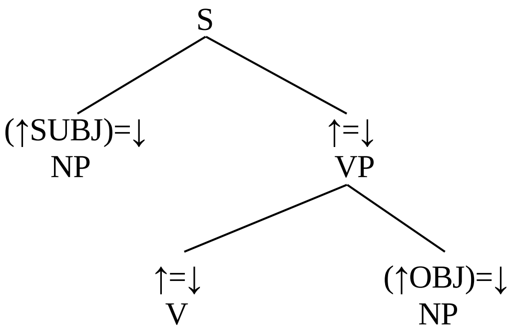
The typically used simplified version is as follows.

(ii) form CAT 'FORM < (↑GF_1) (↑GF_2) >'

(5) a.
$$S \Rightarrow \begin{array}{cc} \text{NP} & \text{VP} \\ (\uparrow\text{SUBJ}){=}\downarrow & \uparrow{=}\downarrow \end{array}$$

b.
$$VP \Rightarrow \begin{array}{cc} \text{V} & \text{NP} \\ \uparrow{=}\downarrow & (\uparrow\text{OBJ}){=}\downarrow \end{array}$$

(6) c-structure:

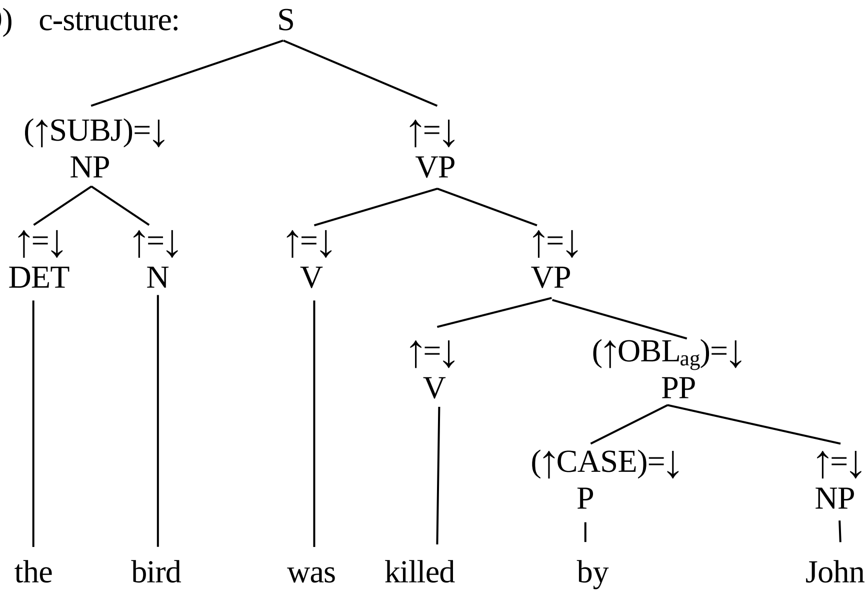


(7) f-structure:

$$\begin{bmatrix} \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{‘JOHN’} \end{bmatrix} \\ \text{PRED} & \text{kill, V} \langle \underset{\text{Ag}}{\text{SUBJ}}, \underset{\text{Th}}{\text{OBJ}} \rangle \\ \text{TENSE} & \text{past} \\ \text{OBJ} & \begin{bmatrix} \text{SPEC} & \text{‘THE’} \\ \text{PRED} & \text{‘BIRD’} \end{bmatrix} \end{bmatrix}$$

(8) The bird was killed by John.

(9) c-structure:



(10) f-structure:

$$\left[\begin{array}{ll}
\text{SUBJ} & \left[\begin{array}{ll}\text{SPEC} & \text{‘THE’}\\ \text{PRED} & \text{‘BIRD’}\end{array}\right]\\
 & \\
\text{PRED} & \text{kill, V} <\text{OBL}_{ag}, \text{SUBJ}>\\
 & \qquad\qquad\quad \text{Ag} \qquad \text{Th}\\
\text{TENSE} & \quad \text{past}\\
 & \\
\text{OBL}_{ag} & \left[\begin{array}{ll}\text{PCASE} & \text{‘BY’}\\ \text{PRED} & \text{‘JOHN’}\end{array}\right]
\end{array}\right]$$

The two most important types of functional annotations in c-structure are as follows.

A) (↑X)=↓ is to be interpreted in the following way: the X feature of the mother node is contributed by the node which the annotation is associated with. X stands for grammatical functions, cases and other features, informally: my mother’s features (↑) are identical to my own features (↓).

B) ↑=↓ means that the features of the node which the annotation is associated with are shared by the mother of this node.

We can build f-structures by solving the equations in the annotated c-structure tree. These f-structures are sets of ordered pairs which consist of the name of a grammatical function or function feature paired with its value. There are four different types of values. They are exemplified in Table 1, taken from Simpson (1991: 90).[6]

Value-type	***Feature/GF***	***Value***
1. symbols	CASE	Absolutive
2. lexical forms	PRED	PRO
3. subsidiary f-structures	SUBJ	CASE = ABS PERS = 1 NUM = sg PRED = I
4. sets of symbols or f-structures	ADJUNCT	PRED = in <OBJ_{Θ}> OBJ_{Θ} = garden

Table 1. Value types in LFG

There are three important well-formedness conditions on f-structures. They are as follows.

1. Consistency: every function (feature) must have a unique value. This constraint blocks conflicts of values and functions. For instance, features like TENSE, CASE, etc. cannot have conflicting values. This principle is applied to the association of arguments with grammatical functions in the form of the following condition.

(11) Function-Argument Biuniqueness: each a-structure role must be associated with a unique function, and vice versa.

[6] The internal f-structures are abbreviated.

This ensures that the same grammatical function will not be assigned to more than one argument within a single argument structure, and no argument will be associated with more than one grammatical function. The following function assignments are thus ruled out by this condition.

(12) a. < 1 2 >
SUBJ SUBJ

b. < 1 2 >
SUBJ OBL OBJ

2. Completeness: if an argument-taking predicate obligatorily subcategorizes for a grammatical function, this function must appear in the relevant f-structure. This condition rules out examples like the following: **I put the book*. This sentence is ungrammatical because the predicate *put* subcategorizes for three grammatical functions, but in the f-structure representation of the sentence there are only two grammatical functions realized. The function to be associated with the Locative argument is missing.

3. Coherence: if a subcategorizable grammatical function appears in an f-structure, that f-structure must contain a PRED which is subcategorized for that function. It is this condition that will predict the ungrammaticality of constructions of the following kind: **John died into the kitchen*. Here the problem is that *into the kitchen* is interpreted as an argument assigned a directional oblique function ($\mathrm{OBL_{dir}}$), but the predicate *die* does not subcategorize for that function.

Early LFG considered the lexical rules in (3) to be the universal rules of passivization, as opposed to transformational (movement) accounts, by pointing out that the movement of certain elements in certain sentences is but a concomitant feature of passivization in certain languages (in particular, in languages which encode grammatical relations structurally, that is, configurationally). In languages that realize grammatical functions by morphological means, there is no evidence for the necessity of movement. However, in both types of languages there is a change in the distribution of grammatical functions associated with the invariant argument structures of the active and passive predicates. While c-structure representations of active and passive sentences differ significantly across languages owing to the different principles of encoding the relevant grammatical relations, f-structure representations will capture the universal aspects of the two construction types across languages. In other words, the fundamental features of the f-structures of active and passive sentences will be the same even in the description of languages which realize grammatical functions by different means.

Given the fact that grammatical relations, postulated to be universal, play a crucial role in this grammar, LFG needs a substantial theory of the nature of these relations. Consider the following classification from Bresnan (1982c).

(13) **Grammatical functions**

Subcategorizable

Semantically unrestricted
SUBJ
OBJ
OBJ2

Semantically restricted
$\mathrm{OBL_{\Theta}}$
COMP
XCOMP

Nonsubcategorizable
ADJ(UNCT)
XADJ(UNCT)

The major distinction is that between subcategorizable and nonsubcategorizable functions. The former are assigned to arguments in their argument structures by predicates, while the latter are assigned to optional modifiers (adjuncts) of predicates and as such they are never subcategorized by these predicates. Subcategorizable functions are further classified into two groups. The semantically unrestricted functions (SUBJECT, OBJECT and OBJECT2) are so called because they can be assigned to a whole range of semantic roles; moreover, sometimes a predicate may assign them to nonthematic arguments (in "raising" constructions, for instance). By contrast, the semantically restricted functions (OBLIQUE$_{\Theta}$, COMPLEMENT and XCOMPLEMENT) can only be assigned to arguments having particular semantic roles. The Θ subscript in OBL$_{\Theta}$ stands for the specification of the semantic role of the argument to which a special OBL function has to be assigned. Thus, we can distinguish Instrument, Goal, Theme, etc. OBL functions (OBL$_{inst}$, OBL$_{go}$, OBL$_{th}$, etc.). XCOMP, COMP and XADJUNCT (and often ADJ) are normally assigned to propositional arguments. The difference between XCOMPs and XADJs, on the one hand, and COMPs and ADJs, on the other, is that the former are open functions in the sense that their predicates do not assign the SUBJ function to one of their arguments. This argument receives a grammatical function from a different predicate (14a) or it is controlled by one of the arguments of this other predicate (14b).

(14) a. I believe him to like music.
b. I told him to wash the dishes.

The exceptional function assignment (14a) and the functional control relationship (14b) are represented in the lexical forms of the matrix predicates. Consider:

(15) a. believe, V 'BELIEVE <(↑SUBJ), (↑XCOMP)>' (↑OBJ)
(↑OBJ) = (↑XCOMP SUBJ)

b. tell, V 'TELL <(↑SUBJ), (↑OBJ), (↑XCOMP)>'
(↑OBJ) = (↑XCOMP SUBJ)

The verb *believe* is a two-place predicate. It assigns the SUBJ and XCOMP functions to its 'believer' and 'the believed proposition' arguments. In addition, it is capable of assigning an extra OBJ grammatical function to a nonsemantic argument: to the subject argument of the predicate of its XCOMP argument. This is expressed by the functional equation below the a-structure in the lexical form of *believe*. By contrast, *tell* is a three-place predicate (with the 'teller', the 'recipient' of telling and the 'proposition' told to the recipient). The open subject argument of *wash*, the predicate of the XCOMP argument, is controlled by the object argument of *tell*. This information is also included in the lexical form of *tell* by means of the same kind of functional equation as in the case of *believe*. (14a) and (14b) exemplify functional control relationships pertaining to XCOMP arguments (and their subject arguments). In the case of XADJUNCT functions, no such control relationships exist given the fact that XADJs are nonsubcategorized functions; therefore, they never appear in the lexical form of any predicate. Here a different kind of control is postulated: anaphoric control. Consider the following example.

(16) He entered the classroom, nervous as usual.

The AP *nervous as usual* has the XADJUNCT grammatical function. Its unexpressed subject argument is anaphorically controlled by the subject of the predicate *enter*.

After this overview of the classification of grammatical functions in early LFG, let me make three remarks. Firstly, note that the POSSESSOR function, one of the most important functions within NPs, has not been included in (13). This may be due to the fact that at that early stage, practitioners of LFG were preoccupied with the fundamentals of the theory and the analysis of basic clause level phenomena.[7] Secondly, in Lexical Mapping Theory, the new component of LFG, the classification of grammatical functions as semantically restricted and unrestricted plays a fundamental role (cf. the next section). Thirdly, the OBJ2 function is no longer treated as semantically unrestricted.

1.2.2. On two key aspects of c-structure representation

In this section I briefly discuss two general and fundamental aspects of c-structure representation in LFG. One of these aspects is the distinction between phrase structure heads and functional heads. The other is the extension of the principles of c-structure representation below the word level and the application of functional annotations in the same manner as above the word level. These are well-established notions and procedures within the LFG framework. For the most part, the short discussion below is based on Simpson's (1991) analysis of Warlpiri, a language which shares certain crucial properties with Hungarian.

In LFG, we can distinguish between two types of heads: structural and functional heads. The structural head is always the functional head at the same time. For instance, in an ordinary English finite clause V is both the structural and functional head of VP. However, there are many construction types across languages in which the XP complement of the structural and functional head of the phrase is best analyzed as the functional cohead of the phrase (and not as having some complement function). Such constructions are discussed, for example, in Bresnan (1982c), Mohanan (1983), Ackerman (1987) and Simpson (1991).

Let us take an example from Simpson (1991). In the sentence in (17), the two PPs are to be analyzed differently. The second PP, *in the creek*, realizes an adjunct function. The preposition here is the structural and functional head of the PP. It is best analyzed as an argument-taking predicate (a two-place predicate) whose second argument is the NP complement in the PP. Thus, the NP has a complement functional annotation (it is the semantically restricted object of the prepositional predicate). The first PP is definitely different. It realizes the second argument of the verbal predicate. It is most appropriate to take the preposition to be the structural head as usual and to assume that it and the NP are functional coheads: the NP contributes the PRED feature to the f-structure of the entire PP (which is, of course, ultimately contributed by the head of this NP), and the preposition only contributes the relevant morphosyntactic information: the case feature of the PP.

(17) The men played at cards in the creek.

The most significant aspects of an account along these lines are exemplified in (18).

[7]For an analysis of POSSESSORs in English NPs, within the classical LFG framework, see Rappaport (1983). She argues that this function is semantically restricted in English. By contrast, in Laczkó (1995) I develop a semantically unrestricted account of this function in Hungarian, and I argue that such an analysis can be extended to English possessor phenomena in a principled manner.

(18) a. *play*, V <SUBJ, OBL_{loc}>
b. *at cards*:

$(\uparrow OBL_{loc})=\downarrow$
PP
$\uparrow=\downarrow$ $\uparrow=\downarrow$
P NP
case PRED= 'cards'

c. *in the creek*:

$\downarrow\in(\uparrow ADJUNCT)$
PP
$\uparrow=\downarrow$ $(\uparrow OBJ_{\Theta})=\downarrow$
P NP
PRED='in'
<(SUBJ)OBJ_{Θ}>

In Hungarian, postpositions and case-endings correspond to prepositions in English. At this point let us take a look at a Hungarian example containing two postpositional phrases. The parallels should be rather straightforward.[8]

(19) János ki-állt Mária mellett a bizottság előtt.
John out-stood Mary beside the committee before
'John stood by Mary before the committee.'

(20) a. *kiáll*, V 'STAND-BY <$(\uparrow SUBJ)$, $(\uparrow OBL_{loc})$>'

b. *Mária mellett*: $(\uparrow OBL_{loc})=\downarrow$
PP
$\uparrow=\downarrow$ $\uparrow=\downarrow$
NP P
Mária $case_{loc}$: 'mellett'

c. *a bizottság előtt*: $\downarrow\in\uparrow$ (ADJUNCTS)
PP
$(\uparrow OBJ_{\Theta})=\downarrow$ $\uparrow=\downarrow$
NP P
a bizottság PRED='előtt'
<(SUBJ), (OBJ_{Θ})>

[8]Although I readily admit that the postposition *mellett* `beside' can be argued to have retained a certain degree of its semantic content in this particular example. The various uses of several case-endings would provide more convincing examples, but here I wish to exemplify the prepositional phrase – postpositional phrase correspondences in these languages.

In Section 2.2 in Chapter 2 I will discuss and exemplify LFG's treatment of functional coheads at great length, as they are central to the analysis of sentence structure. I will show that the most important constraint on coheadedness is that only one of the two (or more) functional coheads can contribute the PRED feature to the f-structure of the entire constituent.

Simpson (1991) argues that case-marked NPs in Walpiri can be analyzed in the same way as PPs in English. She distinguishes three main uses of case-suffixes.

A) An ending functioning as an argument-relater shows the relations between a predicate and one of its arguments.
B) A case-suffix can also function as an argument-taking predicate.
C) A case-ending can also express that an argument-taking predicate functions as an attribute of some argument.

In the present discussion we are primarily concerned with types A and B (as regards its nature, type C is much closer to A than to B). Type A corresponds to the structural head function of a preposition in English, whereas type B corresponds to the functional and phrase structure head use of a preposition.

The only major difference between English and Warlpiri is that in the latter these argument-taking predicates are bound forms (suffixes). However, such an analysis can be naturally accommodated in the framework of LFG, whose principles allow the 'sublexical' portions of morphologically complex words to be associated with syntactic functions and functional annotations. Simpson uses the analysis of a phenomenon in Greenlandic Eskimo as independent evidence for postulating a process whereby a predicate is a bound morpheme and it obligatorily attaches to (the head of) one of its arguments in the lexicon.

Greenlandic has a class of verbal suffixes which combine with nouns to form verbs in which the incorporated noun is understood to be a grammatical argument of a verb encoded by the suffix. One of these suffixes is *-arpoq*, which roughly means 'have'. *Qimmeq* 'dog' in (21a) is an independent lexical item which can function as either a word (a noun) or a (noun) stem. It can be combined with the verbal suffix, the result of which is a verb (21b).

(21) a. qimmeq, N 'DOG'
b. Qimmeq-arpoq.
'He has a dog.'

Simpson points out that Sadock (1980) analyzes this process as a case of syntactic word formation, on account of the fact that the two elements are in a predicate-argument relation; furthermore, the incorporated grammatical arguments can be modified, with the modifiers appearing as separate words in instrumental case. Consider:

(22) Angisuu-mik qimmeq-arpoq.
big-INST dog-have.3SG
'He has a big dog.'

Simpson (1991), however, argues that this account cannot be incorporated into the LFG framework, because in this theory, all morphological processes (not only derivational but also inflectional) take place in the lexicon.[9] This phenomenon is not even an instance of inflectional morphology. It is a (very productive) derivational process; therefore, it must be analyzed as a special type of lexical word formation. This can be done in the following way.

[9] This morphological view is often referred to as the Strong Lexicalist Hypothesis, see Section 1.2.7 as well.

The principles of LFG allow us to postulate a syntactic treatment at the level of ‘sublexical structure’ (that is, the internal structure of words) in which the very same kinds of functional annotations may operate as in ordinary c-structure above the word level. This means that bound forms can also be analyzed as predicates or arguments bearing syntactic functions. The lexical form of *qimmeq* is shown in (21a). The lexical form of *-arpoq* is as in (23).

(23) *-arpoq*, V_{suff} PRED = ‘HAVE <(↑SUBJ), (↑OBL)>’

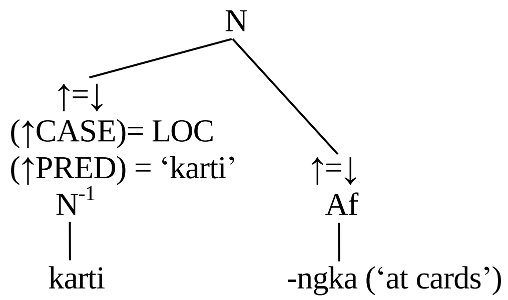
In (21b), for instance, *qimmeq-arpoq*, a complex morphological word, is inserted under a V^0 node. Below this V^0 level, in the sublexical portion of the c-structure, *-arpoq* will have the head annotation, it will have its PRED (that is, semantic feature) and its a-structure will also be indicated. On the other hand, *qimmeq* will receive the usual argument annotation, just like any ordinary constituents above the word level in c-structure.

Simpson (1991) draws a parallel between such argument-taking verbal suffixes in Greenlandic Eskimo and argument taking case-suffixes in Warlpiri. Consider:

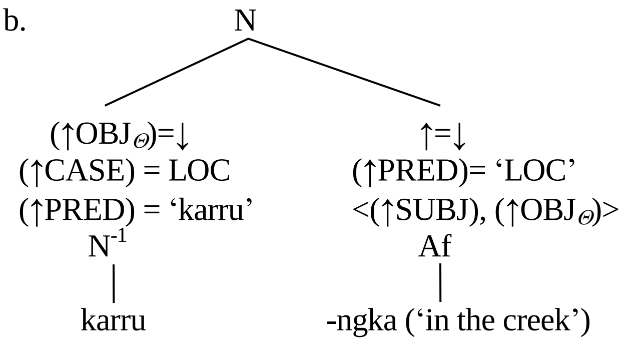
(24)	Greenlandic		Warlpiri	
	[N	VERB]$_V$	[N	CASE]$_N$
	OBJECT	ATP	OBJECT$_\Theta$	ATP

And now let us compare the Warlpiri (case-marked) NP counterparts of the two PPs in (18) above.

(25) a.



b.



Following Bresnan (1982c) and Simpson (1991), we can assume, without any further justification, that Hungarian postpositional phrases and case-marked noun phrases can be analyzed along the same lines as the corresponding English PPs and Warlpiri NPs as discussed above.

1.2.3. Lexical Mapping Theory

Although the classical version of LFG succeeded in observing the principle of monotonicity by handling all relation changes in the lexical component of grammar and in achieving a remarkable degree of universality in the formulation of several important rules, there were some serious problems with its account of relation changes (the discussion of these problems below is based on Bresnan (1990)).

First of all, there were no principled constraints imposed on the ways in which grammatical functions were associated with semantic roles. For instance, in theory an alternative lexical rule of passivization could also take the following form:

(26) a. SUBJ $\Rightarrow$ OBJ
b. OBJ $\Rightarrow$ SUBJ

This would yield the active ~ passive correspondence in (27).

(27) a. John killed the bird.
b. The bird killed John.

However, (27b) is ungrammatical as the passive equivalent of (27a). The pair of relation changes in (26) is extremely rare. Practically, it is restricted to a special kind of predicates in a particular type of languages. The problem for early LFG was that it had no substantive theory of lexical relations; therefore, it could not offer a principled explanation for the contrast in frequency across languages between the ordinary passive rule and (26).

Secondly, the rules of passivization and intransitivization were not formulated at the most universal level possible. The problems were as follows.

A) Certain languages allow the argument bearing the OBJ2 grammatical function in the lexical form of the active predicate to be assigned the SUBJ function in the corresponding passive lexical form, while certain others, including English, do not. For example, the following passive sentence is ungrammatical in most dialects of English, while its equivalent in some other languages is perfectly grammatical.

(28) *The book was given the child.

B) In certain languages intransitivization of a predicate is possible even when the predicate has an "indirect object" argument, while in certain others, including English, it is ungrammatical. For instance, (29) is ungrammatical in English in the sense that something was cooked for the boys.

(29) The boys were cooked.

Thirdly, early LFG could not capture certain correlations between lexical rules. For instance, it could not account for the fact that if a language allows the special type of passivization exemplified in (28) it also allows the special type of intransitivization illustrated in (29).

The theory of lexical mapping solves all these problems. In this new component of LFG, the association of arguments of predicates with syntactic functions is done by **lexical mapping rules**. The basic idea is as follows.

All arguments in the argument structure bear some semantic role. Each semantic role is provided with a **partial specification** of the grammatical function(s) it can be mapped onto in the syntax. Patient-like roles can be mapped onto either subjects or objects, whereas other roles, like the Agent and the Locative, can alternate between subject and oblique functions. The various functions are classified in terms of the following features:

(30) a. [–r] = –restricted
b. [+r] = +restricted
c. [–o] = –objective
d. [+o] = +objective

The feature [–r] refers to an unrestricted syntactic function, that is, a function which is not restricted by the semantic role borne by the argument that is mapped onto that function. It is only subjects and objects that are [–r]. Obliques and restricted objects are [+r]. The feature [–o] designates nonobjective functions. Subjects and obliques belong to this category. Objects and restricted objects (in English) are [+o]. Consider:

(31)

	–o	+o
–r	SUBJ	OBJ
+r	OBL_{Θ}	OBJ_{Θ}

The arguments in the a-structure are arranged according to the relative prominence of their semantic roles. The hierarchy assumed in Bresnan and Kanerva (1989), for instance, is this:[10]

(32) *Ag < Ben < Exp/Goal < Inst < Pat/Th < Loc*

The following basic principles determine the unmarked choice of syntactic features in the a-structure:

(33) a. Patient-like roles: $\underset{[-r]}{\Theta}$

b. semantically restricted Patient-like roles: $\underset{[+o]}{\Theta}$

c. other roles: $\underset{[-o]}{\Theta}$

[10] It has to be noted that the interest of LFG in the exact nature of semantic roles was relatively low at first. The fundamental function-changing rules were not formulated with reference to them. Consider, in this respect, the passive rule in (3). (3b) simply states that the argument bearing the SUBJ function in the a-structure of the active predicate will receive the OBL_{ag} or the zero function in the a-structure of the passive. When some derivational rules did make reference to semantic role conditions (cf. Bresnan's (1982b) rule of Participle → Adjective Conversion in English), the generally accepted semantic role labels were used in the usual way.

The Theory of Lexical Mapping, however, makes crucial use of the semantic roles of arguments and their hierarchy. But here, too, some fairly widely recognized hierarchies are "imported" (and slightly modified when necessary). Bresnan and Kanerva (1989), for instance, adopt Kiparsky's (1987) hierarchy. My overall impression is that it is the hierarchy of arguments, rather than the exact nature of their semantic role labels, that is important for the theory. Consequently, it appears that new approaches which call the applicability of traditional semantic role labels into question but which still argue for a hierarchy of arguments on more or less different grounds can be quite easily accommodated in LFG (cf. Dowty's (1991) classification of arguments in terms of Proto Agent and Proto Patient properties and Alberti's (1994) Model Tau). For instance, Zaenen (1993) applies Dowty's system in an LFG framework. The hierarchy computed by Alberti's model, provided it proves tenable, can also be naturally made the basis for the assignment of the relevant syntactic features to arguments. For a recent alternative version of the mapping theory, see Kibort (2014).

The mapping rules are also quite simple. The underspecified roles are freely mapped onto all compatible functions, subject to some general constraints expressed in terms of the following Mapping Principles:

(34) Subject roles:
a. the $\underset{[-o]}{\Theta}$ highest in the semantic hierarchy is mapped onto SUBJ,
otherwise:
b. $\underset{[-r]}{\Theta}$ is mapped onto SUBJ.

Other roles are mapped onto the lowest compatible function in the following markedness hierarchy:

(35) $SUBJ < OBJ/OBL_{\Theta} < OBJ_{\Theta}$

In most languages (including English and Hungarian) there is a general condition:

(36) Subject Condition: every (verbal) predicator must have a subject.

This ensures, among other things, that the [–r] argument of an ordinary intransitive predicate, which, in theory, can choose between the SUBJ and OBJ functions, will end up being mapped onto SUBJ. Some other constraints formulated in the early version of LFG, for instance the three fundamental conditions on well-formedness, are still assumed to hold.

Given the principles of the Lexical Mapping Theory, several grammatical function-changing lexical redundancy rules are no longer necessary. Instead, it is assumed that certain morphological processes can have special effects on the a-structure of predicates. For instance, they may add new features to the default features of arguments, provided that there is no clash between the old feature and the new one. As regards the active ~ passive correspondence, for example, it has been postulated in this new model that the passive morpheme adds the [+r] feature to the default [–o] feature of the Agent argument. As a consequence, the SUBJ function, being [–r], is no longer available to this argument, which can only have the OBL_{ag} function optionally. From this it follows that the Theme argument with its [–r] specification can only be mapped onto the SUBJ function, in order to meet the SUBJ Condition in (36).

However, this is only one of the two principal ways in which Lexical Mapping Theory can capture passivization. Recently, a different account has been introduced and it appears to have taken the place of the original in several versions of LFG. Its essence is as follows. The role of the passive morpheme is not to add another syntactic feature to the Agent argument but rather to prevent this argument from functioning as an ordinary argument. This phenomenon is called Suppression in the Chomskyan tradition. The Agent argument is suppressed, and, therefore, it is unavailable for function assignment by the predicate. This argument can only be linked to a special adjunct, that is, it can only have an ADJUNCT function (cf. the *by*-phrase in English). The fundamental consequence of this assumption is the same as that of the previous account. Owing to the unavailability of the Agent argument, it is the Theme argument that has to be mapped onto the SUBJ function.

In Section 1.2.1 I pointed out that LFG's principle of direct syntactic encoding ensures that the theory satisfies the general computational requirement of monotonicity in its syntactic component: no syntactic rule is allowed to change the input grammatical relations. However, in the classical version of LFG monotonicity was not observed in the lexicon: lexical redundancy rules like passivization involved the reassignment of grammatical functions. One of the most important contributions and merits of LMT is that it ensures the satisfaction of the monotonicity principle in the lexical component of LFG. For instance, as I showed above, in the lexical form of an active transitive verb the patient/theme argument is intrinsically specified as [–r], which in this system means that its space search for compatible grammatical functions is constrained to the two semantically unrestricted functions: SUBJ and OBJ. When the lexical redundancy rule of passivization creates a passive predicate from the active verb, in its inherited argument structure the patient/theme argument will have the same [–r] specification. It is the general principles of LMT that will map the same [–r] argument onto OBJ in the active construction and onto SUBJ in the passive counterpart. Thus, this partial underspecification of arguments in terms of the [±r] and [±o] intrinsic features and LMT's general principle ensure the satisfaction of monotonicity in the lexicon: for instance, there is no longer an OBJ → SUBJ grammatical function change in this component, either.

Let me make three general comments at the end of this section.

(A) In these three sections (1.2.1-1.2.3) I have presented, from the perspective of this dissertation, the most important properties of classical LFG as developed in Bresnan (1982a), and I have offered a brief overview of Lexical Mapping Theory, a component added to the architecture of LFG at the end of the 1980's. There are three more recent, comprehensive and authoritative books on LFG: Bresnan (2001), Dalrymple (2001) and Falk (2001). All of them provide a detailed and highly reliable picture of the core aspects of the architecture and principles of LFG accompanied by a systematic comparison of this framework with the Chomskyan mainstream, and this is supplemented with discussions of recent advances in the theory. Bresnan (2001) is highly theoretical and it concentrates on the syntax of LFG (in its broad sense), covering the analysis of a wide range of phenomena from a great variety of languages. Dalrymple (2001) offers a more succinct presentation of the syntax of LFG and supplements this with a detailed discussion of the semantic component of LFG that she has developed (Glue Semantics). Falk (2001) is the number one LFG textbook to date with careful discussion and exemplification of LFG syntax, combined with very insightful exercises as well as a battery of additional general and practical information on the theory. For introductions to LFG in Hungarian, see Laczkó (1989) and Komlósy (2001).

(B) In Section 1.2.2 I have highlighted two key aspects of functional annotations: their employment at the phrase and word level and the notion of functional (co)heads. In Section 2.1 in Chapter 2 I will concentrate on issues of the categorial and functional annotational representation of sentence structure in LFG, and (projections of) functional categories and coheadedness will play a crucial role, and they will be discussed in a detailed fashion.

(C) As I pointed out at the beginning of Section 1.2.1, the architecture, the fundamental principles and assumptions of the theory, developed in the late 1970's, are remarkably stable. The two major (types of) changes (i.e. improvements) are as follows. (i) LMT was added towards the end of the 1980's, which ensured the satisfaction of the principle of monotonicity. (ii) Additional parallel levels of representation were introduced for the sake of compartmentalizing different types of grammatical information. The most important and by now widely accepted level is i-structure, which hosts the discourse functions originally represented together with grammatical functions in f-structure.[11]

Falk (2001: 22-25) offers a detailed discussion of these various levels of representation and their multiple parallel linking potential. Consider the architecture he argues for (2001: 25) in Figure 1.

[11] Butt et al. (2004) and Frank & Zaenen (2004), among others, also assume m-structure, a separate level for morphological information, again, for the sake of making the representation in f-structure more homogeneous.

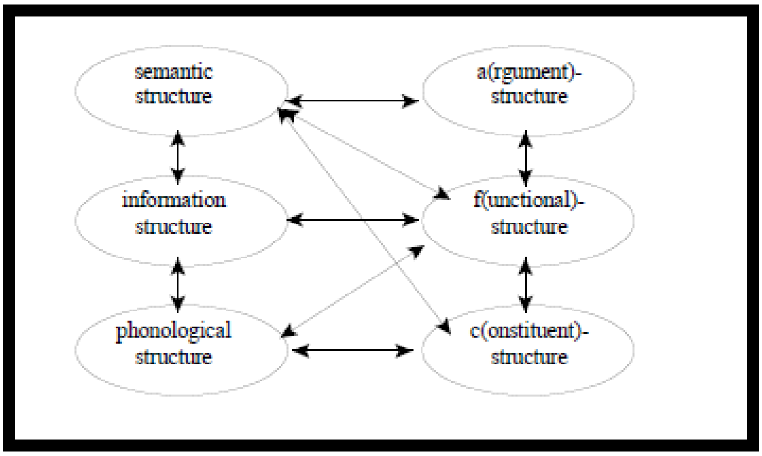


Figure 1. Falk's (2001) view of LFG's architecture

Notice the complexity of how these structures can multiply and directly feed (partial) information to other components.

Mycock (2010) adopts the architectural model of Dalrymple and Nikolaeva (2011).[12] Consider her table and figure (2010: 292).

Level of structure	Type of linguistic information
s-string	lexical items
p-string	phonological words
c(onstituent)-structure	surface syntactic representation
f(unctional)-structure	abstract grammatical functions (e.g. subject, object) and features
p(rosodic or phonological)-structure	phonological and prosodic features
i(nformation)-structure	information packaging (discourse functions)
s(emantic)-structure	meaning

Table 2. Parallel levels representation, Mycock (2010)

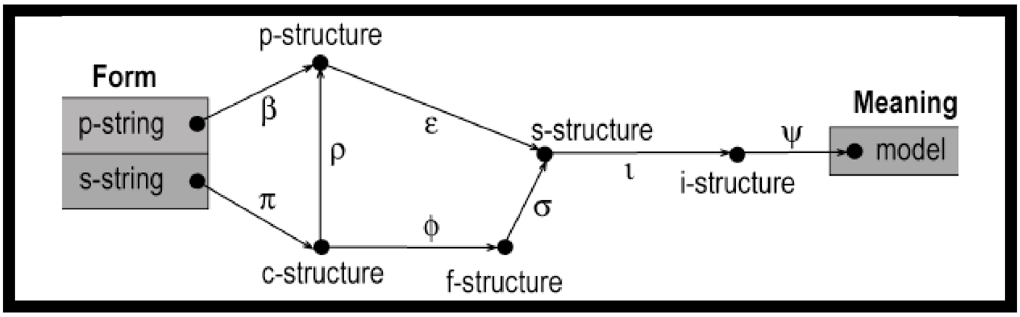


Figure 2. Levels and correspondence relations in the LFG projection architecture, Mycock (2010)

In Chapter 4, I will discuss Mycock (2010) in a detailed fashion, and her architectural assumptions will be of particular importance.

[12] When she adopted this model, Dalrymple & Nikolaeva (2011) was only in press, this explains the 2010 vs. 2011 contrast.

1.2.4. On GB/MP on Hungarian

I assume basic familiarity with the mainstream Chomskyan model. The most comprehensive and most useful source of information on the theory from the perspective of Hungarian syntax, offering a coherent analysis of all major types of Hungarian syntactic phenomena in an MP framework, is É. Kiss (2002).[13] It is for this reason that, at various stages in the discussion, I make a systematic comparison between LFG and MP as regards the analyses of the phenomena investigated in this dissertation by comparing my solution with É. Kiss' (2002) account,[14] which is a classic example of what is called the cartographic mainstream of the Chomskyan generative tradition. This theoretical line crucially assumes a complex configurational system of a whole range of functional categories and their projections for hosting and encoding the basic morpho-syntactic and semantic aspects of sentences.[15] The other MP model I will systematically refer to is Surányi's noncartographic, interface-based approach as presented in Surányi (2011).[16] At various points, I will emphasize the fact that this interface model in an MP setting is much closer in spirit to LFG by reducing the power of the syntactic component and developing a complex system of interplay among the three major components of grammar: syntax, semantics and phonology. Occasionally, I will also discuss alternative MP proposals where appropriate,[17] and most importantly, I will present the crucial aspects of É. Kiss' (1992) "unorthodox" GB analysis of Hungarian syntax. As I will explain, É. Kiss' approach is unorthodox, because it has several features that go against the principles of classical GB. One of my main claims will be that most of the basic aspects of her approach are empirically and intuitively solid, and they can serve as an excellent basis for developing a principled, nonunorthodox LFG analysis. This is what I have set out to accomplish in this dissertation, concentrating on the syntax of finite sentences.

1.2.5. On Generative Argument Structure Grammar (GASG) on Hungarian

In this section, I give a relatively detailed introduction to Generative Argument Structure Grammar (henceforth: GASG)[18] for three reasons: (i) it is a lesser-known generative model; (ii) it is a (semantics based) extreme lexicalist framework and it has been implemented; thus, its comparison with LFG is highly important in this dissertation; (iii) Alberti and his

[13] For a detailed review, see Dikken & Lipták (2003).

[14] This comparison should be sufficient for a reader less familiar with MP to understand the gist of this theory, but naturally they are invited to consult É. Kiss (2002) for clarification and further details.

[15] For instance, they assume focus phrases (FocP), topic phrases (TopP), distributional (quantifier) phrases (DistP), negation phrases (NegP), aspect phrases (AspP), agreement phrases (AgrP), voice phrases (VoiceP), nonneutral phrases (NNP), etc.

[16] Most importantly from the perspective of this dissertation, he does not postulate either FocP or NegP.

[17] The GB/MP literature on Hungarian syntactic phenomena is remarkably enormous with respect to (i) the number of authors; (ii) the empirical coverage; (iii) the versions of the theory applied; (iv) the depth of the analyses in these various frameworks. In Chapter 2 I will give an overview of what I consider the most salient GB/MP approaches to the syntax of Hungarian finite sentences.

[18] GASG (just like its general and central semantic framework, $\mathfrak{R}$eALIS) was created by Gábor Alberti and further developed by Alberti and his colleagues. For various aspects of the architecture and the principles of this complex theory, see Alberti (1999a, 1999b, 2000), Szilágyi et al. (2007), Szilágyi (2008), Alberti & Kleiber (2010), Alberti (2011), Nőthig & Alberti (2014), Nőthig et al. (2014), and Alberti et al. (2015). Kleiber (2008) offers a detailed description, in Hungarian, of the implementation of GASG, and she puts this in a large and varied theoretical and historical context. She presents an excellent overview of some mainstream linguistic theories and mainstream directions in language technology (including the development of parsers and machine translation systems). She pays particular attention to current lexicalist theories and their implementational potential and recent results, which is, naturally, a central topic from the perspective of GASG. She also recounts how the success of two previous projects, Generative Lexicon (GeLexi) and Linguistic Lexicon (LiLe), led to the development of GASG.

colleagues systematically compare GASG[19] and MP. In what follows I comment on various aspects of GASG at the relevant points in footnotes, because this makes my comparison of this framework and LFG easiest to follow for the reader. I address both theoretical and implementational issues. In order to distinguish these **"comparative footnotes"** from ordinary footnotes, I start them with my (numbered) initials, e.g. **(TL1)** and I write them **in bold**.

Alberti & Kleiber (2010) describe ℜeALIS, the general underlying semantic framework for GASG, in the following way.

> ℜeALIS […], *REciprocal And Lifelong Interpretation System*, is a new "post-Montagovian" […] theory concerning the formal interpretation of sentences constituting coherent discourses […], with a *lifelong* model […] of lexical, interpersonal and cultural/encyclopedic knowledge of interpreters in its centre including their *reciprocal* knowledge on each other (2010: 103).

This is the semantic underpinning of GASG, which consequently has a powerful and carefully developed semantic component associated with an appropriate and implementable system of syntactic, morphological and lexical components.[20]

Alberti & Kleiber emphasize the fact that this model is "totally lexicalist": its lexicon contains lexical items with extremely complex descriptions comprising what they call properties and expectations: offers (↓) and requirements[21] (↑). The system does not build phrase structure trees, and the only admitted operation is unification.

> In this homogeneous grammar word order is handled exactly like any other requirement (e.g. case or agreement). This is a more universal approach than applying phrase structure rules, since some languages hardly have any restrictions for word order (but have much more rules about agreement) (2010: 107).[22]

Before presenting the most important properties of the implementation of their grammar, Alberti & Kleiber (2010) point out that their motivation for developing a lexicalist parser based on ℜeALIS was threefold: (i) the success of lexicalist approaches like the

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[19] ℜeALIS is the authentic format of the name of this theory. For technical reasons, however, very often the standard character R is used instead of ℜ at the beginning of this word: ReALIS.

[20] (TL1) For my purposes in this dissertation, I only concentrate on the key aspects of the latter system, i.e. GASG.

[21] The term *demand* is also used synonymously here.

[22] (TL2) This is one of the key differences between GASG and LFG. As I showed in Sections 1.2.1 and 1.2.2, LFG is a strongly lexicalist generative theory; nevertheless, it also makes crucial use of phrase structure (i.e. functionally annotated c-structure) representation, as one of the two parallel dimensions of syntactic analysis. I will discuss this "with or without phrase structure" issue in Sections 1.2.6 and 1.3, and I will return to it in some subsequent sections as well. At this point let me only make some preliminary remarks. My first reaction to this universality claim is that on the other side of this phrase structure coin we have configurational languages like English with designated phrase structure positions for grammatical functions and several empirical arguments for some hierarchical articulation of phrases. I think it remains to be seen whether this totally lexicalist approach can successfully handle all the complex word order phenomena in English type languages. If it turns out, as a result of future research, that this framework can cope with both "nonconfigurational" and "configurational" languages, the following questions may naturally arise. How complex is this whole system? Is it a likely candidate for being considered a psychologically realistic model of competence – also from the perspective of language acquisition? For instance, is it reasonable to practically package all types of grammatical information in the lexical component? Does the model support large-scale implementability? To what extent does the degree of its implementability reinforce its plausibility? Naturally, these are questions primarily triggered by my LFG perspective, and they are open questions. I would find it an exciting research goal to compare the two frameworks systematically, and to explore how they can handle the very same phenomena (Hungarian phenomena, to begin with).

implementation of LFG;[23] (ii) the lack of systems capable of yielding detailed semantic analyses and representations including rhetoric relations, aspect, and discourse functions like topic and focus;[24] (iii) the expectation that the exceptionally detailed and sophisticated semantic apparatus could serve as an interlingua for the purposes of language-independent machine translation.[25]

Their implementation started by creating a relational (SQL) database for the lexical component, general and flexible enough for accommodating lexical items from any language appropriately associated with their offers (↓) and requirements (↑). They developed a dynamically augmentable system for this purpose by using tuples (rows) as opposed to attributes (columns), and "the lexical items (which are also rows in the system) are connected to the relevant features by matching tables" (2010: 108). If the need arises, new rows (properties) can be added without modifying the structure of the database.[26]

Alberti & Kleiber describe the parsing process in the following way.

> The parsing begins with finding the main predicate (verb or nominal in Hungarian), then its requirements (↑) have to be satisfied by finding all the necessary elements with the proper features (↓), and then *their* requirements have to be satisfied, etc. The cursor controls the search, and makes sure that every need is fulfilled. Finally, the remaining morphemes have to be legitimized, such as adverbs or adjectives. An important operation is unification, which is responsible for the right matches. Since our aim is to provide a highly detailed semantic representation, the logical choice was to proceed from the semantics: even the "syntactic" search is directed by the semantic need to find the meaning of the sentence […]. If all the referents which are present in a lexical item's requirements (↑) can be identified with other referents in other lexical items' properties (↓), then the sentence is grammatical (2010: 108).[27]

The following quotation presents, in a highly succinct manner, the lexical, morphological and syntactic dimensions of this approach.

> In our system lexical items are morphemes (stems and affixes) for two reasons. The practical reason is effectiveness: in the case of agglutinative languages (like Hungarian) the size of the lexicon would be enormous if every possible word form were added.[28] The other – more

[23] **(TL3) See Section 1.3 below, which discusses and exemplifies the most important aspects of LFG's implementational platform.**

[24] **(TL4) In my opinion, the carefully developed underlying semantic system of GASG is one of its most outstanding merits.**

[25] **(TL5) This remains to be explored in future research. Let me point out at the same time that the implementational line of LFG has already achieved remarkable results, see Section 1.3.**

[26] **(TL6) This flexibility is a remarkable asset of this approach. Let me also point out that LFG's implementational system is similarly flexible in its own way.**

[27] **(TL7) This is the greatest conceptual-philosophical difference between the (syntactic) parser of GASG and that of LFG. In the latter, syntactic parsing is supported by information coming from the lexicon, from the morphological module and, very importantly in this connection, from functionally annotated c-structure rules, and the parallel f-structure serves as input to semantics. For details, see Section 1.3.**

[28] **(TL8) LFG has had exactly the same BASIC theoretical view since its inception, and its implementation is also "morpheme" (and not word) based. However, in this system not only flesh and blood morphemes but even morphological features (i.e. morphological tags) have their own lexical entries, see Section 1.3. (It may well be the case that GASG has, or can accommodate, this (augmented) mechanism. This is something I have not been able to verify yet.) The reason why I say that morpheme (as opposed to word) based representation is a BASIC organizing principle in LFG's lexical component is that the theory's view of wordhood is radically different from that of GASG (or that of GB/MP, for that matter). The fundamental difference is that LFG also generates fully-fledged (either derived or inflected) WORDS in its lexicon by means of LEXICAL REDUNDANCY RULES. It is thanks to this design of LFG that it CAN have its lexical word creation cake and eat it: its lexical items are morpheme (and "morphemic feature") based, AND all word forms are also generated in the lexicon; however, these forms are NOT STORED in the lexical component – this is how LFG avoids the problem of having to assume an astronomically large lexicon comprising all (possibly) existing word forms of a language.**

important – reason is theoretical: the idea of "total" lexicalism is better served by this approach (TLM, Totally Lexicalist Morphology […]), and higher degree of universality can be achieved. TLM does not follow the usual way by having a morphological component, which first creates words, and then syntax and semantics can operate on them. In TLM every kind of morpheme can have their own requirements and semantic content (but not all of them actually have). This way a main difference between Hungarian and English can disappear […], namely that in Hungarian suffixes express e.g. causativity or modality, while in English separate words are responsible for the same roles […].[29]

(37) Énekel-tet-het-l-ek.[30]
sing-cause-may-2sg.obj-1sg.subj
'I may make you sing.'

The "cost" of TLM is that the "usual" information is not cumulated in a word (e.g. the case of a noun),[31] but it can be solved by rank parameters. Using rank parameters is a crucial point of the theory, and so the implementation. Every expectation can be overridden by a stronger requirement (like in optimality theory); in other words, every requirement can be satisfied directly or indirectly (by fulfilling a stronger requirement). This way several phenomena can be handled easily, such as word order […], or case and agreement (without gathering the information of all the morphemes of the word) (2010: 108).

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[29] **(TL9) Again, LFG has a very similar view and strategy. Words and bound morphemes are capable of contributing the same types of information to f(unctional)-structure, and, eventually, to s(emantic)-structure. However, in this case, too, there also seems to be a radical difference between the two approaches. In the morpheme based, monostratal, unidimensional syntactic representation of GASG, both bound and free morphemes are separately and actively involved in various morphological, syntactic and morphosyntactic relations in this syntax. This is how this approach can capture the same roles and functions of free and bound morphemes. Obviously, the COST of this, as Alberti and Kleiber themselves point out, is that the classical notion of wordhood in syntax (to which LFG strongly subscribes, by contrast) is dissolved (just like in GB/MP). Let me illustrate this point with a Hungarian example taken from Kleiber (2008: 80), the glosses and the translation are mine.**

(i) Péter keres-tet-i Mari-t a rendőrség-gel.
Peter.NOM search-CAUS-PRES.3SG.DEF Mary-ACC the police-with
'Peter makes the police search for Mary.'

Consider Kleiber's syntactic representation in Figure I.

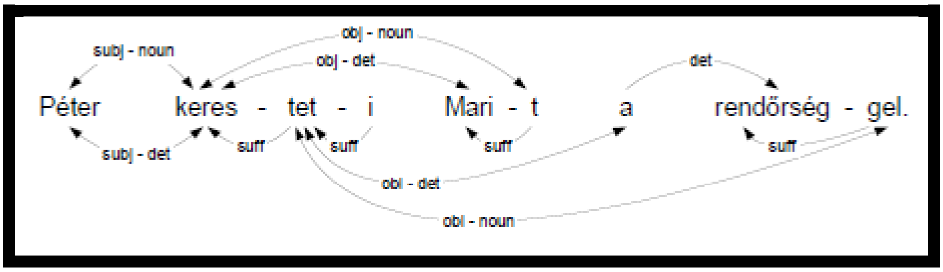

Figure I. The syntactic representation of (i) in Kleiber (2008)

The English translation of the original caption of Figure I in Kleiber (2008: 80) is this: the system of syntactic relations involving causation. Notice that the (derivational) causative suffix *-tet*, the verbal inflectional suffix *-i*, and the nominal case suffixes *-t*, and *-gel* are represented as morphemes involved in a variety of "syntactic" relations. Obviously, the basic aspect and goal of this representation is that it can capture the similar functional status of the bound morpheme *-tet* in Hungarian and that of the free morpheme *makes* in the English counterpart in (i). However, I think the COST as described by Alberti and Kleiber is rather high, as viewed from the perspective of the architecture, assumptions and principles of LFG. In addition, the question of the ontological status of bound and free morphemes with respect to syntactic representation in this GASG approach also immediately arises. For details, see my discussion of Alberti's (2011) analysis of the example in (47) below.

[30] Their original example number is (4). I keep their glossing intact. For a more detailed discussion of a similar (causative) example, see the previous footnote.

[31] **(TL10) This is a very important general issue, and I will comment on it in the discussion of one of the examples below.**

Szilágyi (2008) also emphasizes the fact that their system, based on GASG (Generalized Argument Structure Grammar),[32] dispenses with phrase structure, and word order and "syntax" are handled by rank parameters: the adjacency requirement can/must be satisfied either directly or indirectly (in the latter case there is an "intervening" element higher-ranked for adjacency). Let us take a look at some of the examples she discusses. First consider (38).[33]

(38) az én okos magyar tanárom
the I clever Hungarian teacher-Poss1Sg
'my clever Hungarian teacher'

The essence of the analysis is that a noun imposes different degrees of adjacency requirements on various categories, which is encoded by rank parameters. In this particular example a nationality adjective has the highest rank (expressed by the lowest rank number), next in the hierarchy is an ordinary adjective, it is followed by the nominative possessor, which in turn is followed by the definite article. Consider Szilágyi's representation in Figure 3.

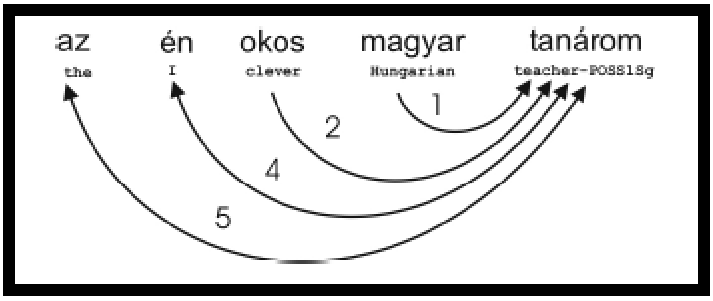

Figure 3. Szilágyi's (2008) representation of (38)

The nationality adjective (with its 1 rank number) satisfies the adjacency requirement directly, the other elements do so indirectly. Their fixed order is encoded by their hierarchical rank numbers; thus, any other permutations of these elements are ungrammatical.[34]

Sections 4-6 in Szilágyi (2008: 178-182) are highly relevant to Chapters 3 and 4 of this dissertation, so below I discuss them at relatively great length. The examples in (39)-(45) have been taken from Szilágyi (2008) in their intact forms.[35]

A) In Hungarian the rank parameter of a head-complement relation[36] is 7, which is the weakest rank. The directionality of adjacency is not specified, because the complement can either precede or follow the predicate.
B) Aspect must be expressed immediately preverbally by an appropriate argument, typically by a preverb: (39a) or by a bare noun phrase: (39b). Sometimes the verb itself can perform this function: (39c).[37] The following footnote remark[38] is also very important from the perspective of this dissertation.

[32] See Alberti (1999b).
[33] I retain her glossing.
[34] Although Szilágyi does not mention this, it is obvious that the "missing" rank number between 2 and 4 is reserved for numerals. For instance, *négy* 'four' would be between *én* 'I' (rank 2) and *okos* 'clever' (rank 4).
[35] Except that I have aligned the words in the examples and in the glosses, and I have corrected some minor inconsistencies. Her original example numbers are (5)-(11).
[36] For an overview of the relations assumed and applied in this system and their rank parameters in Hungarian, based on Alberti (2011), see below.
[37] (TL11) It would be interesting to see how this is formally encoded in this system.
[38] I have corrected two typos in this text.

Preverbs in Hungarian are considered as complements (as well as in other theories),[39] because they are separate words. It is a matter of orthography that if the preverb precedes the verb immediately they should be joint (2008: 179, Footnote 2).

(39) a. Péter megírta a leckét.
Peter-NOM Perf+write-Past3Sg the homework-ACC
'Peter has written the homework.'

b. Már három hete újságot árulok.
already three week newspaper-ACC sell-1Sg
'I have been selling newspapers for three weeks already.'

c. Péter csalódik Mariban.
Peter-NOM get-disappointed-3Sg Mary-INESS
'Peter gets disappointed in Mary.'

C) Preverbs have two recessive rank parameters.[40] In (40a), which is a neutral sentence, the preverb *el* 'away', because it has a strong (*r2b*) parameter, has to precede the verb *indul* 'get started'. Only the preverb receives stress and it makes up a phonological word with the stressless verb. In (40b') and (40b''), by contrast, the preverb follows the verb, due to a weaker rank parameter: (*r3a*).[41]

(40) a. Péter elindul horgászni.
Peter-NOM away+go3Sg fish-INF
'Peter goes fishing.'

b'. Péter 'horgászni indul el.
Peter-NOM fish-INF go-3Sg away
'Why Peter goes away is that he will fish.'

b''. 'Péter indul el horgászni.
Peter-NOM go-3Sg away fish-INF
'It is Peter who goes fishing.'

D) In the case of certain predicates, a designated preverbal argument encodes aspect. For instance, In the neutral sentence in (41a) the second ('place') argument of *lakik* 'live' occupies this "aspect-marking" position, thanks to its strong (*r2b*) rank. (41b') is

[39] **(TL12) In Section 3.1 in Chapter 3 I will challenge this broad generalization in this approach (and other theories) if by "complement" one means "argument" (and nothing indicates otherwise here). Also note that the reasoning for the complementhood of preverbs above is strange in this context ("complement, because, despite appearances, separate word"), i.e. it is alien to the morpheme based approach advocated by GASG, which assumes that bound morphemes have exactly the same status as free morphemes (= words).**

[40] **(TL13) In my LFG analysis in Section 3.1, I also lexically encode the fact that the preverb of particle verb constructions must immediately precede the verb in neutral sentences (in my system, it must occupy the Spec,VP position), and in a nonneutral, focused sentence this position is not available to it, because it is occupied by the focused constituent. I encode this complementary distribution information by dint of appropriate functional annotations in the lexical form of the preverb, on the one hand, and disjunctive functional annotations associated with the Spec,VP position, on the other hand.**

[41] Unfortunately, Szilágyi is not explicit about the details of rank parameter encoding. In particular, we are not informed about the actual roles of the letters in these combinations. Nevertheless, the gist of the analysis can be followed. In addition, she fails to point out in connection with (40b',b'') that in these examples the preverbal constituent is a focused element (as her ' symbol indicates, which she explains later in connection with a subsequent example).

ungrammatical, because the subject, *Péter* 'Peter', is not focused, i.e. this is also a neutral sentence; therefore, the designated 'place' argument should precede the verb. By contrast, in (41b'') the subject is focused; therefore, the designated argument can (or, rather, must) follow the verb, due to a weaker (*ra3*) rank.[42]

(41) a. Péter Budapesten lakik.
Peter-NOM Budapest-SUPERESS live-3Sg
'Peter lives in Budapest.'

b'. *Péter lakik Budapesten.
Peter-NOM live-3Sg Budapest-SUPERESS
'Peter lives in Budapest.'

b''. 'Péter lakik Budapesten.
Peter-NOM live-3Sg Budapest-SUPERESS
'It is Peter who lives in Budapest.'

E) It can also happen that, although there is a preverb in a neutral sentence, the aspect marker in the preverbal position is a designated argument of the verb, see (42a).

(42) a. Péter Budapesten szállt meg.
Peter-NOM Budapest-SUPERESS stay-Past3Sg Perf
'Peter stayed in Budapest.'

b'. *Péter megszállt Budapesten.
Peter-NOM Perf+stay-Past3Sg Budapest-SUPERESS
'Peter stayed in Budapest.'

b''. Péter 'megszállt Budapesten.
Peter-NOM Perf+stay-Past3Sg Budapest-SUPERESS
'What Peter did in Budapest was that he stayed there.'

(42b') is unacceptable as a neutral sentence, given that the correct neutral sentence variant in the case of this predicate is (42a). By contrast, (42b'') is grammatical, because here the preverb (or the preverb+verb complex) is focused, see the heavy stress symbol, and the presence of focus forces the designated argument into a postverbal position (by "deranking" it in several senses of the word in this context). The following quote will be especially important at later points in the dissertation when I am making comparisons between the GASG approach and my LFG analysis. "The aspect-giving argument has to be stored with two rank parameters in every case" Szilágyi (2008: 180).

F) Szilágyi's (2008) Section 5 (p. 180), entitled *Focus in Hungarian*, a half-page section, is so significant from the perspective of this dissertation that I quote it in its entirety below.[43]

> Focus in Hungarian can be noticed by emphasis and word order […]. In the following examples (43a) is a neutral sentence and (43b-c) are variants with a focus pointing on different complements of the verb.

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[42] **(TL14) For my LFG analysis of various types of verbal modifiers (other than preverbs) targeting the Spec,VP position in neutral sentences, see Section 3.2.**

[43] The wording (and the spelling) in this text (including the two footnotes below) is not always fully appropriate.

(43) a. Mari süteményt süt Péternek.
Mary-NOM cookie-ACC bake-3Sg Peter-DAT
'Mary is baking cookies for Peter.'

b. Mari 'Péternek süt süteményt.
'It is Peter for whomMary is baking cookies.'

c. Mari 'süteményt süt Péternek (és nem kenyeret).
'It is cookies that Mary is baking for Peter (and not bread).'

> In our solution focus is a separate lexical item,[44] because it influences other elements in the sentence by its own requirements.[45] It searches for two other elements: the focused element and a verb. Focus gives the verb a strong dominant rank parameter to be in the following position (*d6a*).[46]
>
> In the previous section we claimed that the aspect-giving argument (mostly a preverb) has to be stored with two rank parameters. In neutral sentences (as in (40a)) the stronger (r2b) parameter is satisfied. But when a focus comes (see (40b)), the requirement of the preverb cannot be satisfied. The weaker (r3a) requirement is still there, and it can be satisfied.

Szilágyi explains the parsing process in the following way. Consider her example in Figure 4 (2008: 181), next page.[47]

[44] Although it is phonetically null in Hungarian, in some languages it is a morpheme (eg. eskimo, quechua, tamil). This explains why we consider it as a separate lexical item.

[45] (TL15) Let me make four remarks here.

(i) Notice that this is the way in which this approach formally captures the preverbal complementarity of verbal modifiers in neutral sentences and focused constituents in nonneutral sentences.

(ii) I find the ontological status of the phonetically null focus morpheme rather questionable. If it is a morpheme, should it not be present in the syntax as well? How are its properties encoded and then how are they involved in the entire parsing system? In general: given that all morphological processes (whether inflectional or word formational) are relegated to the syntax in terms of rank parameters, how are phonetically null morphemes treated?

(iii) It seems to me that in this system it would be more appropriate to associate the relevant rank and other properties with the verb (or, more generally, the predicate) itself in terms of disjunctive specifications. Then this solution would be very close to my LFG analysis in spirit.

(iv) It is a further general question pertaining to theory design whether it is reasonable to package all major types of grammatical information in the lexical component, including discourse functions like topic and focus. I will touch upon this issue in the next section (1.2.6).

[46] Progressive form of telic situations may work the same.

[47] Her original figure number is 2. I have included the example in a regular format at the top of Figure 4.

Péter	egy	’tortá-t	hozott	be	a	szobá-ba.
Peter.NOM	a	cake-ACC	brought.3SG	in	the	room-into

‘Peter brought a cake in the room.’

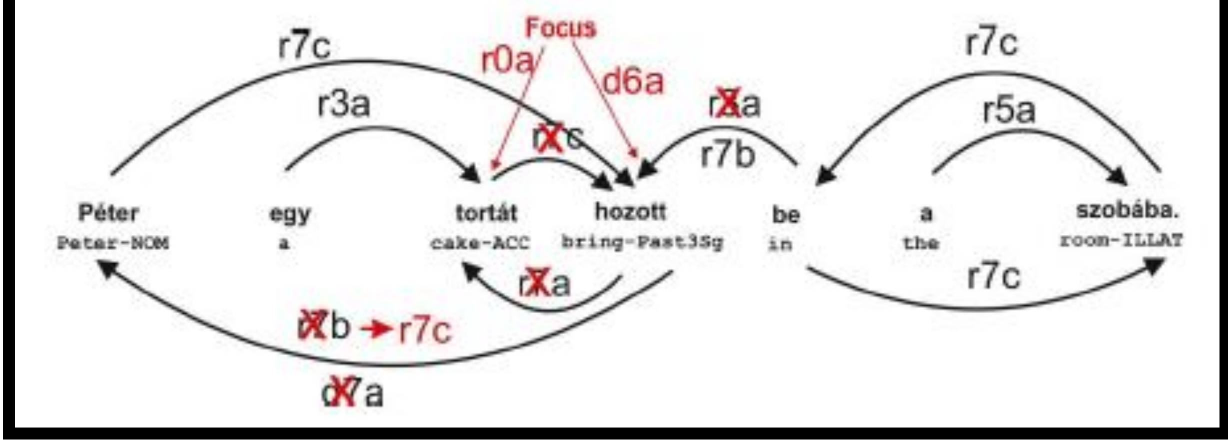

Figure 4. Parsing process in Szilágyi (2008)

Kleiber (2008: 123) uses the same example (in a Hungarian text context). It is interesting to compare her representation in Figure 5 with Szilágyi’s.

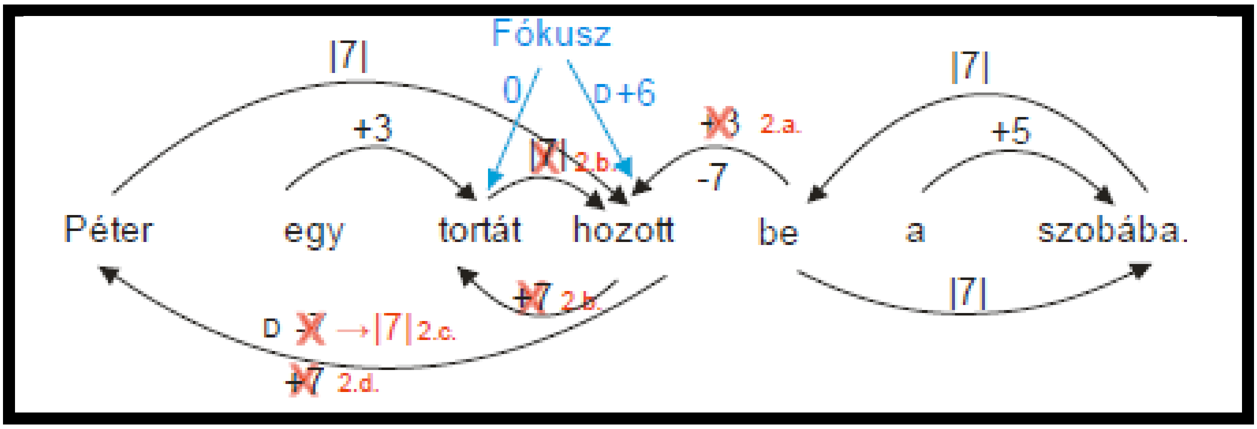

Figure 5. Kleiber’s (2008) representation

The crucial parts of Szilágyi’s comments are as follows.

a. The parsing process starts from the finite verb by checking the ***dominant*** rank parameters. (If it turns out that there are elements in the sentence that are not required by either the verb or any of its complements, their occurrence is legitimate “if they find an element to attach to”.)

b. In Figure 4, *tortát* ‘cake.ACC’, being the focused element, immediately precedes the finite verb *hozott* ‘brought.3SG’. As a result, all the other conflicting requirements are eliminated:

   i. ranks that apply to the same element from the same element – in Figure 4, (*r3a*) is deleted between the preverb *be* ‘in’ and the verb, and (*r7b*) remains;

   ii. all the other ranks between the two elements – (*r7a*) from the verb to the focused element, *tortát* ‘cake.ACC’, and (*r7c*) from *tortát* ‘cake.ACC’ to the verb;

   iii. ranks that apply to other elements in the opposite direction – the (*r7b*) rank of the verb to the subject, *Péter* ‘Peter.NOM’, changes to (*r7c*), practically its direction is eliminated, given that subjects can occur either in the preverbal domain or in the postverbal domain in the presence of focus;

iv. the dominant rank parameter wins out if there are conflicting requirements imposed by the same element – in Figure 4, there are two parameters between the subject, *Péter* 'Peter.NOM', and the verb *hozott* 'brought.3SG': (*r7c*) and (*d7a*); and in this sentence (*r7c)* remains because of the presence of focus, but (*d7a*) would win in a neutral sentence.

G) In the next step, the ***recessive*** rank parameters are checked: two related elements can be adjacent, but higher ranked elements can intervene between them: see the distinction between direct and indirect satisfaction of the adjacency requirement above. The relevant aspects in Figure 4 are as follows:
   a. *egy tortát* 'cake.ACC', *a szobába* 'the room.into' and *hozott be* 'brought.3SG in' are adjacent;
   b. in *be a szobába* 'in the room.into' the definite article intervenes between *be* and *szobába*, but this is legitimate, because the article has a stronger rank parameter: (*r5a*) vs. (*r7c*);
   c. *Péter* 'Peter.NOM' and *hozott* 'brought.3SG' have *egy tortát* 'a cake.ACC' intervening between them, which is endorsed by the rank parameter of the focus: (*d6a*).

Szilágyi points out that their system accommodates, in a principled manner, cases in which the focused element is not adjacent to the verb (in general terms, when only an element of the preverbal constituent is focused). Consider her examples in (44) and (45).

(44) a. Péter egy lánnyal találkozott.
Peter-NOM a girl-INS meet-Past3Sg
'Peter met a girl.'

b. Péter egy 'okos lánnyal találkozott.
Peter-NOM a clever girl-INS meet-Past3Sg
'It was a clever girl whom Peter met.'

c. Péter 'két okos lánnyal találkozott.
Peter-NOM two clever girl-INS meet-Past3Sg
'It was two clever girls whom Peter met.'

She does not elaborate on these examples, but I think I can safely make the following observations about them. (i) In my opinion, in (44a) she meant to give a focus example, with heavy stress on *lánnyal* 'girl.with': *'lánnyal*, and then the following translation would have been appropriate (where SMALLCAPS indicate focal stress): 'Peter met a GIRL.' This would have been an example of the standard case of focusing: the focused element immediately precedes the verb, and this would have served as a contrastive basis for the comparison with the other two examples. In (44b) the adjective, *okos* 'clever', is the focused element, and the noun *lánnyal* 'girl.with' intervenes between it and the verb. In (44c) the numeral, *két* 'two', is the focused element, and it is further away from the verb, with both the adjective and the noun intervening.[48] Obviously, the (unmentioned) generalization about such phenomena in this

[48] **(TL16) Note that the English translations in (44b) and (44c) do not appropriately reflect the intended reading, on which it is only the adjective and the numeral, respectively, that are focused. Therefore, the following translations would have been more faithful: 'Peter met a CLEVER girl' for (44b), and 'Peter met TWO clever girls' for (44c).**

system is that the numeral – adjective – noun adjacency order is higher ranked than the focus – verb order, see Szilágyi's example in Figure 3 above.[49]

Consider Szilágyi's last pair of examples in (45).

(45) a. Péter olvasott egy verset Adytól.
Peter-NOM read-Past3Sg a poem-ACC Ady-ABL
'Peter read a poem by Ady.'

b. *Péter egy 'verset Adytól olvasott.
Peter-NOM a poem-ACC Ady-ABL read-Past3Sg
'Peter read a POEM by Ady.'[50]

(45a) shows that a noun can be followed by its complement. However, as the ungrammaticality of (45b) demonstrates, this is impossible when the noun is focused. In this case, Szilágyi herself spells out the explanation in their system: the noun – complement relation is lower ranked than the focus–verb relation (7 vs. 6); thus, the complement cannot intervene between the noun and the verb.[51]

Below I discuss some further crucial details of the architecture and principles of this system by capitalizing on various other papers by the practitioners of this approach.

Alberti (2011) points out that parsing is driven by a search mechanism composed of the following four grammatical relations (2011: 76).

(46) **Types of grammatical relations**

Source →	→Target	Grammatical factors
predicate	argument	(sub)category, direction, adjacency, case, degree of referentiality
argument	predicate	(sub)category, direction, adjacency, gender, ±definiteness, number, person
adjunct	host	(sub)category, direction, adjacency, gender, ±definiteness, number, case
anaphor	antecedent	(sub)category, direction, distance, gender, ±definiteness, number, person, cursor value

He emphasizes the fact that predicates can even constrain the degrees of referentiality of some of their arguments.

For the presentation of the details of lexical representation in GASG, Alberti (2011) discusses the following example.

(47) Petra vágyik a-rra a magas német úszó-bajnok-ra.
Petra.NOM desire.PRES.3SG that-onto the tall German swimming-champion-onto
'Petra is longing for that tall German swimming champion.'

Consider Figure 6, giving the lexical representations of the words in (47).

[49] **(TL17) I think this is a very elegant solution in this framework. Let me point out that this phenomenon can be handled in a principled fashion in LFG, too, see King (1997).**

[50] Szilágyi did not give a translation here, so I have added this.

[51] **(TL18) I think this is also a neat and principled solution. The standard, phrase-structure based generalization is that focused constituents most be head-final (i.e. left-branching) constituents. In LFG, this can be captured by a precedence relationship constraint imposed on elements within the focused constituent.**

a. **Petra:** $[e_P\!: \Rightarrow_T e'_P\ e''_P,\ e'_P\!: p_{Petra}\ r_P]$

e_P $\uparrow \lambda{::}\ (\ldots)$

e''_P $\uparrow \alpha{::}\ (\ldots)$

e'_P $\uparrow \lambda{::}\ (\nwarrow.\mathrm{supp})\downarrow e_P$

e''_P $\uparrow \lambda{::}\ (\nwarrow.\mathrm{cons})\downarrow e'_P$

r_P $\uparrow \alpha{::}$ Pred: $\langle(\mathrm{Cat},+2,X_\emptyset),\ (\mathrm{Agr},+2,3\mathrm{Sg})\rangle$

$\uparrow \alpha{::}$ Ant: $(\ldots)$

$\downarrow \alpha{::}\ \emptyset$: $\langle(\mathrm{Cat},0,\mathrm{PrN}),\ (\mathrm{Case},0,\emptyset),\ (\mathrm{Agr},0,3\mathrm{Sg})\rangle$

b. **vágyik:** $[e_{des}\!: p_{desire}\ r'_{des}\ r''_{des}]$

e_{des} $\uparrow \lambda{::}\ (\ldots)$

r'_{des} $\uparrow \alpha{::}$ ArgN: $\langle(\mathrm{Ord},-7,\mathrm{Nei}),\ (\mathrm{Cat},+2,\mathrm{N}),\ (\mathrm{Case},+2,\emptyset)\rangle$

$\uparrow \alpha{::}$ ArgD: $\langle(\mathrm{Cat},+2,\mathrm{GQD})\rangle$

$\downarrow \alpha{::}\ \emptyset$: $\langle(\mathrm{Cat},0,\mathrm{V}_{\emptyset+rA}),(\mathrm{Agr},0,3\mathrm{Sg})\rangle$

r''_{des} $\uparrow \alpha{::}$ ArgN: $\langle(\mathrm{Ord},+7,\mathrm{Nei}),\ (\mathrm{Cat},+2,\mathrm{N}),\ (\mathrm{Case},+2,\mathrm{rA})\rangle$

$\uparrow \alpha{::}$ ArgD: $\langle(\mathrm{Cat},+2,\mathrm{GQD})\rangle$

$\downarrow \alpha{::}\ \emptyset$: $\langle(\mathrm{Cat},0,\ \mathrm{V}_{\emptyset+rA})\rangle$

$\uparrow \lambda{::}\ (\nwarrow.\mathrm{des})\downarrow e_{des}$

c. **arra:** $\emptyset$

r_{that} $\uparrow \alpha{::}$ Adj: $\langle(\mathrm{Ord},+6,\mathrm{Nei}),\ (\mathrm{Cat},+2,\mathrm{N}),\ (\mathrm{Agr},+2,\{3,\mathrm{Sg},\mathrm{rA}\})\rangle$

$\uparrow \alpha{::}$ Out: $\langle(\mathrm{Gest},+2,\mathrm{Glance}),\ (\mathrm{Dist},+2,\mathrm{Long})\rangle$

d. **a(z):** $[e_{the}\!: \Rightarrow_T e'_{the}\ e''_{the},\ \sigma(\langle \mathrm{Arg},\emptyset\rangle,\ e'_{the}) = r_{the}]$

e_{the} $\uparrow \lambda{::}\ (\ldots)$

e'_{the} $\uparrow \alpha{::}\ (\ldots)$

e''_{the} $\uparrow \alpha{::}\ (\ldots)$

e'_{the} $\uparrow \lambda{::}\ (\nwarrow.\mathrm{supp})\downarrow e_{the}$

$e_{the''}$ $\uparrow \lambda{::}\ (\nwarrow.\mathrm{cons})\downarrow e_{the'}$

r_{the} $\uparrow \alpha{::}$ Adj: $\langle(\mathrm{Ord},+5,\mathrm{Nei}),\ (\mathrm{Cat},+2,\mathrm{N})\rangle$

$\uparrow \alpha{::}$ Pred: $\langle(\ldots)\rangle$

$\uparrow \alpha{::}$ Ant: $(\ldots)$

$\downarrow \alpha{::}$ Arg: $\langle(\mathrm{Cat},0,+\mathrm{Art})\rangle$

e. **magas:** $[e_{tall}\!: \wedge\ e'_{tall}\ e''_{tall},\ e'_{tall}\!: p_{tall}\ r_{tall}]$

e''_{tall} $\uparrow \alpha{::}\ (\ldots)$

e'_{tall} $\uparrow \lambda{::}\ (\nearrow.\mathrm{conj})\downarrow e''_{tall}$

e_{tall} $\uparrow \lambda{::}\ (\nearrow.\mathrm{conj})\downarrow e''_{tall}$

r_{tall} $\uparrow \alpha{::}$ Adj: $\langle(\mathrm{Ord},+2,\mathrm{Nei}),\ (\mathrm{Cat},+2,\mathrm{N})\rangle$

$\downarrow \alpha{::}\ \emptyset$: $\langle(\mathrm{Cat},0,\mathrm{A}_{color})\rangle$

f. **német:** $[e_{germ}\!: \wedge\ e'_{germ}\ e''_{germ},\ e'_{germ}\!: p_{German}\ r_{germ}]$

e''_{germ} $\uparrow \alpha{::}\ (\ldots)$

e'_{germ} $\uparrow \lambda{::}\ (\nearrow.\mathrm{conj})\downarrow e''_{germ}$

e_{germ} $\uparrow \lambda{::}\ (\nearrow.\mathrm{conj})\downarrow e''_{germ}$

r_{germ} $\uparrow \alpha{::}$ Adj: $\langle(\mathrm{Ord},+1,\mathrm{Nei}),\ (\mathrm{Cat},+2,\mathrm{N})\rangle$

$\downarrow \alpha{::}\ \emptyset$: $\langle(\mathrm{Cat},0,\mathrm{A}_{nation})\rangle$

g. **úszó-:** $[e_{sw}\!: \wedge\ e'_{sw}\ e''_{sw},\ e'_{sw}\!: p_{swimming}\ r_{sw}]$

e''_{sw} $\uparrow \alpha{::}\ (\ldots)$

e'_{sw} $\uparrow \lambda{::}\ (\nearrow.\mathrm{conj})\downarrow e''_{sw}$

e_{sw} $\uparrow \lambda{::}\ (\nearrow.\mathrm{conj})\downarrow e''_{sw}$

r_{sw} $\uparrow \alpha{::}$ Adj: $\langle(\mathrm{Ord},+\frac{1}{3},\mathrm{Nei}),\ (\mathrm{Cat},0,\mathrm{N})\rangle$

$\downarrow \alpha{::}\ \emptyset$: $(\ldots)$

h. **bajnok:** $[e_{ch}\!: p_{champion}\ r_{ch}]$

e_{ch} $\uparrow \lambda{::}\ (\ldots)$

r_{ch} $\uparrow \alpha{::}$ Pred: $\langle(\mathrm{Cat},+5,\ X_\emptyset)\rangle$

$\downarrow \alpha{::}\ \emptyset$: $\langle(\mathrm{Cat},0,\mathrm{ComN}),\ (\mathrm{Case},0,\emptyset),\ (\mathrm{Agr},0,3\mathrm{Sg})\rangle$

i. **-ra:** $\emptyset$

r'_{onto} $\uparrow \alpha{::}$ Stem: $\langle(\mathrm{Ord},-\frac{1}{8},\ \mathrm{Nei}),\ (\mathrm{Cat},+2,\mathrm{N})\rangle$

r''_{onto} $\uparrow \alpha{::}$ Pred: $\langle(\mathrm{Cat},+2,X_{-rA})\rangle$

Figure 6 [=F6]. Demands (↑) and offers (↓) in lexical items: lexical representations for (47), Alberti (2011: 77)

Below I summarize those comments by Alberti that are directly relevant from the perspective of this dissertation.

1. The first lines of the lexical items contain eventuality constructions.
2. The first line in (F6b), for instance, refers to a state (e_{des}) in which somebody (r'_{des}) longs (p_{desire}) for somebody (r''_{des}). The fact that this state, just like ordinary human participants, can be referred back to by a pronoun justifies the assumption of this eventuality referent.
3. The second line in (F6b), as a function, demands the calculation of whether the interpretation of the atomic proposition about somebody's longing for somebody is concrete (i.e. specific), as in (47), or generic.
4. The third line in (F6b) demands that the word, i.e. the morpheme in that word, referring to the first argument of *vágyik* 'desire' should have the following properties.
    a. With respect to word order ("Ord"), it should precede the verb and possibly it should be adjacent ("Nei")[52] to the verb (with rank number "–7").[53]
    b. With respect to its category, it should be a noun, and its case should be nominative, which is unmarked in Hungarian.
5. The fourth line encodes the demand that this argument should be "anchorable" (i.e. specific). This means that common nouns need an article, but proper nouns, like *Petra* in (47), do not.
6. The fifth line is the formal characterization of the verb itself, hence the down-arrow (↓). Its category is V, its case-frame is "∅+ra", which is its subcat frame at the same time, as Alberti points out,[54] and "3Sg" is its inflectional (agreement) specification.
7. Lines 6-8 characterize the second argument of *vágyik* 'desire', (r''_{des}). The two most important differences between the two arguments are as follows. (i) The rank number of the second argument is "+7". 7 means that it has the same strength (or, rather, weakness) in the rank hierarchy as the first argument, and the plus symbol encodes postverbal (as opposed to preverbal) occurrence. (ii) The case requirement is *-rA* (as opposed to ∅, the nominative case of the first argument). Alberti points out that there seems to be a conflict here. In the third line of the lexical form of *bajnok* 'champion' in (F6h) there is a demand for a subject role: ⟨Cat,+5,$X_{\emptyset}$⟩, while in the sixth line of the lexical form of *vágyik* 'desire' a *-rA* case-marked argument is required: ⟨Case,+2,rA⟩, and the *bajnok* 'champion' morpheme, the potential filler of this argument role, by itself does not satisfy this requirement, see the fourth line in its lexical form in (F6h): ⟨Case,0,∅⟩. The solution here is that rank parameters of various strength (+5, +2) make the indirect satisfaction of such a demand possible.
8. Alberti emphasizes the fact that in their system word order demands are typically indirectly satisfied, which follows from the nature of GASG. In (47) there are five lexical items that are specified for *immediately* preceding the noun *bajnok* 'champion'. This demand has the strongest rank in the lexical form of the nationality adjective: "+1" in line 5 of (F6f). More precisely, there is an even stronger demand in the fifth line of the lexical form of the adjective *úszó-* "swimming" in (F6g), the fraction rank in ⟨Ord,+⅓,Nei⟩ requires even closer adjacency, but, as Alberti points out, the two demands do not compete, because "+1" requires adjacency between words, and "+⅓" requires adjacency

[52] "Nei" is short for neighbour(ing).

[53] In "–7", the negative symbol encodes precedence and the number indicates the strength of this adjacency requirement.

[54] **(TL19) In my opinion, the characterization of the subcat frame of a predicate in terms of its case frame is a weak point of this version of the theory, because it lacks the sufficient degree of generality and universality across languages (even if by "case" not only morphological cases are meant but also prepositions and postpositions). Predicates should rather subcategorize for the grammatical functions of their arguments, as in LFG, for instance: SUBJ, OBJ, OBL, etc. Of course, this basic subcat information can be supplemented with case information where necessary.**

within words.[55] He concludes that the (two-level) morpheme string *német úszóbajnok* 'German swimming champion' is a good solution. The other three items related to the noun *bajnok* 'champion' have weaker ranks, hierarchically ordered: *arra:* ⟨Ord,+6,Nei⟩, *a:* ⟨Ord,+5,Nei⟩ and *magas:* ⟨Ord,+2,Nei⟩; that is how the (only) correct word order is ensured in (47): *arra a magas német úszóbajnokra*.

Alberti et al. (2015) and Nőthig & Alberti (2014) assume the following rank parameter setting for Hungarian word order.[56]

(48) UNIVERSAL WORD ORDER REQUIREMENTS AND THEIR RANKS IN HUNGARIAN

a.	predicate ↔ argument (γ), where γ: Subject, Object … (grammatical functions):	7
a'.	predicate ↔ argument (Θ), where Θ: Agent, Patient, Experiencer … (thematic roles):	7
a''.	predicate ← adjunct:	7
b.	[operator > its scope]:	7
b'.	F1 focus ⇒ (verb-)stem:	3
c.	predicate ↖ "stolen" dependent:	7
d.	predicate – dependent (φ), where φ: Behaghel-complexity	B(φ)

To this we can add Nőthig and Alberti's (2014) detailed scheme of the treatment of operators.

(49) GENERAL SCHEME OF THE OPERATOR ZONE **$[O^{*}{}^\wedge F_1{}^\wedge O^{*}\ldots{}^\wedge F_K{}^\wedge O^{*}{}^\wedge X]$** OF A HEAD X:

a. $[\ldots [O_1 \rightarrow_{\omega 1} (O_2 \rightarrow_{\omega 2} (\ldots (O_{J-1} \rightarrow \omega_{J-1} (O_J \rightarrow_{\omega J} (X \rightarrow_\forall F_K))) \ldots))] \rightarrow_\forall F_{K-1} \ldots] \rightarrow_\forall F_1$

b. Where X = V, A, Adv, Inf, N; J = 0, 1, 2, … ; K = 0, 1, 2, …

c. F_i: foci

d. O_i: other operators, i.e. diff. sorts of topics, quantifiers and adjuncts

e. Arguments are regarded as elements in the chain of O's (with "vacuous" logical content)

f. Specifications of '$\rightarrow_\omega$': $\rightarrow_\exists$, $\rightarrow_{\text{A FEW}}$, $\rightarrow_{\pi\%}$, $\rightarrow_{\text{MOST}}$, $\rightarrow_{\text{default}}$, $\rightarrow_\forall$, $\rightarrow_{\text{EXACTLY } n}$, …

Nőthig & Alberti (2014) discuss several examples with a variety of word order permutations to show how their system comprising (48) and (49) can account for the attested

[55] **(TL20) Alberti (2011: 74) points out that their Totally Lexicalist Morphology offers a unified treatment: it merges syntactic and morphological analysis into a single process. However, he hastens to add that two levels are still distinguished: strings of word internal morphemes and strings of words. Let me make some comments on this.**

(i) I find it rather strange that the very name of this approach suggests that morphology is entirely lexical, whereas in actual fact all morphological phenomena (whether inflectional or word formational) are treated in the syntax. For instance, in (47) there is an instance of compounding (a major type of word formation): *úszóbajnok* 'swimming champion' and there are two instances of nominal inflection (case-marking): *arra* 'onto_that' and *úszóbajnokra* 'onto_swimming_champion'.

(ii) Above, Alberti himself emphasizes the fact that the word-internal combination of morphemes takes place in a different dimension (i.e. at a different level) from the combination of words; however, both dimensions are comprised by the syntactic component. This component accommodates all syntactic and morphological processes. In this light the following name would be more appropriate for this approach: Lexically Driven, Totally Syntactic Morphology.

(iii) In a very important respect, this approach is much closer in spirit to MP than to a LFG, with its really lexicalist morphology.

[56] The terms and relations in (48) should be general and straightforward enough for the most part. By "stolen" complement in (48c) the theory means a constituent that occurs in the vicinity of a particular predicate despite the fact that it is the complement of another predicate, that is, it has been "stolen" from that predicate. In (48d), Behaghel's complexity in this context is a generalization to the effect in the Hungarian postverbal domain, where word order is free basically, there is a strong tendency according to which more complex constituents follow least complex constituents.

word order variants and scope relations in Hungarian in a principled manner.[57] After this they claim that their system is universal enough to capture word order and scope encoding variation across languages by means of language-specific parameter setting of rank values. They briefly compare English with Hungarian, and their main generalization is that the strict word order in English and the special ways of expressing scope relation is due to the fact that in this language the predicate ↔ argument relation is ranked highest, the adjunct → host relation is weaker, and scope relations are even weaker in this hierarchy.

1.2.6. On Head-Driven Phrase Structure Grammar (HPSG) on Hungarian

This alternative, nontransformational generative model was developed by Carl Pollard and Ivan Sag. On its architecture and principles (at various stages of its development), see Pollard & Sag (1987, 1994), Borsley (1996), Trón (2001), and Szécsényi (2009). Given that this theory can also be assumed to be quite well-known, and, as I will claim, it is very close in spirit to GASG and (to a lesser extent) to LFG, here I only highlight those aspects of it that will be immediately relevant to the comparison of the four major generative models in the next section.[58]

A) HPSG, just like LFG and GASG, is a unificational and representational model.
B) Just like LFG, it uses attribute-value matrices (AVMs).
   a. A 3SG noun in nominative case can be given the following AVM description (SZ:22).

$${}_{word}\begin{bmatrix} \text{CAT} & \textit{noun} \\ \text{CASE} & \textit{nom} \\ \text{AGR} & {}_{agr}\begin{bmatrix} \text{NUM} & \textit{sg} \\ \text{PER} & 3^{rd} \end{bmatrix} \end{bmatrix}$$

Figure 7. An AVM of a noun (3SG.NOM)

   b. Subject–verb agreement can be captured by the following unification-based representation (SZ:23).

$$\begin{bmatrix} \text{CAT} & \textit{s} \\ \text{SUBJ} & \begin{bmatrix} \text{CAT} & \textit{noun} \\ \text{AGR} & \boxed{1}\begin{bmatrix} \text{NUM} & \textit{pl} \\ \text{PER} & 3^{rd} \end{bmatrix} \end{bmatrix} \\ \text{OBJ} & \begin{bmatrix} \text{CAT} & \textit{noun} \\ \text{AGR} & \begin{bmatrix} \text{NUM} & \textit{pl} \\ \text{PER} & 3^{rd} \end{bmatrix} \end{bmatrix} \\ \text{VERB} & \begin{bmatrix} \text{CAT} & \textit{verb} \\ \text{AGR} & \boxed{1}\begin{bmatrix} \text{NUM} & \textit{pl} \\ \text{PER} & 3^{rd} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

Figure 8. A subject–verb agreement AVM

   c. In the version of the theory developed by Borsley (1996), the English verb *loves* has the following lexical representation (SZ:39).

[57] **(TL21) This is by far the most carefully developed and detailed part of the (implemented) syntactic analysis in GASG.**

[58] I take the illustrative representations from Szécsényi (2009), indicated in the following way (SZ:page-number).

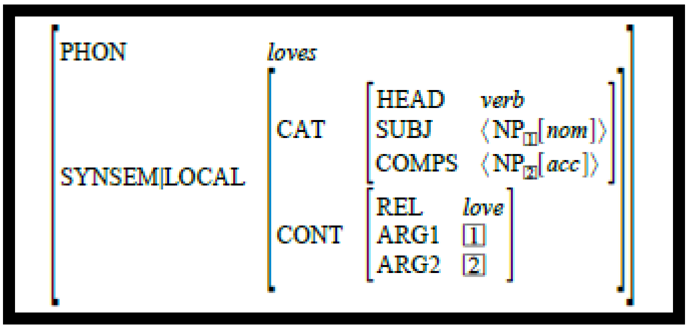

Figure 9. The lexical representation of *loves*

The main characteristics of this AVM are as follows. It specifies the phonological form of the word (see the PHON feature). The SYNSEM complex feature has syntactic (categorial and argument structural)[59] values (CAT), and semantic values (CONT). These relations and dependencies are syntactically (phrase-structurally) local (LOC).[60]

C) Note that this model carefully distinguishes and represents different types of grammatical information (in the form of a variety of feature-value correspondences); however, basically everything is captured in the lexical component. Even long-distance dependencies are encoded in specific lexical forms of predicates in terms of nonlocal (slash) features. The treatment of these long-distance phenomena adequately manifests the most crucial aspects of the theory (also expressed by its name): it is in the lexical form of the *head* of a constituent that all types of relevant information are encoded (including adjunct modifiers of the head),[61] and *phrase-structural* configurations (with percolating features) are employed to identify local and nonlocal dependencies.[62]

D) In his HPSG framework, Szécsényi (2009, 2011, 2013) assumes that a VM, which is a complement of the verb, makes up a complex predicate with that verb. He identifies this designated element by a special feature CAR (standing for “verb-carrier”). This feature points to one of the verb’s complements in its complement list. He also treats focusing as a lexical process. Its essence is that the verb gives the focus feature (F-GIVE) to one of its complements or adjuncts. At the same time, the CAR feature must be (or must become) empty. Szécsényi’s (2011) schematized Focus Selecting Lexical Rule is shown in Figure 10.

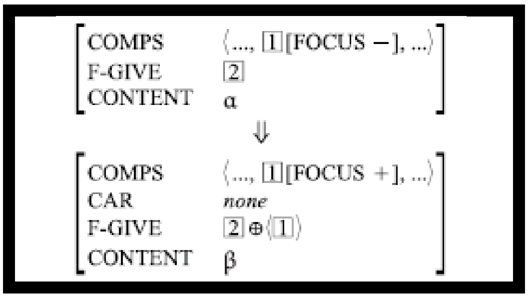

Figure 10. Szécsényi’s Focus Selecting Lexical Rule (2011: 114)

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[59] Notice that this approach makes a sharp SUBJect vs. COMPlements distinction among the arguments of the predicate.

[60] Nonlocal feature values encode long-distance dependencies manifested, for instance, by WH-questions in English.

[61] The nature (articulation) of the representation of the argument structure of a predicate and the treatment of adjunct–predicate relations are considerably different in various versions of the theory. For a detailed discussion of these issues, see Szécsényi (2009).

[62] In the next, comparative section, I will point out that both GASG and HPSG are lexical-representational models with the fundamental difference that the former entirely dispenses even with phrase structure, which does have an important role in the latter.

I discuss further crucial details of his treatment of VMs and foci in Hungarian, by also comparing it with approaches in other models, in Chapter 2.

1.2.7. A comparison of LFG, MP, GASG and HPSG

In this section, I briefly compare some salient properties of four generative models: LFG, the framework of this dissertation, *mainstream* MP, GASG and HPSG. This general comparison is based on Sections 1.2.1-1.2.6 to a great extent, but not exclusively. I only concentrate on aspects that are relevant from the perspective of this dissertation. I keep the comparative discussion at a general level and defer the comparison of analytical details to various stages of my presenting my LFG account of the phenomena under investigation.

(A) Degree of modularity

a. LFG: very high
b. MP: moderate (GB: very high)
c. GASG: very moderate
d. HPSG: very moderate

I think these characterizations are straightforward. LFG is highly modular with all its representational levels. GB was similarly highly modular (in its own way), and MP has reduced this considerably. GASG and HPSG package different types of information into a considerably reduced number of modules.

(B) The basic architectural organizing principle of the theory

a. LFG: representational
b. MP: derivational
c. GASG: representational
d. HPSG: representational

MP still follows the original deep structure → surface structure derivational pattern. The other two theories are representational, and one of the basic differences between them is the degree of representational modularity, see ***(A)***.

(C) The locus of the treatment of morphological phenomena

a. LFG: lexicon
b. MP: syntax
c. GASG: syntax (strongly lexically driven)
d. HPSG: lexicon

LFG fundamentally subscribes to the Strong Lexicalist Hypothesis: it assumes that all morphological processes (whether inflectional or word formational) take place in the lexical component. In the Chomskyan tradition (i) the Standard Theory handled both inflectional and derivational morphology in the syntax (and the phonology); (ii) GB accepted the Weak Lexicalist Hypothesis (inflection in the syntax, word formation in the lexicon); and (iii) MP's morphology is, again, fully back to syntax. Interestingly, although GASG claims that it has a Totally Lexicalist Morphology, I pointed out in the previous section (1.2.5) that as far as I can see the real locus of combining morphemes (whether inflectional or word formational) is the syntax. However, the blueprint itself for handling morpheme combination in the syntax belongs to the lexicon. Thus, this is a kind of lexically driven morphology in the syntax. HPSG is much closer in spirit to LFG in this respect.

(D) Importance of phrase structure

a. LFG: high
b. MP: very high
c. GASG: n/a
d. HPSG: high

Functionally annotated phrase structures are at the heart of LFG's syntax. In MP, phrase structure is even more important, because it has been designed to encode semantic types of information by means of specific functional projections, for instance aspect (AspP). GASG strongly argues against phrase structure representation. As I pointed out in Section 1.2.6, phrase-structural representation has an important role in HPSG, just like in LFG.

(E) Nature of functional categories

a. LFG: highly constrained
b. MP: a wide variety
c. GASG: n/a
d. HPSG: highly constrained

LFG basically constrains the number of functional categories to three: D(P), I(P) and C(P), and even these need to be empirically justified by the existence of at least one word (free morpheme) unquestionably belonging to that category. HPSG is similar in spirit. By contrast, in MP bound morphemes, or even morphologically never realized features can also head a variety functional projections. In GASG there is no phrase structure; hence, there are no functional categories.

(F) Strict endocentricity

a. LFG: no
b. MP: yes
c. GASG: n/a
d. HPSG: no

LFG assumes that at the level of sentence structure exocentricity (S) and endocentricity (CP/IP/…) are part and parcel of the space for parametric variation across (and even within) languages. GASG declares that there is no need for phrase structure in the syntax: sentences are simply strings of words. From this it follows that this criterion is not applicable to GASG. However, I think that even GASG needs a symbol for sentences (although I have not seen any in any one of the representations I am aware of), and, naturally, the most likely candidate is the S symbol. If this is the case then in ***(Fc)*** the answer is *no*.

(G) Empty categories in syntax

a. LFG: no
b. MP: yes
c. GASG: no (?)
d. HPSG: no

Recent versions of LFG strongly reject the use of empty categories of any kind. Although earlier versions of the theory did postulate empty categories in c-structure for the treatment of long-distance dependencies like WH-question formation, see Kaplan & Bresnan (1982), for instance. It is important to note, however, that even in these analyses no syntactic movement was assumed. Instead, unbounded metavariables were employed to encode the necessary filler–gap relation. Even so, this was a way of adapting the original transformational treatment. Later Kaplan and Zaenen (1989) proposed to dispense with such an empty category approach by applying LFG's functional uncertainty device. For a discussion and (further) arguments against empty categories in LFG, see Dalrymple et al. (2007). By contrast, they are among the hallmarks of the GB/MP tradition. My understanding is that GASG is also "realistic" in this sense. However, as I pointed out in the previous section (1.2.5), some practitioners of GASG also employ the notion of a phonetically null morpheme. Consequently, I raised the question of how such elements are formally treated in this approach, given that morphemes are directly represented in syntax, hence the question mark in parentheses in ***(Gc)***.[63] In some (earlier) versions of HPSG an empty category was assumed in the lexical representation for the treatment of long-distance dependencies, which was involved in a HPSG style filler-gap relation, see Pollard & Sag (1994), for instance. By contrast, Sag (2005), among others, proposes a traceless treatment. For a discussion, see Szécsényi (2009).

(H) Implementability

a. LFG: very strong
b. MP: moderate
c. GASG: strong
d. HPSG: very strong

The characterizations in (Ha-c) are my current understanding of the implementability potentials of the three frameworks in general. As regards the implementation of analyses of the relevant Hungarian phenomena, there have been remarkable results in LFG and in this dissertation I plan to contribute to these results considerably. There has been some (limited) implementation in GASG, and no implementation in MP that I am aware of. As I fully agree with the conviction of a great number of linguists that the proof the generative theoretical pudding is in the implementational eating, in the future I would be very interested in comparing my LFG-theoretical and LFG-implementational results with similar results in other generative frameworks. The attested implementability of HPSG is roughly at the same level as that of LFG.

(I) Autonomy of Syntax and related issues

Nőthig & Alberti (2014) also elaborate on issues pertaining to one of the central principles of the Chomskyan mainstream from the very beginning: the Autonomy of Syntax. They admit its positive and seminal influence on generative syntactic research in the first period. They continue by quoting Surányi (2010), who points out several theory-internal problems, at both descriptive and explanatory levels, with GB and the "cartographic" version of MP pertaining to this autonomy principle. Then they write this.

[63] Gábor Alberti (p.c., February 2016) made the following comments on this issue. "A ℜeALIS valóban realisztikus kíván lenni a tekintetben, hogy nem feltételez üres szavakat/morfémákat. Ha ilyen felbukkan egy implementációban, az átmeneti megoldás. A fókuszosság például realizálódhat egyes nyelvekben testes morféma alakjában, míg más nyelvekben nem üres morfémát keresünk (ami "valahol" ott lapulna láthatatlanul és átrendezné maga körül a szórendet), hanem egy erős kívánalom domináns érvényesülését kell kimutatni, illetve sajátos intonációs relációt. NB: az *én*, *téged* stb. névmások a magyarban operátorviszony jelenlétére utalnak, nem személyre, mert az a ragozásból adódik." [Indeed, ℜeALIS intends to be realistic in the sense of not assuming empty words/morphemes. If such a thing emerges in an implementation, this is a temporary solution. For instance, in certain languages focusing can be expressed by overt morphemes, while in other languages we are not after an empty morpheme (which should invisibly hide "somewhere" and rearrange word order around itself). Instead, we need to discern a dominant manifestation of a strong requirement and/or a special intonational relation. NB: pronouns like *én* 'I.NOM', *téged* 'you.SG.ACC', etc. signal the presence of operator relationships in Hungarian and not persons, as person encoding is provided by inflection – my translation, TL.]

> The 2000's is the age of the "anticartographic" Minimalist Program (see e.g. van Craenenbroeck 2009), whose decisive property is that many features/positions are held to be "methodologically unsound" (Surányi 2010) and hence to be avoided in the name of some Semantic Economy,[64] which can be captured in the form of a generalization of Last Resort: reference to some semantic function is sufficient for move. The earlier syntactic disguise is not required any more, because it counts as a superfluous cost, which is against the minimalist spirit. What is to be regarded as the most economical grammar in the minimalist spirit is practically the approach of GASG, in which both Merge and Move are dispensed with.
>
> The intuition behind Semantic Economy, thus, already almost coincides with that behind our semantics-based approach. We consider it obvious that Generalized Last Resort is in explicit conflict with the Autonomous Syntax Principle, or at least makes it vacuous. We think that the only reason why ASP has not been abandoned is the anxiety about loss of prestige, the loss of what seems to be the cornerstone of the enormous building of generative linguistics.
>
> What we have intended to prove is that there is no danger of this loss. We can declare that semantics is prior to syntax in the sense that it is syntax that should be based on semantics, and not vice versa. All descriptively or explanatorily adequate results due the generative paradigm, however, can be quite easily reformulated in our semantics-based approach (2014: 121).

Next, Nőthig & Alberti (2014) discuss Bobaljik & Wurmbrand's (2002) architectural proposal for MP. Their most important quotes from this proposal are these:

> … different PF representations (word orders, in the general case) compete for the realization of a fixed LF, and not the other way around […] this model stands in conflict with common proposals that inherit (sometimes tacitly) the GB ordering of covert operations after Spell-Out (2014: 122).

They compare the two models in the following way, claiming that the two are identical in spirit, but theirs is the simplest and the most radical realization of Bobaljik & Wurmbrand's (2002) model.[65]

[64] This is their quote from Surányi (2010). "Accordingly, pairs of agreeing uninterpretable and interpretable abstract morphosyntactic features like [top(ic)] and [foc(us)] have been posited by analysts of pertinent constructions in different languages, conforming in this manner to the working hypothesis of the MP that all (displacement) operations are triggered. But such an implementation of the notion of trigger is methodologically unsound, since, while it applies the same mechanism of trigger throughout, it substantially weakens the predictive power of the hypothesis itself (the general prediction being that all movements are triggered), to the degree that makes the argumentation almost circular" (2010: 17).

[65] It is interesting to note that Brody (1994) outlined a very similar conception of the architecture of generative grammar. "We are proposing then a theory where there is only a single syntactic interface level, a level that both the lexicon and the conceptual systems have access to. We shall call this level of representation LF, keeping in mind that a different status is now attributed to this level. D-structure can now be thought of as a level properly included in LF, or abstracted from LF in a particular way. LF still needs to be related to the interface of sensory and motor systems, PF. Let us call the theory incorporating these assumptions the Lexico-Logical Form (LLF) theory. .[…] S-structure […] cannot be an intermediate point on the D-structure–LF derivation since such a derivation is not part of the grammar. Thus if S-structure is a noninterface level of the grammar, it can now only be an intermediate level on the LF–PF mapping, the only derivation that UG contains. Schematically then we have a theory like (i)" (1994: 31-32).

(i) Lexico-Logical Form Theory

```
LF    *_ _ _ _ _*    PF
          |
      S-structure
```

(50) Bobaljik & Wurmbrand's (2002) … → LF → … → PF
Nőthig & Alberti (2014) LF → PF

Finally, Nőthig & Alberti (2014) address the variation issue from the perspective of Optimality Theory (OT). First they cite Newson (1994), who points out what fundamental problems free word order permutations in Hungarian (referred to as optionality) pose for OT. They make the following comparison.

> In the OT framework, thus, capturing the so frequent optionality in languages requires the double cost of introducing a meta-level of ordering of conditions and weakening an axiom of OT concerning UG, according to which all constraints are of relevance to all languages, and it is their ranking that is the only source of linguistic variation. In our approach, however, optionality is due to a straightforward fact: if ranks belonging to the demands are characterized by a very small set of numbers, these numbers will often coincide. Lack of optionality, thus, would require a thoroughgoing explanation (2014: 125).

Nőthig & Alberti (2014) also cite Heck et al. (2002) about the status of input in OT syntax. "All this amounts to the same conclusion: Inputs can be dispensed with in syntax but not in phonology because syntax is information preserving and phonology is not" (2002: 394). Nőthig & Alberti (2014) make the following comment. "We agree with the authors that there is an inevitable inherent redundancy between the input and the LF of the output in standard OT syntax, which can be ceased, among others, by deleting the input" (2014: 126). Then they compare the two models in the following way.

(51) a. Heck et al. (2002) b. Nőthig & Alberti (2014)
a. ~~INPUT =?~~ → CANDIDATE SET → OPTIMAL CANDIDATE → LF
b. INPUT = LF → CANDIDATE SET → OPTIMAL CANDIDATE

They conclude that the solution in (51a) "[…] 'masks a simpler LF-to-PF account', because this mechanism involves backtracking: the set of competing candidates are determined on the basis of their 'would-be' interpretations, encoded in some (quite obscure) way in the competing candidates themselves, which are 'information preserving' syntactic trees" (2014: 126).

Alberti et al. (2015) also discuss the issue of motivation and the autonomy of syntax. In addition to mentioning Surányi's (2010) criticism of GB and "cartographic" MP, Bobaljik & Wurmbrand's (2012) LF-First proposal, see above, they elaborate on a further alternative direction: Survive Minimalism, see Stroik (1999), Putnam & Stroik (2009, 2010, 2011, 2013). They welcome the following goals of Survive Minimalism: it aims at eliminating the feature-driven movement mechanism universally accepted in mainstream MP, at maintaining empirical coverage, at dispensing with the redundancy of "mixed" (multi)representational/derivational models and at constraining excessive generative power by developing a purely derivational syntactic model. It does away with the principle of the Autonomy of Syntax as well as with the interface-incompatible features like EPP and EDGE in narrow syntax.[66] It posits the lexicon and narrow syntax at the cross section of interfaces. From this it straightforwardly follows that every feature must be inherently compatible with these components, and thus it must directly contribute to the interpretation of a sentence by

[66] "[…] a syntactic representation is a semantic representation and, therefore, […] syntax cannot be seen as independent of the semantics. But this does not mean that the C-I system can be reduced to syntax (Putnam & Stroik 2013: 13).

dint of its semantic or phonetic/articulatory content. For further details, see Alberti et al. (2015).

From my perspective in this section, the most important point is that there are several fundamental parallels between the "philosophies" of Survive Minimalism and GASG: no autonomy of syntax, motivation, the centrality of the lexicon, and the rejection of uninterpretable features. Obviously, one of the main differences is that GASG is much more radically (i.e. "totally") lexicalist.[67]

Before I spell out my LFG-specific view of these semantics, syntax and input issues, let me very schematically show how Alberti et al. (2015) envisage what they call the ("motivated") directionality of communication.

(52) a. a thought emerges →
b. the speaker decides to use language (pragmatics) →
c. they appropriately combine parts of the relevant meaning content (semantics) →
d. they realize the formal (syntactic and morphological) properties of the lexical items →
e. they turn (52d) into vibration in the air or a picture of a series of letters (phonology) →
d'. the hearer identifies a structured list of morphemes and words →
c'. on the basis of this, they infer the combined meaning content →
b'. they find out what the speaker's purpose has been by sending that complex linguistic sign →
a'. they reconstruct the speaker's thought

In the light of this view, it seems obvious to me that Nőthig & Alberti's (2014) rejection of the autonomy of syntax and the claim that syntax should be based on semantics is to be posited in the following (simplified) larger picture of the process of communication.

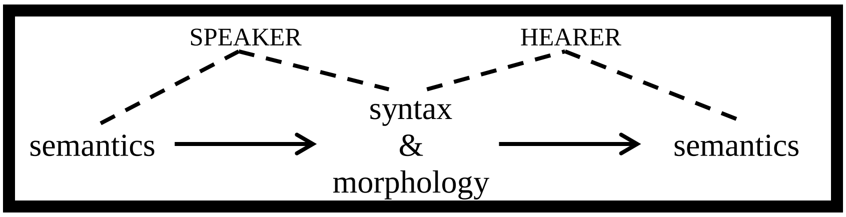


Figure 11. Simplified model of communication

Essentially, if we want to model communication from the speaker's perspective, we need the semantics → syntax (and morphology) sequence; whereas from the hearer's perspective the order is just the opposite: syntax (and morphology) → semantics.

Let me now show how I think the architecture of LFG I presented in Section 1.2.1 on the basis of Falk (2001) can accommodate and model these crucial aspects of communication. It is to be emphasized at this point already that the implemented version of LFG, the XLE[68] grammar, to be introduced in the next section (1.3), straightforwardly models the fundamental

[67] To the best of my knowledge, in these two frameworks, there are no theoretically developed and/or implemented analyses of the Hungarian phenomena I am investigating in this dissertation. When such analyses are proposed I will consider it an important task to compare them with my LFG approach developed here.

[68] Xerox Linguistic Environment.

processes in Figure 11. It has a parser and a generator component. The parser fundamentally proceeds from syntax/morphology to semantics, and the generator follows the opposite path.[69]

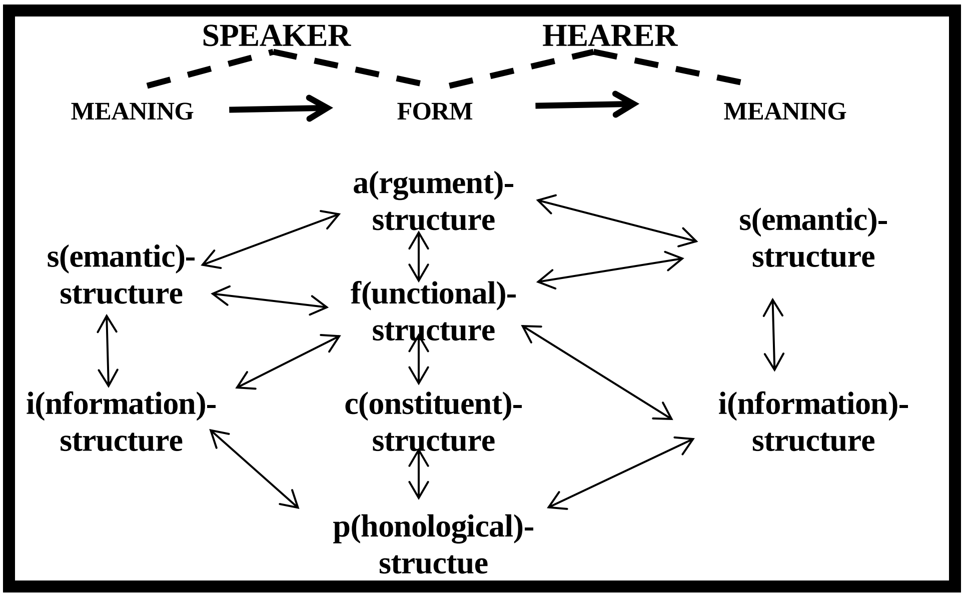


Figure 12. Modelling communication in LFG

At the end of this section (1.2.6) and, at the same time, at the end of the larger section (1.2), let me make some general remarks on LFG and the other two approaches, again from the perspective of this dissertation.

1. In this dissertation I refrain from a systematic and detailed critical assessment of the architectures and principles of the three theories. For such a comparison of LFG and GB/MP, see Bresnan (2001) and Falk (2001). For a comparison of GASG and GB/MP, see Nőthig & Alberti (2014) and Alberti et al. (2015).[70,71]
2. My opting for LFG as my framework, however, naturally means that on the basis of the arguments in Bresnan (2001) and Falk (2001), among others, and on the basis of my

---

[69] It is this architecture of XLE grammars that provides an appropriate basis for developing rule-based machine translation systems.

[70] And Sections 1.2.5 and 1.2.6 in this dissertation.

[71] Gábor Alberti (p.c., February 2016) made the following very important general remarks on ℜeALIS, MP and LFG. “A ℜeALIS egy tudományos kísérlet arra, hogy a "what you see is what you get" elvét a végsőkig alkalmazzuk. Ha azt mondja az anyanyelvi intuíció, hogy "itt mondat hangzott el", akkor elsődlegesen lexikai egységek hívódnak meg, és a "mondatság" […] azt jelzi, hogy diskurzusreprezentáció szervezi meg őket. Gyakorlatilag a (48) relációiban kell állniuk. A (48)-beli relációk pedig kis markerek mellett a szó- és morfémasorrend, illetve az intonációs relációk alapján tárandók fel (ez a "what you see"). Ami nehéz: az elnyomott követelmények néha nyomtalanul teljesülnek. Az MP-ben egy óriási ágrajzot járnak végig a lexikai egységek: a morfológiai, intonációs és egyéb követelményrelációk mind-mind ágrajzi konfigurációvá vannak átkódolva, szerintünk "magyarázati terhet" felvéve ezáltal (NB: manapság már csak a pragmatikoszemantikailag alátámasztható relációk vannak ágrajzilag kódolva, a motiválatlanokat már nem divat ágrajzilag felvenni). Az LFG mintha a kettő között állna: minden relációt a megfelelő komponensben "ellenőriz", nem kell mindent ágrajzzá átkódolni. A redukált szintaxis léte vagy nem léte nyilván hit kérdése...” [ℜeALIS is a scientific attempt at satisfying the "what you see is what you get" principle to the greatest extent possible. When our native speaker intuition says that a sentence has been uttered here then primarily lexical items are called, and “sentencehood” […] indicates that they are arranged by discourse representation. Practically, they have to be related according to the principles in (48). These relations in (48) are to be explored on the basis of word and morpheme order or intonational relations, in addition to small markers (“what you see”). In MP, lexical items follow their paths in a huge tree diagram: all morphological, intonational and other requirement relations are configurationally encoded (“transcoded”), and, thereby, this imposes an “explanatory burden” on this configurationality (NB: nowadays only relations supported by pragmatico-semantic factors are encoded in trees, as opposed to unmotivated ones which are no longer represented in trees). LFG seems to be in-between: it “checks” every relation in the appropriate component, and there is no need to encode everything tree-diagrammatically. Obviously, the existence or nonexistence of a reduced syntax is a matter of belief…” – my translation, TL).

previous research, it is my conviction that LFG offers me the most appropriate and efficient theoretical and implementational framework for dealing with linguistic phenomena in general, and Hungarian syntax in particular. In my opinion, it has the following advantageous traits.

(a) This is a representational (nonderivational) model, satisfying one of its famous informal principles: what you see is what you get.
(b) It carefully packages various types of information in different structures of representation.[72]
(c) These structures of representation are formally linked in a principled manner.
(d) LFG is very flexible as regards its parametric potential.
(e) It can also very flexibly accommodate “marked” (i.e. noncore, peripheral) but regular phenomena across languages.
(f) It is very efficiently implementable (see Section 1.3). The successful implementation of a generative framework is a straightforward proof of its tenability and plausibility.
(g) On the basis of (a)-(f), I find LFG a very promising framework for developing a psychologically plausible version of UG.[73]

3. The basic aim of the dissertation is to prove that LFG can be successfully employed for the analysis of the Hungarian phenomena under investigation, and, thus, to make a modest contribution to the general LFG effort to develop UG.

1.3. The implementational platform: Xerox Linguistic Environment

In the second half of the 1990’s an international project was launched for implementing LFG: ParGram (Parallel Grammar). Its fundamental goal was to write large-scale (computational) grammars with parallel analyses by (i) covering the same phenomena across languages; (ii) using shared devices like common features, values, node names, etc.; (iii) aiming at developing similar analyses for similar phenomena. This collaboration started with grammar development for English, French, and German, and Norwegian was also involved soon.[74] Our Lexical-Functional Grammar Research Group,[75] with HunGram as its main research project, joined ParGram in 2008.[76] Since then we have successfully completed two research projects (funded by OTKA and TAMOP),[77] and we are active participants of the ParGram community.[78]

[72] Compare this with GASG, which aims at being “totally lexical”, HPSG, which is also significantly more lexical than LFG, and MP, which can be considered “totally syntactic” in nature.

[73] It is very often claimed that the general tenability and efficiency of a (generative) linguistic framework can be directly assessed by examining its explanatory potential. However, I think that this method can only be reliably used for comparing various alternative solutions within a particular theoretical framework, and it cannot be adequately used for comparing different theories, because explanations are inevitably theory-internal and theory-specific.

[74] Research was carried out at various locations: at Xerox PARC for English, at XRCE for French, at IMS Stuttgart for German, and at the University of Bergen for Norwegian [PARC = Palo Alto Research Center, XRCE = Xerox Research Center Europe, IMS = Institut für Maschinelle Sprachverarbeitung].

[75] http://ieas.unideb.hu/index.php?p=446&l=en.

[76] So far ParGram efforts have targeted the following languages: English, French, German, Hungarian, Indonesian, Japanese, Murrihn-Patha, Norwegian, Polish, Tigrinya, Turkish, Urdu, Welsh and Wolof.

[77] In the OTKA project (2008-2013) we developed an XLE grammar for the most basic construction types of finite sentences in Hungaran. In the TAMOP project (2010-2012), by creating and using a sufficiently simplified version of this XLE grammar, we built a 1.5 million word treebank. It contains 283 786 Hungarian sentences, which are analyzed in a detailed fashion c-structurally and morphologically: http://corpus.hungram.unideb.hu/index.php?page=korpusz. For further details, see Laczkó et al. (2013).

[78] We regularly participate in and present at ParGram workshops. We hosted a ParGram workshop in 2011 and another in 2013, the latter was held right after the annual LFG conference that we organized at the University of Debrecen. In addition, we have co-authored two papers in international collaboration: Forst et al. (2010) and Sulger et al. (2013).

The platform for grammar development efforts in ParGram is Xerox Linguistic Environment (XLE) developed[79] in the C Programming Language and it uses Tck/Tk for the user interface. It has the capacity to accommodate real-size on-line lexicons and to parse very complex sentences with reasonable speed. It is its remarkable trait that it can be used both for parsing and for generation; and, thus, it can also serve as a basis for developing machine translation systems. For further information on ParGram and XLE, see the following sources:

- Butt et al. (1999a);
- Butt et al. (1999b);
- http://typo.uni-konstanz.de/redmine/projects/pargram/wiki/;
- http://www2.parc.com/isl/groups/nltt/xle/doc/xle_toc.html;
- http://ling.uni-konstanz.de/pages/xle/.

Our HunGram has the following main components of the standard XLE architecture.[80]

TOKENIZER		MORPHOLOGICAL ANALYZER		LEXICON		SYNTAX
	➡		➡		➡	
tokenization		*morphological analysis*		*lexical look-up*		*c- & f-structure representation*

Figure 13. HunGram's architecture

The function of the tokenizer is to segment an input string of words into tokens in an ordered sequence. Usually these tokens are inflected words, numbers and punctuation marks. Typically, an uninterrupted string of alphabetical characters constitutes a single token. However, there can be different kinds of language-specific complications for the tokenizer, e.g. "the sequence *l'amour* 'love' might split into two tokens in French while *aujourd'hui* 'today' should be considered a single unit. On the other hand, a sequence of words (e.g., *ein bißchen* 'a bit', *a priori*, *parce que* 'because', *in order to*) may be considered as a single token for further linguistic treatment" Butt et al. (1999a: 163). Hungarian also manifests a special case. As is well-known, in standard Hungarian orthography, a preverb (= particle) and a verb are spelt as one word when the former immediately precedes the latter. Despite this fact, the overwhelming majority of generative analyses (including mine, to be presented in Section 3.1.5 in Chapter 3) assume that they occupy two distinct syntactic positions. Consequently, our tokenizer had to be "taught" to output two tokens in these cases.

The tokens produced by the tokenizer are input to morphological analysis, which is typically carried out by a finite state (morphological) transducer (fst) in XLE grammars, including ours. The transducer associates various tags with these tokens. For instance the past tense verb *hívott* and the accusative noun *lányt* receive the following tag-specifications from our fst.[81]

[79] … by Ronald Kaplan and John T. Maxwell at Xerox PARC.

[80] SMALLCAPS indicate components, and *italics* indicate operations.

[81] If at the command prompt we write *analyze-string* and type a word (e.g. *lányt* or *hívott*), the fst responds by giving the list of tags it associates with the morphemes in the given word. Consider the following screenshots.

```
lány "+Noun" "+Sg" "+Acc"
```

```
hív "+Verb" {"+Past" "+Indef" "+Sg" "+3P"|"^DB" "+PastPart" "+Indef" "+Sg" "+Nom"}
```

The disjunction in the case of *hívott* encodes the fact that this form is ambiguous: on the one hand, it is one of the past tense forms of *hív*, and, on the other hand, it is the "past participial" form of the same verb.

(53)

	WORD	TAG-SPECIFICATION
a.	hív-ott call-PAST.3SG.INDEF	hív "+Verb" "+Past" "+Indef" "+Sg" "3P"
b.	lány-t girl-ACC	lány "+Noun" "+Sg" "+Acc"

The grammar uses sublexical rules as an interface device between morphology and syntax: the base form of the word and the finite state symbols (tags) make up the sublexical structure of the word.[82] For instance, the sublexical rule for nouns is as follows.[83]

(54)
```
N -->   N_BASE
        N_SFX_BASE*.
```

N_BASE is the (sublexical) preterminal node for the stem, and it can be followed by any number of tags (or no tag), as is encoded by the star.

Each of these items (the base form and the tags) is represented as a separate lexical item with appropriate specifications. The general pattern is this: (i) the item (ii) its category (iii) the XLE tag (iv) any relevant annotation. In (55) I show our lexical representation of *hív* 'call'.

(55)
```
hív    V XLE {(^PRED)='hív <(^SUBJ) (^OBJ)>'
             | @(CONCAT (^ PRT-FORM) `# %stem %FN)
             (^ PRED)='%FN <(^SUBJ) (^OBJ)>'
             (^ CHECK _PRT-VERB)=+
             {(^ PRT-FORM) =c el | (^ PRT-FORM) =c fel}}.
```

The item is *hív*, its category is V, it has the XLE tag,[84] and it has disjunctive specification. In the first disjunct it is an ordinary transitive verb by itself. In the second disjunct we have encoded that it can be combined with either *el* or *fel*, these two preverbs[85] and it make up particle-verb constructions with them (PRT-VERB).[86] In (56) I show two examples of (nominal) tag representation in our XLE lexicon.[87]

(56)
```
a.  +Noun     N_SFX XLE  @(NSYN common)
b.  +Acc      N_SFX XLE @(UP-CASE acc)
```

[82] In the sublexical rules, all items are affixed by _BASE, to encode that they are morphological and not syntactic categories.

[83] This is a screenshot from the *hun_rules.lfg* file. In the remainder of this section, all the representations will be screenshots from our HunGram (parses and parts of rules).

[84] The XLE tag expresses that the relevant morphological information will come from (the fst of) the XLE system. If, for whatever reason, this has to be avoided, e.g. because the fst does not yield the correct or preferred morphological analysis, then instead of the XLE tag the star symbol has to be used here, and the intended morphological information must be included in the lexical form of the word.

[85] For testing purposed, we have only included these two preverbs. Obviously, in a full representation all preverbs this verb can combine with must be included.

[86] For further details, see Section 3.2 in Chapter 3.

[87] The @(…) annotations are templates, which are convenient shorthand representations for (possibly) several standard functional annotations. On the one hand, they make the life of the grammar writer easier, and, on the other hand, they make complex functionally annotated c-structure rules more comprehensible.

The sublexical rules operate in the same way as ordinary LFG style c-structure rules. This is how the grammar is capable of parsing the output of the morphological analyzer. The result is an appropriate (partial) functional structure. The important point here is that the c-structure rule component of XLE contains both syntactic and sublexical rules associated with functional information. This component and the information coming from the lexicon jointly contribute to the building of the appropriate c-structure and f-structure representations. In (54) I gave an example of sublexical rules. In (57) below I exemplify ordinary c-structure rules. This particular rule is the "top" part of the DP rule I developed for our HunGram.[88]

(57)

```
DP -->  {(DP: { (^ POSS)=!
                (! CASE)=c dat
                (^ CHECK _POSS-MORPH)=c +
              | (^ SPEC)= !
                (! NUM)=(^ NUM)
                (! CASE)=(^ CASE)
                (! PRON-TYPE)=c demon } )
          D'
        | PRON }.
```

Consider the sentence in (58)[89] and its c-structure and f-structure parse in our HunGram in Figures 14 and 15, respectively (on the next two pages).

(58)	Az	okos	fiú	fel#hív-ott	két	szép	lány-t.
	the	clever	boy.NOM	up#call-PAST.3SG.INDEF	two	pretty	girl-ACC

‘The clever boy called up two pretty girls.’

---

[88] I have simplified this rule for my current illustrative purposes. In this form, it captures the following generalizations. The Spec,DP position is optional. When it is filled, there are two options. **(i)** The dative possessor occupies it, which is encoded in the following way: (a) it has the possessor function: (^ POSS)=!, notice that in the XLE notation ^ stands for the up-arrow and ! stands for the down-arrow; (b) its case is constrained to dative; (c) it can only occur in a possessive construction, which is ensured by a CHECK feature coming from the possessive morphology of the noun head: (^ CHECK _POSS-MORPH)=c +. **(ii)** A demonstrative pronoun occupies it. (a) This is regulated by the (! PRON-TYPE)=c demon constraint. (b) It has the specifier function (a standard ParGram function). (c) Its case and number must be the same as the case and number of the entire DP, which is primarily encoded by the inflection on the noun head. And the head of the DP is D'. Alternatively, the DP rewrites as PRON. This captures the use of personal pronouns, which are assumed to be DPs in our system.

[89] When I was discussing tokenizers above, I pointed out that in standard Hungarian orthography the verb and the immediately preceding preverb are written as one word; however, in most generative analyses they are assumed to occupy two distinct syntactic positions. I indicate this discrepancy by the hash mark (#) in (58).

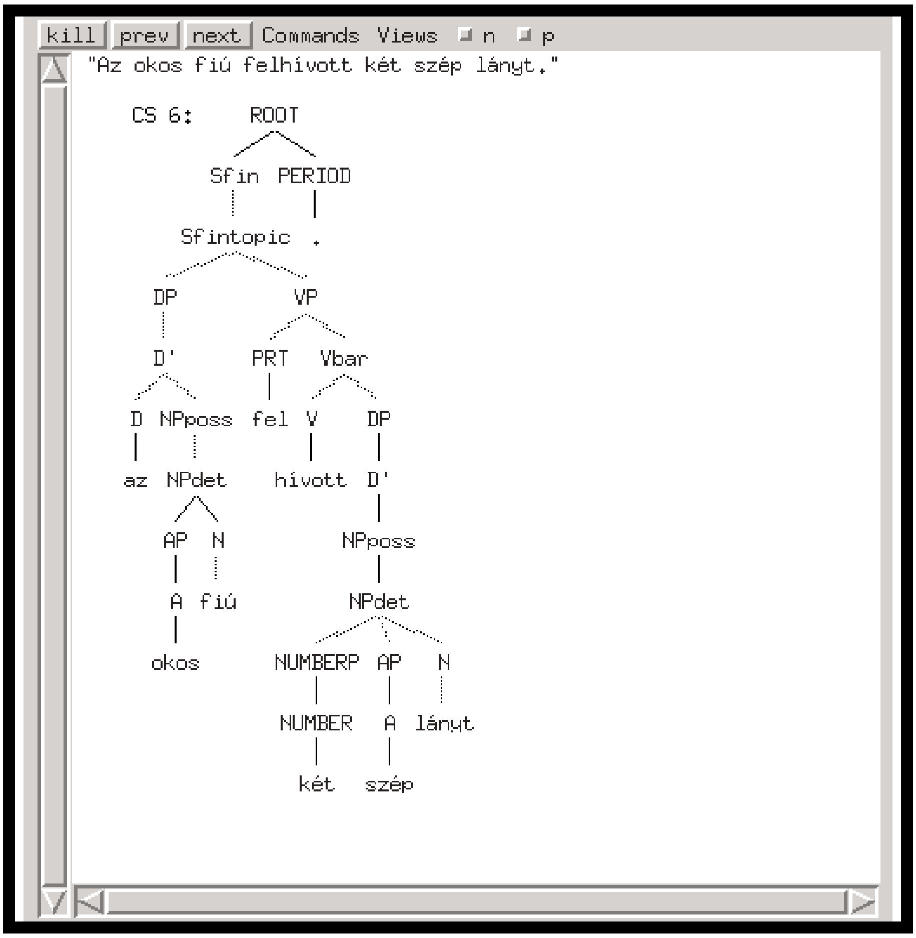


Figure 14. C-structure of (58)

Let me make three comments on this representation.

1. Punctuation marks get a separate representation.
2. XLE grammars use a whole range of specifically labeled c-structure nodes to enhance both parser and generator efficiency, which is crucial in the case of robust, large-scale grammars. For instance, Sfin = finite clause, Sfintop = finite clause containing a topic, NPposs = NP constituent (potentially) containing a nominative possessor. For more on this, see Section 2.4.3 in Chapter 2.
3. PRT is the nonprojecting category of preverbs (particles) in HunGram, just like in its English and German counterparts. For details, see Section 2.4.3.

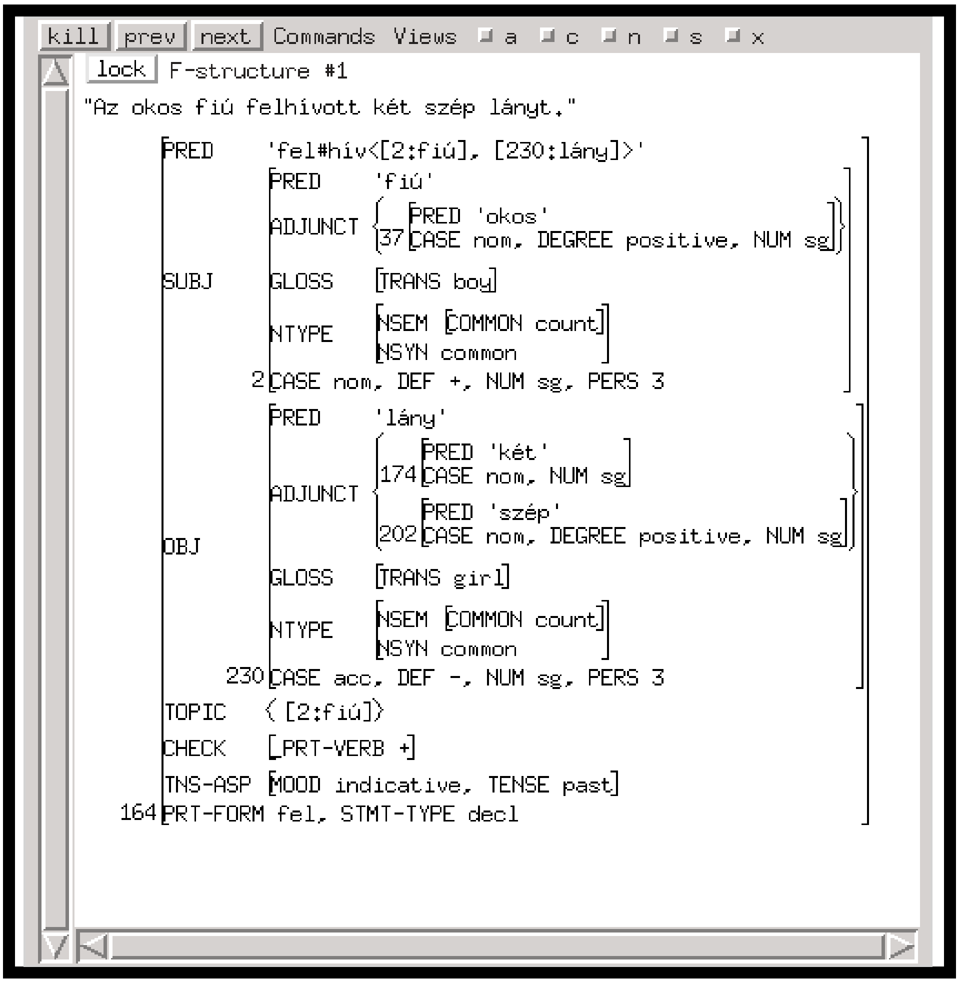


Figure 15. F-structure of (58)

Here I only comment on those aspects of this representation that will be relevant in this dissertation.

1. The hash-marked combination of words in the PRED feature (*fel#hív*) is one of the ways of representing (noncompositional) particle-verb constructions. For details, see Section 2.4.3 in Chapter 2.
2. Special CHECK features ensure that verbs and appropriate preverbs "find each other" in the syntax. These features are included in the (separate) lexical forms of verbs and preverbs, see, for instance, the lexical representation of *hív* 'call' in (55). That is why this f-structure contains the CHECK [_PRT-VERB +] line. For a detailed discussion, see Section 2.4.3.
3. It is a related aspect of the treatment of noncompositional particle-verb constructions that the preverb in them does not have a PRED feature (i.e. semantic content); instead, it only has a FORM feature, see the first part of the bottom line.
4. The subject, *a fiú* 'the boy' is also the topic of the sentence.

Finally, let me point out that by the help of a toggle key it is also possible to "call up" the sublexical structures of terminal c-structure nodes. In Figures 16 and 17, I give two examples of this: the sublexical structures of *lányt* 'girl.ACC' and *hívott* 'call.PAST.3SG.INDEF', respectively.[90] Compare these figures with Figure 14 above.

[90] Recall that the _BASE affix indicates that these categories are in the sublexical domain.

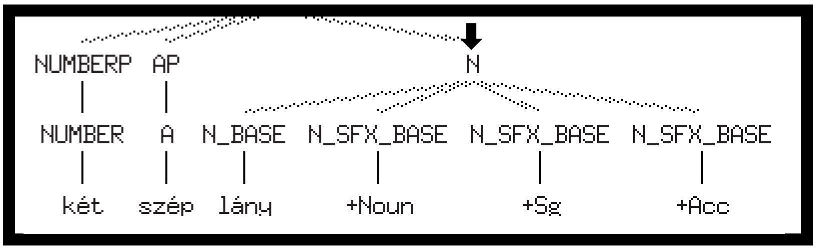


Figure 16. Sublexical structure of *lányt*

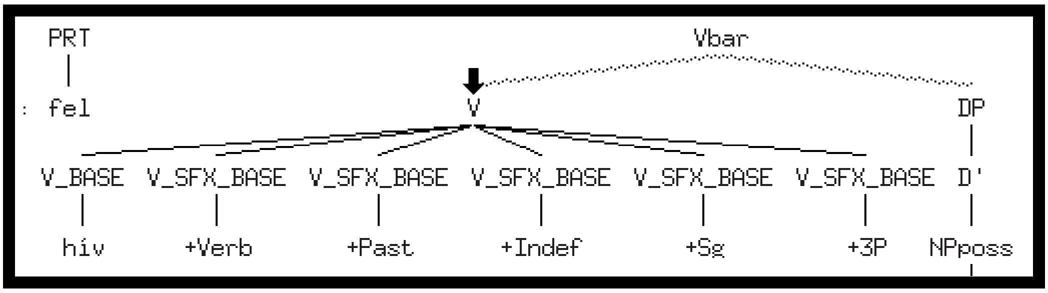


Figure 17. Sublexical structure of *hívott*

1.4. The structure and content of the dissertation

In Chapter 2, I will present the crucial aspects of an LFG (and XLE-implementable) analysis of the preverbal portion of Hungarian finite clauses. The structural representation will be largely motivated by É. Kiss (1992) and Laczkó & Rákosi (2008-2013). I will argue for S and against IP as the core sentential symbol (and I will also postulate CP). I will I employ a hierarchical, binary branching, adjunction structure for the topic field, in addition to a similar setup in the quantifier field. I will handle all the question phrases other than the question phrase immediately adjacent to the verb in multiple constituent questions as occupying VP-adjoined positions in the quantifier field.[91] I will assume that focused constituents, verbal modifiers and the (verb-adjacent) question phrase are in complementary distribution in Spec,VP.[92] In addition, I will suggest that LFG's parametric space that is potentially available to c-structure—function associations should be augmented along the following lines. (i) The Spec,VP position should be allowed to host the FOCUS discourse function. In general terms, this amounts to assuming that the specifier of a lexical category can be either a modifier or a DF. (ii) The XP in [$_S$ XP VP] can also be a topic, in addition to a subject. (iii) In cases like (ii), the VP can also contain a subject. Finally, I will discuss some basic implementational aspects of this LFG approach. In this chapter, I will only develop the essential ingredients of my LFG-XLE analysis of the preverbal domain of Hungarian finite sentences by (i) discussing the most salient nonLFG generative accounts of the relevant phenomena; (ii) positing this approach in the context of the architecture and fundamental principles of LFG. Thus, I will pave the way for working out detailed analyses of verbal modifiers, operators, negation and copula constructions in subsequent chapters (Chapters 3-6).

In Chapter 3, I will present the crucial aspects of an LFG (and XLE-implementable) analysis of the major types of Hungarian verbal modifiers. In accordance with the general approach to be outlined in Chapter 2, I will assume that focused constituents, verbal modifiers and the (verb-adjacent) question phrase are in complementary distribution in Spec,VP.

[91] I will argue for this treatment in a detailed fashion in Chapter 4.

[92] In Chapters 4 and 5, I will argue that in a particular type of predicate negation the negative particle occupies the same Spec,VP position, in complementary distribution with the other three constituent types.

Following from the main topic of this chapter and for simplicity of exposition, I will only formally model the complementarity (and interaction) of verbal modifiers (VMs) and focusing. I will show that VMs can also be focused, and, depending on their nature, they can be used to express two types of focus: identificational focus and verum focus. I will distinguish two major types of VMs: particles (= preverbs) belong to the first type, and the rest of VMs to the other type. I will treat both compositional and noncompositional particle-verb constructions (PVCs) lexically, with both the verb and particle having their respective lexical forms with appropriate functional annotations and cross-referencing (including the use of CHECK features). The particle and the verb will be analyzed as functional co-heads in both PVC types. All the other VMs, with their own grammatical functions, will be assumed to be lexically selected by their verbs in these verbs' lexical forms. Depending on the nature of the VM involved, the verb can impose various constraints on it. Finally, I will report the successful implementation of this LFG-theoretic approach on our HunGram platform.

In Chapter 4, first I will offer a detailed discussion and critique of Mycock's (2010) analysis of the Hungarian operator field, supported by her substantial experimental research. Against this background, I will present a detailed LFG-XLE analysis of eleven Hungarian construction types involving constituents in the post-topic and preverbal zone: in the $[XP,VP]_{VP}$ quantifier position and in the Spec,VP focus/VM position, concentrating on VMs, focused constituents, universal quantifiers and (multiple) 'wh'-questions. In addition to the basic structures that are analyzed in all major generative approaches to this domain of Hungarian sentence structure, I will also develop coherent accounts of some marked constructions that call for special treatments in all approaches. The most important aspects of my comprehensive analysis are as follows. In LFG's overall nonderivational, parallel-representational framework, and in the spirit of its what-you-see-is-what-you-get principle, I assume that VMs, focused constituents and (final) 'wh'-constituents compete for the same designated Spec,VP position, and I capture their complementarity by disjunctive sets of functional annotations. I also use disjunctive sets of (possibly disjunctive sets of) annotations to capture the complementarity of constituents in the $[XP,VP]_{VP}$ position. In the overwhelming majority of the constructions under investigation (universal) quantifiers and question phrases occupy this position. In addition to the regular LFG(-XLE) annotational apparatus, I make crucial use of XLE's CHECK features (both in c-structures and in lexical forms) to capture the complementarity of various constituents in a particular position, on the one hand, and to encode inevitable instances of context-sensitivity, on the other hand: certain constituents need to "see each other" from and in their respective positions. My analysis is XLE-implementable, and this has been successfully tested in the case of the syntactic behaviour of several constructions under investigation.

In Chapter 5, after presenting the basic negation facts in Hungarian and discussing some salient nonLFG generative approaches, I will propose a general LFG-XLE framework for the treatment of the fundamental types of negation by capitalizing on É. Kiss' (1992) empirical generalizations and on the key structural aspects of her GB analysis. Then I will modify and augment this LFG-XLE analysis 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 generation efficiency, I will make use of the standard XLE devices: special syntactic categories for the negative particles involved: NEG and SEM, and specifically labelled phrasal projections: YPsnem and YPsem. I will argue for using all the three modes of treating negation phenomena in the ParGram tradition in the analysis of Hungarian.

In Chapter 6, first I will present some salient approaches to the fundamental types of English copula constructions (CCs). Next, I will offer a detailed discussion of Hegedűs' (2013) MP analysis of several major Hungarian CC types. In addition, I will relate it to several MP assumptions about CCs across languages as well as to some alternative MP accounts of Hungarian CCs. Then I will develop the first comprehensive LFG analysis of the five most important types of copula constructions in Hungarian. The most significant general aspects of my approach will be as follows. (i) I subscribe to the view, advocated by Dalrymple et al. (2004) and Nordlinger & Sadler (2007), that the best LFG strategy is to examine all CCs individually and to allow for diversity and systematic variation both in c-structure and in f-structure representations across and even within languages. This means that I reject Butt et al.'s (1999a) and Attia's (2008) uniform PREDLINK approach at the f-structure level. (ii) I argue against the two-tier, open, XCOMP analysis of CCs – at least in languages like Hungarian. (iii) I employ the following analysis types: (a) single-tier, functional cohead (open); (b) double-tier, PREDLINK or OBL (closed). In this chapter, I will raise and discuss the following two general questions. (i) What are the formal-strategic differences between MP and LFG approaches? (ii) What role should be attributed to f-structure representation in the analysis of various CC types in LFG? The essence of my answers will be as follows. (i) Given the architectures, principles and assumptions of the two theories, they seriously constrain the analytical strategies available in general and in the treatment of CCs in particular. All MP approaches employ a complex syntactic apparatus. They assume a uniform invariant initial structure and they derive the various CC types by dint of several syntactic operations. By contrast, in LFG no such syntactic operations are possible; consequently, a lexical treatment is needed. From this it automatically follows that the partially different behaviours of CCs have to be captured by assuming several appropriate lexical forms for BE in which we encode their respective syntactic properties. (ii) As I have already pointed out at the beginning of this paragraph, I will argue for the type of approach in the LFG framework that, on the one hand, employs several distinct lexical forms of BE (with different argument structures), and, on the other hand, partially following from this, assumes that the f-structures of various CC types are different, which contrasts with the alternative view that postulates a uniform f-structure.

In the final chapter, Chapter 7, I will reiterate the most important concluding remarks from Chapters 2-6, including the discussion of open questions, supplemented with the identification of further important and related research avenues.

Chapter 2. The basic structure of Hungarian finite clauses

In this chapter, first I give an overview of the most salient previous generative approaches to the structure of simple finite sentences in Hungarian (Section 2.1). Next, I present LFG's most important principles of c-structure representation in general and sentence structure analysis in particular (Section 2.2). After this, I discuss previous LFG and LFG-compatible, i.e. Optimality Theoretic (OT), views of Hungarian sentence structure (Section 2.3). Then I develop my account by arguing against an LFG-style (endocentric) IP treatment of Hungarian sentences and for their (exocentric) S treatment (Section 2.4). Finally, I make some general and implementational concluding remarks (Section 2.5).

2.1. On previous generative approaches to Hungarian sentence structure

In this section,[1] first I present what I consider the most important types of GB/MP analyses by concentrating, for the most part, on those aspects that are relevant from the perspective of my LFG approach to be developed in this dissertation (Section 2.1.1). Then in Sections 2.1.2 and 2.1.3, I summarize the most important properties of two lexicalist models, GASG and HPSG, capitalizing on Sections 1.2.5 and 1.2.6 in Chapter 1, respectively.

Consider the sentences in (1)-(3), illustrating the most salient word order properties of Hungarian finite clauses, schematically presented in Table 1.[2]

(1)

János	*szerencsére*	*minden*	*könyv-et*	*oda*	*adott*
John.NOM	luckily	every	book-ACC	VM	gave

Mari-nak	*a*	*könyvtár-ban.*
Mary-DAT	the	library-in

'Luckily, John gave every book to Mary in the library.'

(2)

Szerencsére	*János*	*minden*	*könyv-et*	*MARI-NAK*	*adott*
luckily	John.NOM	every	book-ACC	Mary-DAT	gave

(oda)	*a*	*könyvtár-ban*	*(oda).*
VM	the	library-in	VM

'Luckily, it was to Mary that John gave every book in the library.'

(3)

Szerencsére	*János*	*minden*	*könyv-et*	*(*oda)*	*MARI-NAK*
luckily	John.NOM	every	book-ACC	VM	Mary-DAT

*(*oda)*	*adott*	*a*	*könyvtár-ban.*
VM	gave	the	library-in

'Luckily, it was to Mary that John gave every book in the library.'

[1] This section and the next are considerably modified and largely extended versions of the relevant sections of Laczkó (2014a) and Laczkó (2014d).

[2] Focused constituents are indicated by SMALLCAPS in these examples, see *MARINAK* 'to Mary' (2) and (3). VM stands for verbal modifier. This is a standardly used cover term for a range of radically different categories sharing the syntactic property of occupying the immediately preverbal position in neutral sentences. The standard description of a neutral sentence is that it does not contain negation or focus, it is not a 'wh'-question, and it has level prosody. Particles (also known as preverbs or coverbs), bare nouns, designated XP arguments, etc. are assumed to be VMs. In (1)-(3) the VM is a particle: *oda* 'to.there'. For a detailed discussion and my LFG-XLE analysis of VMs, see Chapter 3.

TOPIC	PREDICATE				
(A) (contrastive) topic, sentence adverb	(B) quantifier	(C) focus/VM		(D) verb	(E) postverbal constituents
		(Ca) focus	(Cb) VM		

Table 1. Hungarian sentence articulation

The examples in (1)-(3) and Table 1 illustrate the following well-known facts and basic empirical generalizations about Hungarian sentence structure.

(i) The fundamental sentence articulation is topic-predicate, see Table 1.
(ii) In the topic field, the ordering of topics and sentence adverbs is free, see (1) and (2).[3]
(iii) Basically, the word order of postverbal elements is also free, see (2).[4]
(iv) If a preverbal quantifier is present in the sentence, it follows the topic field and it is the initial constituent in the predicate domain, see (1)-(3).[5]
(v) The VM and the focus are in complementary distribution preverbally, see (3). The VM *oda* 'to.there' can neither precede nor follow the focus constituent in the preverbal domain.

As regards capturing the complementarity of the focus and the VM, the two salient solutions are illustrated in the split (C) sections. When I discuss various approaches below, the choice between the two solutions will be a crucial issue.

[3] I use the terms *topic* and *focus* in the following way. In general, I consider both of them discourse functional categories to be consistently represented at the level of LFG's d-structure (discourse functional structure) or i-structure (information structure), depending on the actual LFG architecture. My preference is the latter, that is, i-structure. In the case of topics (and contrastive topics), in my analysis there are no (exclusively) designated syntactic positions for them, because they intermingle with sentence adverbs in the "topic field". In the case of foci, here I only concentrate on the encoding of the famous preverbal focus, which is generally assumed to belong to the contrastive and exhaustive type. It is also often called identificational focus (with exclusion, meaning that it identifies a certain member or certain members of a particular set by, at the same time, excluding all the other members of the set).

There can be several topics in a sentence, and they can have a whole range of grammatical functions. It is also noteworthy that in some highly influential earlier GB analyses contrastive topics (with a special intonation pattern and a distinctive (narrow) scope interpretation) were treated as left-dislocated constituents separated from the rest of sentence structure, see É. Kiss (1992), for instance, to be discussed below. The current general view (with strong empirical support) is that ordinary topics and contrastive topics freely intermingle; thus, they and sentence adverbs populate the same topic field, see É. Kiss (2002), for instance.

[4] Although constituents that typically have reduced stress (e.g. particles and pronouns) and less-heavy constituents tend to occur closer to the verb than heavier constituents. Consider the following quote from É. Kiss (2009a): ".[…] the postverbal part of the sentence can be linearized freely, subject to Behaghel's Law of Growing Constituents (1932), ordering constituents according to their phonological weight" (2009a: 25). Thus, although both word orders are grammatical in (2), the version in which the VM precedes the *a könyvtárban* 'in the library' constituent is quite strongly preferred. Also, the postverbal order of the constituents in (1) sounds more natural than the other variant, in which *a könyvtárban* 'in the library' would precede *Marinak* 'to Mary'. Moreover, in this case the word order preference is reinforced by the fact that the phonologically lighter constituent is an argument of the verb, whereas the heavier constituent is an adjunct.

[5] There can be several constituents in the quantifier field as well, and the order of the three major quantifier types is strictly constrained. For instance, Kálmán (2001) makes the following empirical generalization about the types of quantifiers and their ordering.

(i)

IS 'also' POSITION	*MINDEN* 'every(thing)' FIELD	*SOK* 'many' POSITION

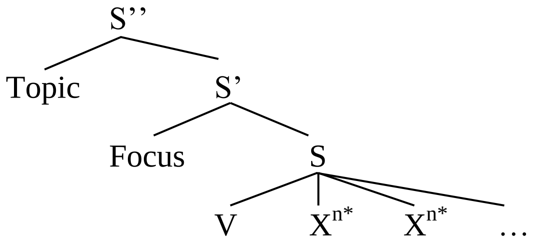
The particle *is* 'also' cliticizes to the right edge of a constituent. Only one *is*-phrase can precede the verb. The *minden* 'every(thing)' field can accommodate more than one universal quantifier. There is a single additional position hosting constituents containing quantifiers like *sok* 'many'. (ii) illustrates this distribution.

(ii) *János is minden könyv-et sokszor oda adott Mari-nak.*
John.NOM also every book-ACC many_times VM gave Mary-DAT
John, too, gave every book to Mary many times.'

2.1.1. GB and MP approaches

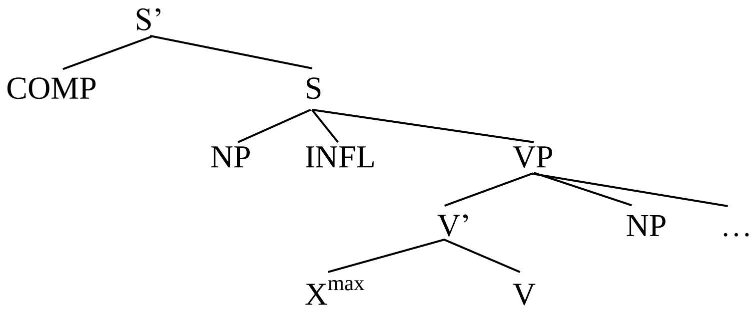
É. Kiss (1981) proposes the following nonconfigurational flat sentence structure for Hungarian.[6]

(4)



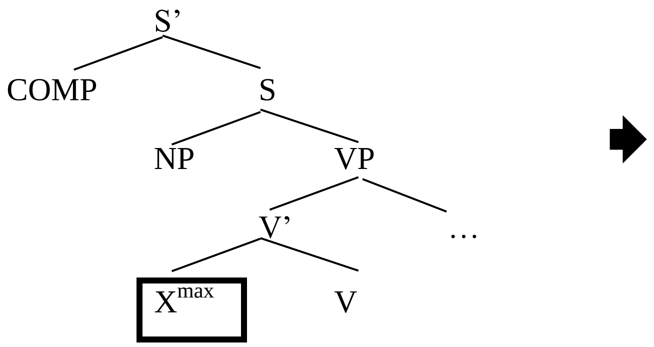
By contrast, Horvath (1986) argues that basically Hungarian is an SVO language like English with a major difference: in Hungarian there is an immediately preverbal position for one designated base-generated complement (roughly: for a VM). Consider her structure of neutral sentences with VMs, i.e. designated arguments of the verb (1986: 64).

(5)



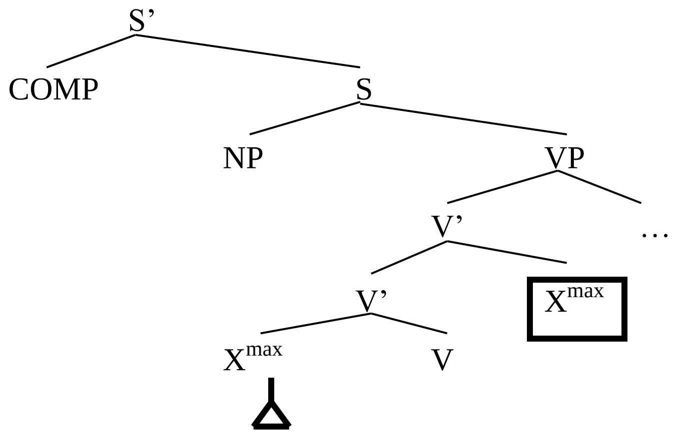
In addition, she assumes that these designated complements (VMs) are postposed, more precisely: right adjoined to V', when there is Wh- or FOCUS-movement into that position, see (6), (1986: 73), which is a rather marked aspect of the analysis, given the standard assumptions about movement in GB.

(6a)



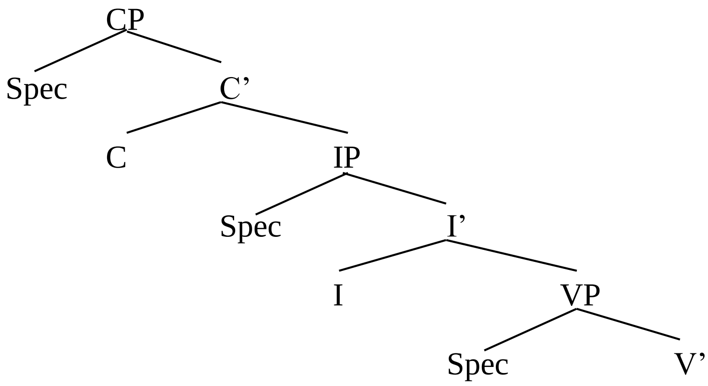
[6] This structure, although it does not even contain a VP constituent, can be taken to be an important predecessor of É. Kiss' (1992) seminal GB analysis.

(6b)



Marácz (1989) criticizes both É. Kiss' (1981) analysis in (4) and Horvath's (1986) configurational structure in (5), and he postulates the following configurational structure, with an underlying SOV order.

(7)



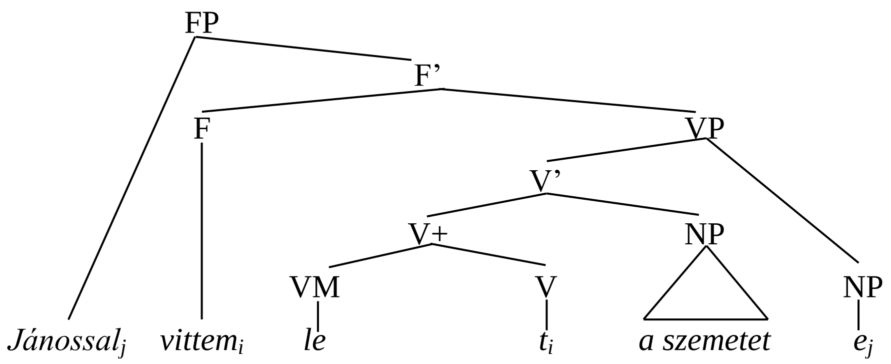
In this approach, V raises to C, and Focus/'Wh' constituents move to Spec,CP.

Brody (1990) assumes a sentence structure in which the VM and the focus constituent are in two distinct preverbal positions. The essence of his approach is that in neutral sentences the VM is base-generated to the left of the verb and they make up a V+ unit. In a nonneutral sentence, a functional projection (FP) is generated above the VP, the projection dominating the VM + V sequence. The VM occupies a preverbal position within the VP, then the V head is moved into the F head position and the focused constituent lands in Spec,FP. Thus, the preverbal complementary distributional behaviour of the VM and the focus is captured by postulating two designated positions and V-to-F head movement, which also takes care of the postverbal occurrence of the VM in the presence of a focused constituent. Consider (8b), Brody's (1990) analysis of the sentence in (8a).[7]

(8)	a.	*JÁNOS-SAL*	*vi-ttem*	*le*	*a*	*szemet-et.*
		John-with	took-PAST.1SG	down	the	rubbish-ACC
		'I took down the rubbish with JOHN.'				

[7] For this approach recast in the framework of MP's Checking Theory, see Brody (1995).

b.

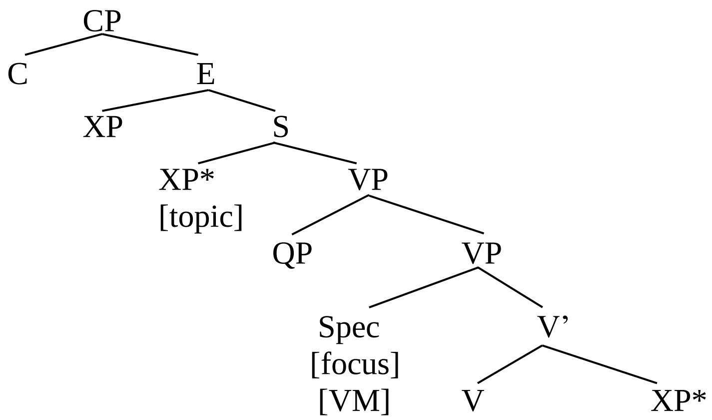


One of the most frequent critical remarks on this account has been that V+ seems to have the status of a complex head,[8] whereas the VM is phrasal in nature: there are cases when it is moved to higher phrasal positions.[9]

The typical functional projection assumed for hosting focused constituents in the GB/MP setting is F(oc)P. However, Kenesei (1992) and Horvath (1995) posit the focused constituent in Spec,IP,[10] and É. Kiss’ (1992) extremely influential GB approach assumes that foci and VMs are in complementary distribution in Spec,VP, see her structure in (9).

As regards the treatment of topics, contrastive topics and sentence adverbials, É. Kiss (1992) assumes that topics and sentence adverbials are in a flat structural field dominated by an S node, while contrastive topics are left-dislocated elements outside the S domain, dominated by an E(xpression) node (and they are base-generated there), and this entire E constituent is, in turn, dominated by CP.

(9)



Fundamentally, É. Kiss (1994a) adopts this approach with two significant modifications that are relevant from our present perspective. (A) She replaces the exocentric S node with TP (Tense Phrase). (B) She assumes that if the sentence contains only one topic then this constituent occupies the Spec,TP position, and if there is more than one topic, the additional topics are iteratively adjoined to TP.

[8] It is worth pointing out that É. Kiss (1999) explicitly argues for the head movement of VMs to V^0.

[9] Notice that the similarity between Horvath’s (1986) approach and Brody’s (1990) is that both base-generate the VM to the left of the verb. They differ in two respects: (i) the former assumes a phrasal position for the VM; and (ii) it accounts for the VM vs. focus complementarity by postulating that they target the same position: focus practically and physically ousts the VM from the preverbal position. By contrast, in the latter (i) the VM is more like an element in an incorporated position (from which it has to “excorporate” when necessary); and (ii) the VM and the focus target distinct syntactic positions, and the complementary distribution effect is achieved by V-to-F movement.

[10] For Horvath’s (2013) special projection, see below.

É. Kiss' (1992) seminal GB account also strongly motivated important parts of our implemented Hungarian grammar, Laczkó & Rákosi (2008-2013), on which my approach outlined in Laczkó (2014a) and to be presented in this chapter heavily relies. It is noteworthy that É. Kiss' (1992) analysis has the following important unorthodox aspects to it from the standard GB perspective.

a) It postulates an exocentric sentence structure, dominated by S.[11,12]
b) There are flat (nonbinary-branching) parts of the structure, dominated by S and V'.
c) It does not employ an FP projection (focus or functional phrase).

As I will argue in Section 2.4.2, all these marked features can be accommodated in an LFG framework in a natural and principled fashion.

There is an insurmountable problem with É. Kiss' (1992) approach (insufficiently and incompletely addressed in that work): she is forced by her system to assume that *all* constituents moved into Spec,VP are focused constituents, because their movement from their postverbal base-generated positions below V' is triggered by their need (either inherently or driven by discourse requirements) to acquire the focus [+F] feature from the verb in Spec,VP. It is easy to see that this makes the treatment of ordinary VMs in neutral sentences empirically and intuitively implausible.[13]

É. Kiss (1992, 1994a) treats (preverbal) quantifiers as constituents adjoined to VP, which is, basically, a Hungarian style, overt manifestation of GB's famous Q-Raising operation. (If there is more than one preverbal quantifier in the sentence, they are iteratively adjoined to VP.) Later on, more in the spirit of MP, it was generally assumed that quantifiers, too, have their own functional projections, see, for instance Szabolcsi (1997) and Brody & Szabolcsi (2003). É. Kiss (2002) also subscribes to this view, and, motivated by Szabolcsi (1997), she assumes that quantifiers sit in the specifier position of the DistP functional projection. Dist is short for 'distributive', and the rationale behind this label is that quantifiers occurring in this position obligatorily have a distributive interpretation. É. Kiss (2002), in accordance with the mainstream MP view, also assumes that both topics and sentence adverbials have their own functional projections: TopP and EvalP, respectively. In addition, despite their differential prosodic, categorial and scopal properties, É. Kiss claims that what are called "contrastive topics" simply belong to the general class of ordinary topics. As regards the treatment of VMs and foci, in a sense, É. Kiss (2002) proposes an interesting "in-between" solution. She assumes a verb-initial, flat VP and generates either of the following two functional projections above it: AspP and FP. In the former case, the VM is moved into Spec,AspP, which results in a VM + V sequence. In the latter case, the constituent to be focused lands in Spec,FP, forcing the VM to remain in its base-generated position. I think that this is an in-between solution for the following reason. In both cases, there is a single position preceding the verb; however, these designated positions are in two different "dimensions", they cannot co-occur. In other words, in the relevant, crucial respect É. Kiss postulates two distinct syntactic structures for neutral and focused sentences.

Surányi's (2011) (noncartographic) interface model is highly relevant for this dissertation not only with respect to its treatment of sentence structure and the VM–focus relationship, the major issues in this chapter, but also with respect to its relation to universal quantifiers (which is relevant for Chapter 4 in this dissertation) and negation (which is relevant for Chapter 5).

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[11] The postulation of an additional exocentric E node is unorthodox even in generative frameworks outside the Chomskyan mainstream.

[12] É. Kiss (1994a) is one degree less unorthodox in that instead of S it uses the endocentric TP projection.

[13] In Laczkó (2014b) I discuss various types of VMs which can unquestionably occur in neutral sentences without any focus stress and interpretation.

In contrast to the cartographic tradition,[14] Surányi dispenses with the focus functional projection (FP) and other syntax-internal devices for handling focus, and assumes that overt or covert identificational movement is governed by the interaction of (A) certain general properties of grammar such as (i) theory of movement (ii) Stress-Focus Correspondence (iii) economy; and (B) certain parametric properties of the Hungarian language such as (i) the left-headedness of the intonational phrase (ii) the EPP property of the category T(ense). In his analysis, VMs and focused constituents are assumed to be in complementary distribution. They target the Spec,TP position to satisfy the EPP. To begin with, consider Surányi's analysis of a neutral sentence containing a VM in (10), (2011: 181).[15]

(10) a. [$_{TP}$ XP$_{VM}$ [$_{T}$ V] [$_{AspP}$ ~~XP$_{VM}$~~ [$_{Asp}$ ~~V~~] […]]]
b. [$_{TP}$ *El* [$_{T}$ *küldte*] [$_{AspP}$ ~~*el*$_{VM}$~~ [$_{Asp}$ ~~*küldte*~~] […]]]
El küldte János a level-et Mari-nak.
PRT sent.3SG John.NOM the letter-ACC Mary-to
'John sent the letter to Mary.'

In the course of the derivation, both the verb and the VM pass through the AspP, which is below TP. T has the "EPP" property, which cannot merely be satisfied by the movement of the verb to T. In addition to this, the constituent from the specifier position of the next lower projection has to be raised to Spec,TP, as schematized in (10a) and exemplified in (10b).

Surányi assumes that the clausal negation particle is a phrasal category in Hungarian,[16] and in neutral sentences it immediately precedes the finite verb, just like VMs. Surányi does not assume a NegP functional projection (and V-to-Neg movement as a consequence). Instead, he claims that sentential negation is merged at the left periphery of TP. In particular, it can fill a specifier position of TP, and thereby it can satisfy the "EPP" feature of T (just like a VM). From this it follows that in such a configuration the VM cannot raise to Spec,TP. Compare (11) with (10).

(11) a. [$_{TP}$ NEG [$_{T}$ V] [$_{AspP}$ XP$_{VM}$ [$_{Asp}$ ~~V~~] […]]]
b. *Nem küldte el a level-et.*
not sent.3SG PRT the letter-ACC
'He didn't send the letter.'

Surányi goes on to assume that id-focus also targets the same Spec,TP position as sentential negation and VMs, also capable of satisfying T's EPP requirement, which is empirically supported by the preverbal complementarity of the three elements: the VM cannot occur preverbally in the presence of the id-focus, see (12) and (13).

(12) [$_{TP}$ FOC$_{ident}$ [$_{T}$ V] [$_{AspP}$ XP$_{VM}$ [$_{Asp}$ ~~V~~] […]]]

(13) *[$_{TP}$ FOC$_{ident}$ [$_{T'}$ XP$_{VM}$] [$_{T}$ V] [$_{AspP}$ ~~XP$_{VM}$~~ [$_{Asp}$ ~~V~~] […]]]
**A CIKK-ET el küldte János.*
the paper-ACC PRT sent.3SG John.NOM
'It's the PAPER that John sent.'

[14] I briefly compared the cartographic and noncartographic approaches in MP in Section 1.2.4 in Chapter 1.
[15] I keep his representations and examples intact.
[16] See Surányi (2003) for details.

Surányi emphasizes the fact that although he assumes that id-focus can satisfy the "EPP" feature of T, he does not assume that the movement of id-focus is actually triggered by that feature. Instead, it is triggered by its semantics: it must occupy that position because it is an identificational predicate. This movement to Spec,TP must be overt, because that is how the corresponding phonological requirement, the Stress-Focus Correspondence can be satisfied.[17]

Surányi claims that in his approach from the fact that the overt movement of id-focus to the left edge of the TP is fundamentally triggered by semantic and phonological factors (and not by the EPP satisfaction requirement)[18] it follows that NEG can be base-generated in Spec,TP, thereby satisfying the EPP, and id-focus can (or, rather, must) move to the outer specifier of TP, see (14).

(14)	[$_{TP}$ FOC$_{ident}$	[$_{T'}$ NEG]	[$_{T}$ V]	[$_{AspP}$ ~~XP$_{VM}$~~	[$_{Asp}$ ~~V~~]	[…]]]
	A CIKK-ET	*nem*	*küldte*	*el.*		
	the paper-ACC	not	sent.3SG	PRT		

‘It's the paper that he did not send.’

When NEG precedes a focused constituent, Surányi assumes that the latter is in Spec,TP and the former is left-adjoined to TP, see (15).

(15)	[$_{TP}$ NEG	[$_{TP}$ FOC$_{ident}$	[$_{T}$ V]	[$_{AspP}$ XP$_{VM}$	[$_{Asp}$ ~~V~~]	[…]]]
	Nem	*A CIKK-ET*	*küldte*	*el.*		
	not	the paper-ACC	sent.3SG	PRT		

‘It's not the paper that he sent.’

His evidence for the possibility of adjoining NEG to TP is the fact that NEG can also precede the TP in a neutral sentence in which a VM occupies the Spec,TP position, see (16).

(16)	*Nem*	*el*	*küldte*	*a*	*cikk-et*	*(hanem*	*meg*
	not	PRT	sent.3SG	the	the paper-ACC	but	PRT
	írta	*a*	*jelentés-t).*				
	wrote.3SG	the	report-ACC				

‘He did not send the paper, but wrote up the report instead.’

He remarks that this NEG adjunct does not simply negate a proposition; it also expresses a contrast that may be implicit or explicit, see the bracketed continuation of the sentence in (16). Surányi claims that the same generalization holds for the focused version in (15). In a footnote he mentions that (16) can also be taken to involve an instance of pars pro toto focus movement of the VM constituent,[19] in which case the example in (16) calls for the same analysis as (15). Surányi comments that in the constructions in (15) and (16) the negation adjunct does not receive main prominence: for phonological purposes the "core" TP (without adjuncts) counts as the relevant i-phrase; thus, the constituent in its specifier position is its left edge. The negation adjunct obligatorily receives pre-nuclear stress in (16), and in (15) this is one of the two options. In this case NEG has either pre-nuclear or nuclear stress, just like (universal) quantifiers in this TP-adjoined position. Surányi's explanation for NEG possibly getting nuclear stress is as follows. These quantifiers are ordinary foci, that is why they have nuclear stress. When such a TP-adjoined quantifier is followed by id-focus in Spec,TP, the

[17] A focus constituent contains the prosodically most prominent syllable in its domain (Surányi 2011: 177). The movement makes possible the avoidance of a more costly operation: stress shift.

[18] However, it *can* satisfy the EPP if there is no other element in Spec,TP.

[19] On this notion, see Fanselow (2004). On this movement type in Hungarian, see Kenesei (1998).

former has main prominence because it is (ordinary) focus, and the latter also has main prominence because it is id-focus in the specifier of the “core” TP. Given that the id-focus is in the domain of the ordinary focus, its stress is reduced relative to the stress of the ordinary focus. Surányi claims that NEG in the TP-adjoined position followed by id-focus in Spec,TP can optionally have the same ordinary focus status and prominence as a quantifier, see (15). He does not raise (and, thus, does not answer) the question of why this ordinary focus status and prominence is not available to NEG when it precedes a VM in Spec,TP in a neutral sentence, see (16).

Surányi points out and exemplifies in a footnote that (inner) Spec,TP negation and TP-adjoined negation can co-occur, see (17) and (18).

(17)	*Nem*	*nem*	*emailezte*	*el.*
	not	not	emailed.3SG	PRT
	‘He didn’t not email it.’			

(18)	*Nem*	*A CIKK-ET*	*nem*	*emailezte*	*el.*
	not	the paper-ACC	not	emailed.3SG	PRT
	‘It’s not the paper that he did not email.’				

Broekhuis & Hegedűs (2009) also assume that foci and VMs are in complementary distribution. They are moved into the preverbal position, and the trigger of the movement is phonological: the verb needs to be unstressed and the preverbal position is stressed. Obviously, there is only one such preverbal position,[20] so the two potential occupant categories are in complementary distribution.[21]

In this context it is noteworthy that É. Kiss (2002), on solid cartographic MP grounds, argues against collapsing focused and VM constituents,[22] because this would make it impossible to associate an invariant interpretation with a single syntactic position (2002: 83). Again, as I claim several times in this dissertation, it is one of the strengths of the architecture and assumptions of LFG that this can be carried out in a principled manner. Also note that Surányi’s approach is also flexible in this respect in a principled fashion.

As regards the triggers of the movement of an ordinary or ‘wh’ focused constituent into the designated preverbal A-bar focus position (whether in a GB model or in MP’s Checking Theory), the most typically assumed features are as follows: [+foc], [+wh], [+id], and [+exh].[23] As I pointed out above, the “host projection” is very often the FocP functional category, but not necessarily. Other functional (or nonfunctional) categories can also be involved, e.g. CP, IP, TP or VP. It is interesting in this respect that Horvath (2007) uses the special merger of the latter two features in such a way that she introduces the categories of EIP clausal functional projection and EI-OpP.[24] Consider their positions in her Hungarian sentence structure.[25]

[20] Irrespective of the question of which head position the verb occupies in the given configuration.

[21] For an alternative stress-driven approach to focus movement, see Szendrői (2001, 2003, 2004).

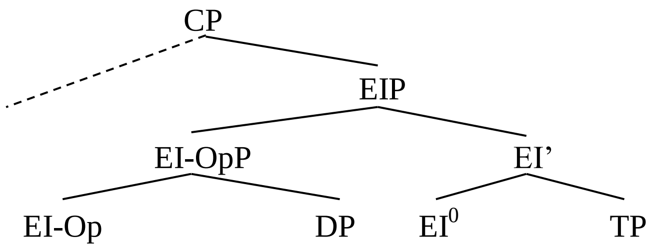
[22] Thus, she also argues against her previous analysis in É. Kiss (1992) implicitly.

[23] [id] = identificational, [exh] = exhaustive.

[24] EI-Op(P) = Exhaustive Identification Operator (Phrase).

[25] In Horvath (2013) she analyzes Hungarian ‘wh’-questions in this structural setup by employing [EI] and [Q] features. She assumes that EI-Op always carries the former feature, and additionally it can also bear the latter.

(19)



From the perspective of this dissertation, É. Kiss' (1994b) discussion of foci in Spec,VP is especially significant. She uses the following two examples (1994b: 132).[26]

(20) a. [$_{VP}$ *JÁNOS* [$_{V'}$ *ette meg a süteményt*]]
John ate PERF the cookie
'JOHN ate the cookie.'

b. [$_{VP}$ *Egy 'autó* [$_{V'}$ *állt meg a ház előtt*]]
a car stopped PERF the house in-front-of
'A car stopped in front of the house.'

É. Kiss makes the following observations.

> Whereas (20a) can only be used as an answer to the question *Who ate the cookie?*, (20b) can also answer the question *What happened?*. While (20a) expresses identification with exclusion, (20b) expresses identification only. (In fact, (20b) is ambiguous: it could also be an answer to *What stopped I front of our house?*, or its focus could be set into a contrast; that is, it is also capable of expressing identification with exclusion.) […] The focus of (20a) is interpreted contrastively because it is assumed that the situation described in the sentence involves a closed set of persons who were in the position of being capable of eating the given cookie. […] In the case of (20b), it is very likely that there is no closed set of relevant entities in the domain of discourse that could have performed the act of stopping in front of the house. The set being open […], the identification operation performed by the focus operator does not go together with an exclusion operation; so no contrast is implied (1994b: 132-133).

These assumptions by É. Kiss are important from my perspective because they present a finer-grained picture of the nature of Hungarian preverbal focus, contrary to the rather widely and firmly held view in the relevant GB/MP literature to the effect that this designated focus position is strongly associated with contrastivity/exhaustivity/exclusion (in addition to identification). For my view in an LFG setting, see Chapter 7.

As regards the treatment of VMs, I pointed out above that there were some earlier GB approaches that assumed that VMs were base-generated preverbally, see Horvath (1986) and Brody (1990), for instance. Fundamentally, since É. Kiss' (1992) seminal approach it has been assumed that VMs are complements of the verb and they are base-generated postverbally, and they move into a preverbal position. Analyses widely differ in two respects: (i) what triggers/motivates this movement; and (ii) what is the phrasal category for the landing site. Let me only highlight some salient GB/MP solutions. É. Kiss (1992, 1994a) assumes that the landing site is Spec,VP, just like for ordinary focused constituents, and the trigger is the focus feature [+F]. I will point out several times in this dissertation that this uniform focus

[26] I keep the format, the glossing and the translations of these examples intact. Her example number is (59a,b).

treatment of all elements ending up in Spec,VP, including all (clearly) nonfocused VMs is a serious shortcoming of É. Kiss' (1992, 1994a) approach.[27] É. Kiss (2002) separates foci and VMs in such a way that she assumes that the former end up in Spec,FocP and the latter land in Spec,AspP, determining the aspectual properties of the sentence.[28] Obviously, the movement of VMs to Spec,AspP is triggered by their aspect-marking potential: they are perfectivizers. However, É. Kiss (2004) makes this VM picture more sophisticated: VMs in general are secondary predicates, and some of them are aspectualizers (those expressing goal or termination can encode telicity in the designated position). Csirmaz (2006) and É. Kiss (2006b) also subscribe to this view: AspP hosts VMs that are telicizers, and PredP hosts all VMs, because all of them are predicative in nature.[29]

É. Kiss (2006b) augments the predicative analysis of VMs so as to cover focusing as well. The fundamental idea is that VMs and focus compete for the preverbal position because focus is also an instantiation of predication: identificational predication.[30]

Broekhuis & Hegedűs (2009) propose an alternative analysis of predicative movement, based on Broekhuis' (2008) analysis of locative inversion in terms of movement of Small Clause predicates. The central idea is as follows. Predicate movement in Hungarian is triggered by the ϕ-features on the verb. The landing site is Spec,VP, and the goal is to establish object-agreement. This agreement could be established at a distance. However, there is an additional requirement to the effect that the finite verb should be unstressed (which is expressed as an OT-constraint). This requirement triggers movement, which overrules long-distance agree. Hegedűs (2013) adopts the crucial ingredients of these previous analyses, but she goes further in a uniform Small-Clause-based approach, and she identifies predicate movement into a preverbal position as movement for the sake of complex predicate formation, by capitalizing on the assumption that VMs are secondary predicates.

Below I summarize, in a tabular format, the crucial aspects various analyses of the relationship between foci and VMs at different stages of the development of the GB/MP line of generative investigation.[31,32]

É. Kiss (1981)	[XP,S']
Horvath (1986)	[XP,V']
Marácz (1989)	[XP,CP]

Table 2. By now untenable (general) GB assumptions about the position of focus in Hungarian

[27] Already in this approach, the aspectual (perfectivizing) role of preverbs is also assumed.

[28] Thus, the AspP functional projection even categorially encodes a semantic property of the sentence.

[29] All these analyses adopt Zwart's (1993) and Koster's (1994) analyses of similar phenomena in Dutch. They employ the PredP projection for hosting predicative elements and attracting the verb to Pred^0.

[30] This goes back to Higgins' (1979) claim that focus movement is predicate movement.

[31] I have tried to use (change) category labels in a way that should make the comparisons of the essential aspects of the analyses easier. I have also included some aspects, for completeness' sake, which were only implied by, or inferred from, the general features of the analysis in question.

[32] On Szendrői's (2001, 2003) and Hunyadi's (1996, 1999, 2002) prosody-driven approach to focusing and scope-taking in Hungarian, see Chapter 4.

	focused constituent	**verbal modifier**	**remarks**
É. Kiss (1992)	complementary distribution in a single position Spec,VP		a major problem: ordinary VMs in neutral clauses assumed to have the [+focus] feature
Brody (1990)	Spec,FocP	[VM,V+]	the co-head- / X^0-like status of VM is problematic, base-generation ⇔ É. Kiss (1999): head-movement analysis of VMs to V^0
É. Kiss (2002)	complementary distribution of alternative functional projections		a special in-between solution to the complementarity issue: the preverbal position is the same and not the same
	Spec,FocP	Spec,AspP	
É. Kiss (2004), Csirmaz (2004, 2006)	Spec,FocP	Spec,AspP + Spec,PredP	VM: aspect encoding + complex predicate formation
É. Kiss (2006b)	special complementary distribution in two extended v*P projections Spec,FocP and Spec,PredP		rationale: id-focus is also predicational
Surányi (2011)	partial complementary distribution (also involving NEG) in a single position Spec,TP		VM: aspectual Spec,TP: EPP satisfied by id-focus / VM / NEG
	Spec,TP	Spec,AspP (possibly) → Spec,TP	
Hegedűs (2013)	Spec,FocP	Spec,VP	VM: complex predicate formation, feature-checking and stress-avoidance by the verb, see Broekhuis & Hegedűs (2009)

Table 3. Some GB/MP treatments of VMs and foci

2.1.2. GASG

As I pointed out in Section 1.2.5 in Chapter 1, GASG has been designed to be a fully lexical, morpheme-based grammar. It even dispenses with syntactic phrase structure representation. Instead, it captures the word order properties of sentences within and across languages by OT-style ranking parameters. For further details of the architecture and principles of the theory and for references, see Section 1.2.5. Here I only show Szilágyi's (2008: 181) analysis of a sentence with a focused constituent again. See Figure 4 from Section 1.2.5, repeated as Figure 1 below.

Péter	egy	’tortá-t	hozott	be	a	szobá-ba.
Peter.NOM	a	cake-ACC	brought.3SG	in	the	room-into

‘Peter brought a cake in the room.’

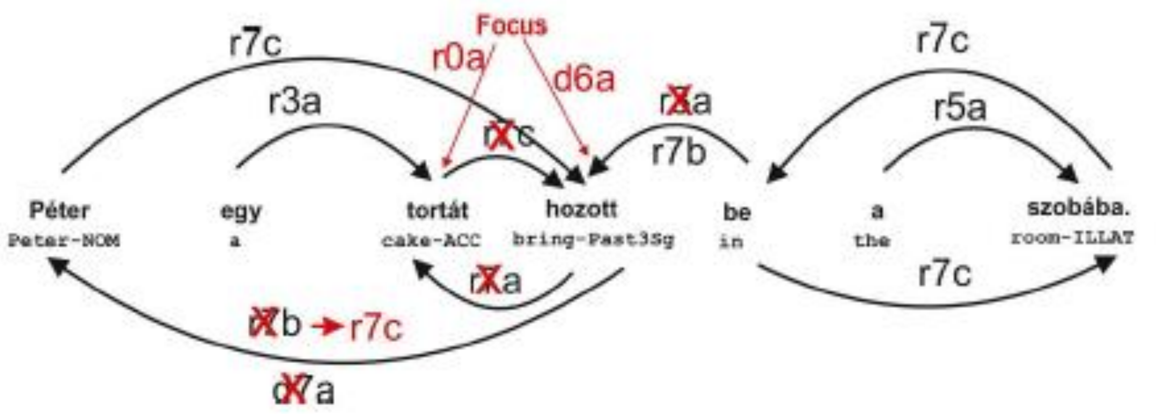


Figure 1. Parsing process in Szilágyi (2008)

Recall that the word order ranking parameters are such that a VM must immediate precede the verb in neutral sentences, because it has a stronger (i.e. lower) rank number than other complements (or adjuncts) of the finite verb. However, the (phonetically null) Focus morpheme has an even stronger (i.e. lower) rank number, and it overrides the VM’s preverbal rank.

2.1.3. HPSG

As I pointed out in Section 1.2.6, HPSG is also a very strongly lexicalist model; however, it also makes crucial use of phrase structure representation. In this framework, Szécsényi (2009, 2011, 2013) has developed an analysis of Hungarian finite and nonfinite sentences. He postulates the structure shown in Figure 2 for Hungarian finite sentences.

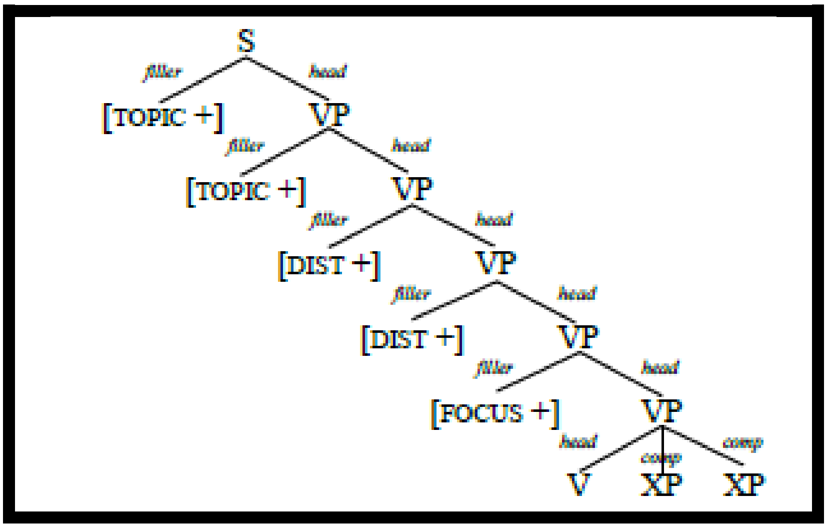


Figure 2. Szécsényi’s (2013: 208) HPSG structure for Hungarian finite sentences

Following the MP tradition in this respect, he assumes that a VM, which is a complement of the verb, makes up a complex predicate with that verb. In his analysis, a VM occupies a special, designated VP-initial position, immediately preceding the verb. Not only a verbal particle, but other (designated) complements of the verb can have this VM status; for obvious reasons, in each individual case only a single element can function as a VM. Szécsényi identifies this designated element by a special feature CAR (standing for “verb-carrier”, a term borrowed from Kálmán & Rádai 1998). This feature points to one of the verb’s complements in its complement list. For instance, on his account the lexical form of the verb *hozott* ‘brought’ in the example in Figure 1 in the previous section has four complements: the subject, the object, the oblique argument, and the verbal particle *be* ‘in’. The CAR feature points to this particle (in the case of a neutral sentence), and, consequently, the particle occupies the VP-initial position. Szécsényi treats focusing as a lexical process. Its essence is that the verb gives the focus feature (F-GIVE) to one of its complements or adjuncts. At the same time, the CAR feature must be (or must become) empty. See Szécsényi’s (2011) schematized Focus Selecting Lexical Rule in Figure 3.

$$
\begin{bmatrix}
\text{COMPS} & \langle \ldots, \boxed{1}[\text{FOCUS} -], \ldots \rangle \\
\text{F-GIVE} & \boxed{2} \\
\text{CONTENT} & \alpha
\end{bmatrix}
\\
\Downarrow
\\
\begin{bmatrix}
\text{COMPS} & \langle \ldots, \boxed{1}[\text{FOCUS} +], \ldots \rangle \\
\text{CAR} & \textit{none} \\
\text{F-GIVE} & \boxed{2} \oplus \langle \boxed{1} \rangle \\
\text{CONTENT} & \beta
\end{bmatrix}
$$

Figure 3. Szécsényi’s (2011: 114) Focus Selecting Lexical Rule

Notice that in this approach the focus and the VM occupy two distinct syntactic positions: the former is VP-adjoined and the latter is VP-initial. Their complementarity is encoded by the rule in Figure 3.

2.2. Constituent structure in LFG

The following detailed discussion of LFG’s central principles and assumptions concerning c-structure representations in the theory is based on Bresnan (2001). The most fundamental principle is that of lexical integrity:

(21) **Lexical Integrity:**
Morphologically complete words are leaves of the c-structure tree and each leaf corresponds to one and only one c-structure node. (Bresnan 2001: 92)

It is this principle, for instance, that prevents affixes, that is bound morphemes, from living independent syntactic lives. In other words, a bound morpheme can never occupy a distinct syntactic position on its own. Bresnan emphasizes the fact that this LFG principle of lexical integrity differs considerably from other views of this general concept. The crucial point is that although the internal structure of words is assumed to be invisible to the principles of c-structure, the theory allows parts of a word (i.e. the morphemes it is composed of) to make independent contributions to f-structure representation. For instance, as is well-known, there are languages, like West Greenlandic, in which a noun can incorporate into a verb morphologically (to be more precise: a verbalizing suffix can attach to a noun), and the result is a morphologically complex word, a verb, a single syntactic atom of category V in c-structure representation. However, the two morphemes independently contribute important information to the f-structure representation of the sentence containing this verb. The main predicate of the sentence is contributed by the verbal suffix, and the argument with the object grammatical function is provided by the incorporated noun stem. Thus, in a synthetic word form (represented as one complex morphological entity and one syntactic atom in c-structure), various morphemes can contribute varied syntactic information at the level of f-structure; in other words, they can realize distinct f-structure "words". For further details of Greenlandic noun incorporation, see Bresnan (2001: 339-343).[33]

Another widely accepted principle imposes an economical constraint on c-structure representation.

(22) **Economy of Expression:**
All syntactic phrase structure nodes are optional and are not used unless required by independent principles (completeness, coherence, semantic expressivity).
(Bresnan 2001: 91)

The basic idea, given the architecture of LFG, is that the presence of a c-structure node is justified, i.e. legitimate, iff it, by dint of functional annotations, contributes some information to the corresponding f-structure representation. This is what Bresnan also calls the "principle of functionality of c-structure" (2001: 92). Completeness and coherence are well-formedness conditions on f-structure representation, see Section 1.2.1 in Chapter 1. As regards semantic expressivity, the presence of an adjunct is typically not required by either completeness or coherence, because they only involve predicate-argument relations; however, it is still justified, because an adjunct modifier has a semantic contribution (cf. *dog* vs. *black dog*). Below, we will see several examples of how this economy principle works.

It has always been one of the most fundamental assumptions of LFG that the organization of c-structure categories can be either endocentric or lexocentric. Endocentricity is typically manifest in extremely hierarchical c-structures, a classic and best-known example being English. Lexocentricity appears in flat structures: all arguments (with the subject among them) are sisters of the verb, and the grammatical functions of the arguments are encoded morpholexically: by means of case and agreement marking. One of the most famous languages of this type is Walpiri, an aboriginal language spoken in Australia (see Simpson 1991, Austin & Bresnan 1996, and Bresnan 2001). And, of course, Hungarian was also among the first languages in this type discussed in the literature (see É. Kiss 1987, for instance). From our perspective, the well-known, widely cited generalization is that Hungarian is nonconfigurational (lexocentric in Bresnan's terminology) as regards the encoding of core grammatical functions, but it is configurational with respect to the expression of discourse functions like topic and focus.

It has been one of the most salient traits of the mainstream Chomskyan generative paradigm since the GB era that it postulates an underlying, uniformly endocentric (highly hierarchical) organization of language structure, as part of Universal Grammar. By contrast, as pointed out above, LFG assumes that both endocentric and lexocentric organizations are part and parcel of UG, and they are subject to parametric variation (cf. the English vs. Warlpiri contrast in this respect). Moreover, LFG is flexible enough (in a principled manner)

[33] For the relevant Greenlandic examples and Simpson's (1991) LFG analysis, also see section 1.2.2 in Chapter 1. For obvious reasons, this LFG view sharply contrasts with Baker's (1988) (GB) theory of incorporation and with the general MP treatment of these phenomena along the Distributed Morphology lines, see Halle & Marantz (1993, 1994), for instance.

to admit various degrees and manifestations of mixtures of these two structural types within one and the same language.

In the domain of endocentric organization, Bresnan (2001: 100) assumes the following inventory of functional and lexical X^0 categories projecting X' and X" phrases:

(23) a. F^0: C^0, I^0, D^0 ("functional" categories)
b. L^0: N^0, V^0, A^0, P^0 (lexical categories)

Consider the following quote from Bresnan (2001), describing the crucial differences between LFG and the Chomskyan approach with respect to the treatment of functional categories.

> Each functional projection, then, provides a grammatically specialized category and position for specific subclasses of words that have a special (syncategorematic) grammatical role such as marking subordination, clause type, finiteness, and the like. As we will see, the extension of X' theory to functional categories FP enables us to capture significant structural generalizations about syntactic typology and word order that are familiar from the transformational framework. In the present framework, of course, X' theory is not a theory of the input structures to syntactic transformations, but part of the theory of overt forms of expression (c-structure). As such, our X' must conform to the principle of *structural integrity of words*, the lexical integrity principle of (21): X^0 categories are categories of morphologically complete words. Hence "bare affixes or disembodied morphological features," as Kroeger (1993: 6) puts it, cannot be independently generated in phrase structure. This principle holds for both lexical L^0 and functional F^0 categories. In English, for example, C^0 is the category of *that* and *if*, I^0 is the category of *is*, finite *do*, and *must* (finite auxiliary and modal verbs), and V^0 is the category of all other verbs. In Russian C^0 is the category of *čto* 'that' and interrogative *li*, I^0 is the category of all finite verbs, and V^0 is the category of infinitives (King 1995). In other words, **functional categories are specialized subclasses of lexical categories which have a syncategorematic role in the grammar (such as marking subordination, clause type, or finiteness)**.
>
> The types of c-structure constraints used in chapter 4 as tree admissibility conditions can now be derived from these more abstract universal c-structure constraints given by the principle of endocentricity. Any c-structure pattern can be considered unmarked if it is an instantiation of these universal endocentric constraints. By this means our theory allows the presence of marked constructions of irregular form and content alongside of instantiations of the universal endocentric patterns (2001: 101).

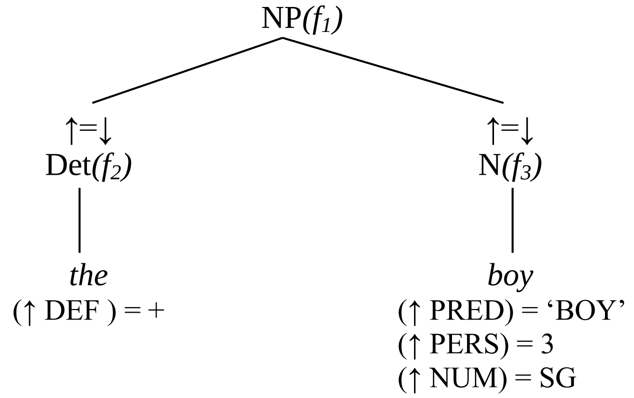
It is another crucial aspect of LFG that it makes a sharp distinction between a c-structure head (in endocentric constructions) and an f-structure head.[34] Consider the following simplified example.

(24) a. *boy*, N
(↑ PRED) = 'BOY'
(↑ PERS) = 3
(↑ NUM) = SG

b. *the*, Det
(↑ DEF) = +

[34] Recall my discussion of these two head concepts from Section 1.2.2 in Chapter 1.

c.



d.

$$\begin{bmatrix} \text{PRED} & \text{‘BOY’} \\ \text{PERS} & 3 \\ \text{NUM} & \text{SG} \\ \text{DEF} & + \end{bmatrix} (f_1), (f_2), (f_3)$$

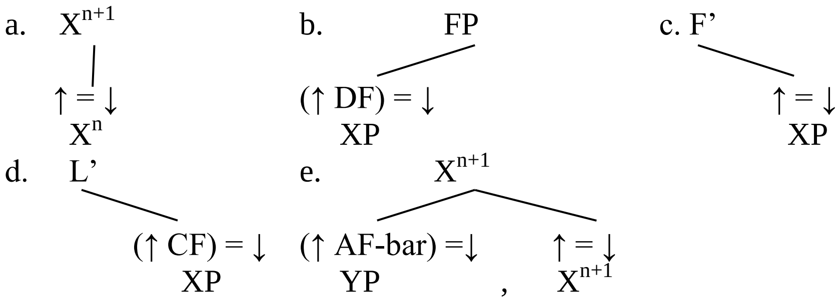
The noun *boy* is the categorial, c-structural head of the noun phrase as is widely assumed in generative approaches at large. However, as regards the functional structural representation of this noun phrase, both the noun and the definite article make their own, respective contributions (based on the specifications in their lexical forms in (24a,b)). On the one hand, the noun contributes the central meaning component by encoding the fact that the value of the semantic (= PRED) feature is ‘boy’ and by also specifying the values for the person and number morphosyntactic features. On the other hand, the article contributes the positive value for the definiteness feature of the entire noun phrase. It is in this respect that LFG assumes that both the noun and the determiner are (simultaneously) functional heads of the noun phrase. In LFG terms, they are functional coheads. This is why both Det and N are associated with LFG’s functional head annotation: ↑=↓. The informal interpretation of this annotation goes like this: my mother’s f-structure features are identical to my own features. In (24c) each node in the c-structure has a unique ID label (f_n) and when the linking between c-structure and f-structure is instantiated, it is by the help of these ID labels that we can identify which portion of the f-structure corresponds to which node(s) in the c-structure. In this extremely simple example, the noun, the determiner and the entire noun phrase share the very same f-structure. This is encoded in (24d) by associating all the three ID labels ((f_1), (f_2), (f_3)) with this single f-structure. There is, however, a very serious constraint on functional coheads: there can be several of them, but only one of them can contribute semantic content, or, in more formal LFG terms, only one of them can have a PRED feature.

Let us now see the most important default c-structure position—functional annotation correspondences in endocentric configurations, taken from Bresnan (2001: 102).

(25)
a. C-structure heads are f-structure heads.
b. Specifiers of functional categories are the grammaticalized discourse functions (DF).
c. Complements of functional categories are f-structure coheads.
d. Complements of lexical categories are the nondiscourse argument functions (CF).
e. Constituents adjoined to phrasal constituents are nonargument functions (AF-bar) or not annotated.

Every statement in (25a-e) licenses a particular annotation type for a particular c-structure configuration, as shown in (26a-e), respectively.

(26)



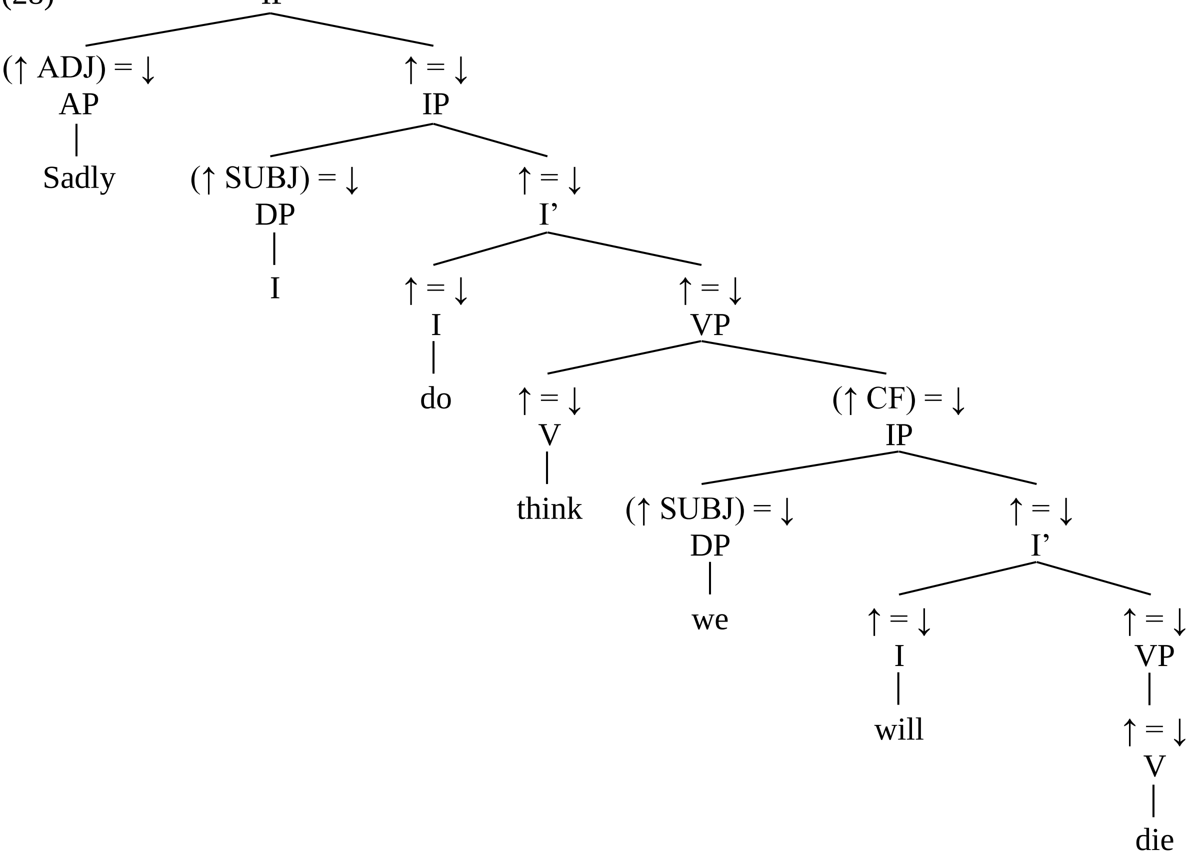
Bresnan calls attention to the fact that (25d,e) allow the same configuration in which X' immediately dominates another X' to treat YP as having a complement function (d) or an adjunct function (e). This means that LFG does not strictly distinguish complement and adjunct positions even in endocentric structures.

The statements in (25a-e) correspond to the following annotational instructions in (27a-e) in the configurational context of (26a-e).

(27)
a. Annotate a projecting node in a projection of the same kind with ↑ = ↓.
b. Annotate a nonprojecting node in F'' with (↑ DF) = ↓.
c. Annotate a nonprojecting node in F' with ↑ = ↓.
d. Annotate a nonprojecting node in L' with (↑ CF) = ↓.
e. Optionally annotate a nonprojecting node and its adjoined-to sister node with (↑ AF-bar) = ↓ and ↑ = ↓, respectively.

The following example from Bresnan (2001:108) illustrates how the above annotational principles work, and I invite the reader to study the details of (28) in the context of (27).

(28)



Bresnan points out a potential problem for analyzing English auxiliaries as having the category I: the treatment of nonfinite forms of the auxiliaries *be* and *have* for the following reason. It is only the finite forms of these auxiliary verbs that occupy the I position in English, in which they, as a rule, precede *not*, the standard sentence negation particle. Consider Bresnan's examples.

(29) a. Mary is not running.
b. *Mary not is running.
c. *Mary is running not.

If *not* follows I and precedes nonfinite VP, then the auxiliary *is* must be assumed to sit in the I position. By contrast, in the sentence in (30) the nonfinite *be* definitely belongs to V and not I.

(30) Mary will not be running in the race.

Consequently, nonfinite *be* (and *have*) must be taken to head the VP complement of the I. The problem is that the lexical content of nonfinite *be* and the finite counterpart *is* is the same: it marks progressive aspect. If it lacks a PRED feature in I, it must also lack a PRED feature when it heads the VP. From this it follows, however, that the VP complement of this nonfinite V cannot be associated with one of the complement functions (CF), because then LFG's coherence condition would be violated: the sentence would not contain a PRED that should take the VP bearing the CF as one of its semantic arguments. This would be similar to the following scenario. The sentence **John died Mary* is ungrammatical, because *Mary* has the OBJ subcategorized grammatical function but the predicate *die* does not select it as a semantic argument, so coherence is violated. However, the example in (30) is grammatical. The only (intuitively also) plausible solution is to allow the nonfinite *be* of category V and its VP complement to be functional coheads (just like I and VP in the unmarked case). Notice that this extension does result in the generation of unacceptable sentences as grammatical ones: the general principles of LFG restrict the grammaticality of the cohead V + VP combination if the first V is a PRED-less auxiliary (*be* or *have*) and the second V is a lexical verb. On the one hand, if the first V was also a lexical verb, it would have to assign a complement function to its VP sister according to (25d). On the other hand, as I pointed out above, out of several coheads, only one can have a PRED feature. The cohead combination of two lexical verbs would inevitably violate this restriction.

On the basis of the above facts and considerations, following proposals by Alsina (1996, 1997) and Sadler (1997), Bresnan extends the coherence principle optionally to the complements of lexical categories (2001: 109).

(31) a. Complements of functional categories are f-structure coheads.
b. Complements of lexical categories are the nondiscourse argument functions or f-structure coheads.

(32) a. F' b. L'

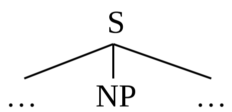
↑ = ↓ (↑ CF) = ↓ V ↑ = ↓
XP XP

It has been one of the most fundamental assumptions in LFG since the very beginning that universal grammar also provides an alternative mode of c-structure organization called lexocentricity. Its essence is that the central syntactic functions are coded by (morphsyntactic) features carried by words and not by the configurational relations of phrases in sentence structure. Bresnan mentions the following (typologically diverse) languages exhibiting this property: Tagalog (Kroeger 1993), Hungarian (É. Kiss 1987, 1994a), Malayalam (K. P. Mohanan 1982a), Warlpiri (Simpson 1991), Jiwarli (Austin & Bresnan 1996), Wambaya (Nordlinger 1998b, Nordlinger & Bresnan 1996), Jakaltek, and others (Woolford 1991). In these languages, information about the grammatical relations of phrases are not c-structure-configurationally encoded; instead, they are "lexically localized", i.e., they are directly associated with the various morphosyntactic (case or agreement) forms of the words involved. In order to capture the relevant phenomena in this language type, LFG assumes that the nonprojective, exocentric category S for clauses (standing for "sentence" or "small clause") is also available in the categorial inventory of universal grammar. By nonprojectivity we mean that S has no categorial head: we cannot identify its category with any fixed category X^0. By exocentricity we mean that S can have an f-structure head of a different category: V(P), N(P), A(P), etc. The nonprojectivity of S also implies that it can dominate a multiplicity of distinct categories $\mathcal{C}$ in a nonhierarchical, nonendocentric configuration. In other words, it can have an entirely flat internal structure:

(33) $\mathrm{S} \rightarrow \mathcal{C}*$

Here is a brief and abstract discussion of the two basic ways of how the grammatical function of an NP is identified in this language type. Let us assume that an NP occurs in the following generalized configuration, and we also know (independently) that it is not the head of the entire sentence (S).

(34)



The two possible options are as follows. (A) The grammatical function of a constituent is encoded by the case-marking on that constituent (a concrete example relevant from our present perspective: if in a language like Hungarian a noun phrase has the accusative marker attached to it then it will be taken to have the OBJ grammatical function). This strategy is called dependent-marking. (B) If a language does not have case endings to be attached to arguments, it can have a rich inflectional verbal morphology that can impose crucial agreement constraints on its arguments with respect to person, number, gender, etc. This strategy is called head-marking. Bresnan (2001: 111) schematizes these two grammatical-function-encoding strategies (associated with the constituent the grammatical function encoding of which is the issue) as follows.

(35) a. dependent-marking:
$(\downarrow \text{CASE}) = K \Rightarrow (\uparrow \text{GF}) = \downarrow$
b. head-marking:
$(\downarrow \text{AGR}) = (\uparrow \text{AF AGR}) \Rightarrow (\uparrow \text{AF}) = \downarrow$

(35a) expresses the following conditionality: if the given constituent has a particular case-marker (K) then that constituent (as a dependent of the main predicator) bears a particular grammatical function. By contrast, (35b) makes the following formal statement: if the given constituent's agreement features are identical to the agreement features imposed by the main predicator (by dint of its own morphological make-up, cf. head-marking) on one of the arguments with a particular grammatical function (= argument function, AF) then the given constituent will bear that designated grammatical function.

Bresnan makes the following remarks on how LFG can prevent this system from overgeneration.

> Assume free and optional annotation of the schemata to the NP in (34). Then (35a) means that (any instance of) the function GF can optionally be associated with NP if there is a case attribute with a certain value in NP's f-structure. Similarly, (35b) means that (any instance of) the argument function AF can optionally be associated with NP if there are agreement features in NP's f-structure which match the agreement features provided for that function (by the verbal inflections, for example). Constraints of this type, together with the principles of coherence and completeness, will select the correct function for each $\mathcal{C}$ (2001: 111).

Bresnan also points out that crosslinguistically conditions on head-marking follow the hierarchical organization of argument functions (see Moravcsik 1974 and Givón 1976): OBJ is encoded by headmarking iff SUBJ is also encoded (and head-marking rarely identifies more oblique arguments). Conditions on dependent-marking seem to follow the reversed path in the same hierarchy: the encoding of the more oblique functions typically precedes that of less oblique functions. Notice in this typological context, that Hungarian, as is well-known, exhibits instances of both marking strategies.

Next, Bresnan observes that the exocentric category S is not necessarily nonconfigurational everywhere if "nonconfigurationality" is used in the sense of "lacking a VP" or some other projection structurally encoding a distinction between a subject position and a complement position. For instance, there are many languages that manifest the subject-predicate division shown in (36), where the XP predicate phrase may have a whole range of category values: VP, NP, AP, or PP.

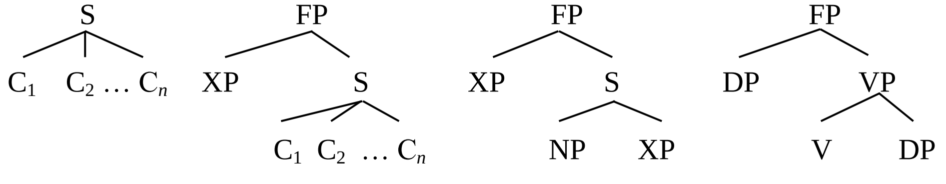
(36)
```
        S
      /   \
    NP     XP
```

Notice that in this configuration S is not endocentric, but both the subject NP and the predicate XP are, and their positions are also fixed. In a case like this, a language may or may not employ the lexocentric strategy of function identification, it can simply utilize the positional potentials of this configuration. This can be captured in LFG's system of the principles of structure-function correspondence presented in (25) and (27) by adding the following statement:

(37) The daughters of S may be subject and predicate. (Bresnan 2001: 112)

This statement licenses providing the NP with the (↑ SUBJ) = ↓ annotation and providing the XP with the ↑ = ↓ annotation.

Bresnan (2001) devotes a section to the discussion of the typology of attested patterns of syntactic organization across languages (Section 6.3: *Toward a Typology*, pp. 113-114). Given that each aspect and all the details of this section are highly relevant to one of the most fundamental architectural differences between LFG and the Chomskyan paradigm in general and it is crucial from the perspective of developing my LFG syntax of Hungarian, below I quote the entire section (with the exception of the last, irrelevant paragraph) without the endnotes and omitting some irrelevant (cross-)references: […]. Just like in the case of other quotes, here, too, I change the numbering of the examples in Bresnan's text to fit into the continuous numbering of the examples in the present work.[35]

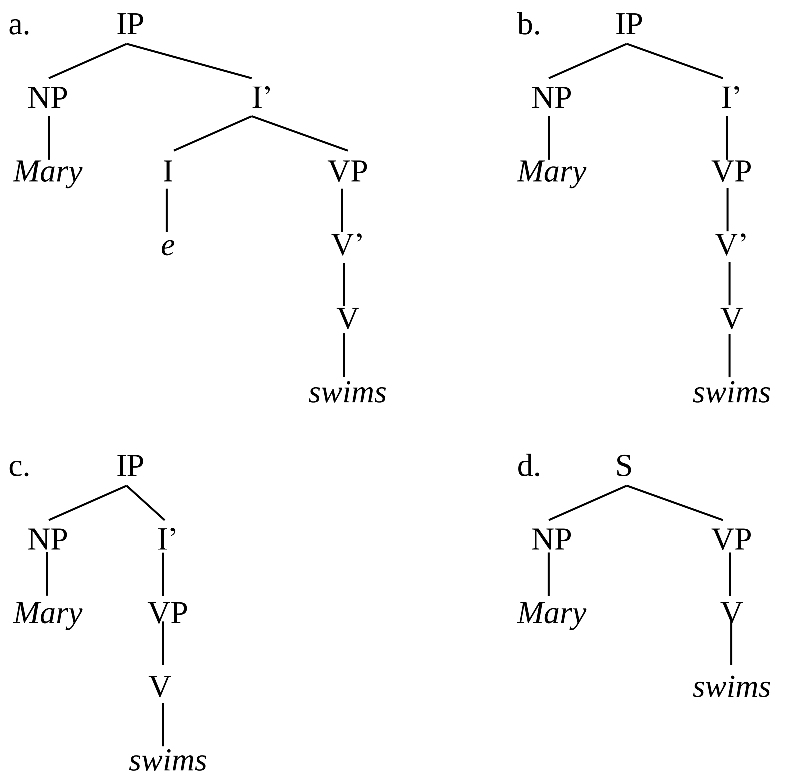
> Because the LFG architecture of grammar consists of localized constraints on partial structures, languages may freely mix endocentric and lexocentric modes of categorial organization. This produces a typology of possible syntaxes much closer to a continuum than to a small, discrete parameterization. In her study of nonconfigurationality in Australian languages, Nordlinger (1998) proposes the following typology to illustrate this important point:
>
> (38) **Basic Typology of Expression of Grammatical Relations** (Nordlinger 1998):
>
> | | ← *more nonconfigurational* | *more configurational* → |
> |---|---|---|
> | ↑ *more head-marking* | Mohawk, Mayali | Navajo, Chichewâ |
> | | Wambaya, Warlpiri | |
> | *more dependent-marking* ↓ | Jiwarli, Dyirbal | Icelandic, Martuthunira |
>
> The column on the left shows the lexocentric mode of organization, with head-marking at the top of the scale and dependent-marking at the bottom. The horizontal row at the top shows the endocentric mode of organization, with extreme endocentricity at the right (designated as greater nonconfigurationality). The languages situated in this typological space include Mohawk (an Iroquoian language of northeastern North America), Mayali (a nonPama-Nyungan language of northern Australia), Jiwarli (a Pama-Nyungan language of western Australia), Dyirbal (a Pama-Nyungan language of northeastern Australia), Navajo (an Athapaskan language of western North America), Chichewâ (a Bantu language of southern central Africa […]), Icelandic (an insular Scandinavian language), and Martuthunira (a western Australian language). Finnish (a Finno-Ugric language of northern Europe), is a candidate for a possibly configurational language showing both head- and dependent-marking, according to the analyses of Niño (1997) and Toivonen (1996, 2000a, 2000b).
>
> We can further refine Nordlinger's typology by adding languages which have endocentrically organized functional projections FP but lack endocentrically organized lexical projections such as VP, using lexocentric S instead […]. Such languages will fall between the nonconfigurational and configurational ends of the horizontal continuum, in having one or more mixtures of the structural types, as illustrated schematically in (39). Through choices of various FPs and their embeddings, and choices of S-internal categorial organization, a range of varying structures mixing S and FP is available:
>
> (39) Points on the endocentricity scale:
>
> 
>

[35] Where necessary, the references in Bresnan (2001) and Dalrymple (2001) have been updated and/or adjusted to the references at the end of this dissertation.

> According to our theory of structure-function mapping, languages in the range of the second structure from the left in (39) will show a fixed hierarchical arrangement of the grammaticalized discourse functions DF but will show nonconfigurational arrangements of argument functions. Such languages are classified as **discourse configurational languages** (É. Kiss 1995a), and include the head-marking Mayan languages (Aissen 1992, Woolford 1991) and the head- and dependent-marking languages Wambaya (Nordlinger 1998) and (possibly) Hungarian (É. Kiss 1987, 1994a). Again, this is not a rigid, discrete classification: discourse configurational languages may mix together both more and less configurational structures for argument functions (Kroeger 1993, Sells 1998), and may differ in the number and kinds of embedded functional projections. Tagalog, according to Kroeger (1993), falls between this and the second structure from the right (with order of subject and predicate reversed under S).

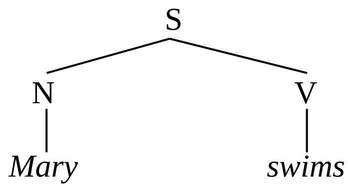
Next, Bresnan discusses the interaction of the principle of economy of expression with the principles of structure-function mapping through the example of the English sentence *Mary swims*, under the assumption that English makes use of both endocentric XPs (including IPs) and endocentrically organized S exhibiting the subject and VP predicate arrangement. She points out that on the basis of the structure-function mapping principles in (27) and the subject-predicate principle for S in (37) all the c-structures in (40) are functionally equivalent, in other words, all of them support exactly the same f-structure (again, the reader is invited to verify this).

(40)



The choice between the four alternatives (in this "other (i.e. functional) things being equal" situation) must be determined by the economy principle, and it should be rather straightforward that (40d) is the best (that is, the most economical) c-structure representation, containing the minimally necessary nodes for supporting the required f-structure and containing no superfluous nodes. Bresnan adds that the representation in (41) below contains even fewer c-structure nodes than (40d) and, by this token, it can be taken to be more economical; however, it fails to support a complete and coherent f-structure to be provided by our structure-function mapping principles, because we assume that English has only endocentric structure-function mapping both for XP and for S. (For the sake of easy comparison, let me mention in this context that it is generally assumed in the LFG literature that Warlpiri has no endocentric structure-function mapping for S: there is no designated subject position, and, even more importantly, there is no evidence for the existence of a VP in this language, see Simpson (1991) and Austin & Bresnan (1996).)

(41)



In the discussion of (41), we have seen that the economy of expression has to preserve completeness and coherence, and, thus, its effects can be constrained by the structure-function mapping available in a given language. In the system of endocentric structure-function mapping, so far the classic definition of complement has been employed: it must be immediately dominated by X'. However, this definition can be made less specific. As Bresnan (2001: 118) puts it:

(42) **Flexible Definition of an Endocentric Complement:**
A c-structure complement is a nonprojecting node which is the sister of no nonprojecting node.

The two relevant earlier definitions were (27c) and (27d), repeated here as (43a) and (43b), respectively.

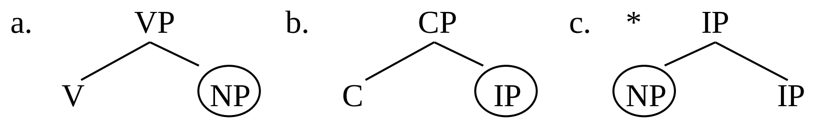
(43) a. Annotate a nonprojecting node in F' with ↑ = ↓.
b. Annotate a nonprojecting node in L' with (↑ CF) = ↓.

(43a) handles the functional cohead annotation of a complement in the projection of a functional category, and (43b) takes care of the complement function annotation of a complement in the projection of a lexical category. Both require a dominating X' node. By contrast, the new definition in (42) relaxes this strict requirement. It simply defines a complement as a phrase that does not have a sister constituent that could be a complement. In the spirit of this new definition (43a) and (43b) can be restated as (44a) and (44b), respectively.

(44) a. Annotate a nonprojecting complement node dominated by any functional category F'' with ↑ = ↓.
b. Annotate a nonprojecting complement node dominated by any lexical category L'' with (↑ CF) = ↓.

Obviously, (44) allows the same "dominating X' configuration" as (43). In addition, however, it allows complement configurations like those in (45a) and (45b), and, at the same time, it still disallows configurations like (45c).

(45)



One of the major advantages of (44) is that when it interacts with economy of expression, it makes more extensive pruning of X' nodes possible.

After this modification, let me summarize the structure-function mapping principles of endocentric constructions (Bresnan 2001: 119).

(46) **Endocentric Mapping Principles:**

a. **Heads:** Annotate a projecting node in a projection of the same kind with ↑ = ↓.

b. **Specifiers:** Annotate a nonprojecting node in F" with (↑ DF) = ↓.

c. **Coheads:** Annotate a nonprojecting complement node dominated by any category X^n with ↑ = ↓.

d. **Complements:** Annotate a nonprojecting complement node dominated by any category L^n with (↑ CF) = ↓.

e. **Adjuncts:** Optionally annotate a nonprojecting node and its adjoined-to sister node with (↑ AF-bar) = ↓ and ↑ = ↓, respectively.

And, for the sake of completeness, I repeat the possible configurational mapping principle for the exocentic S given in (37) as (47).

(47) The daughters of S may be subject and predicate.

The following discussion of Welsh sentence structure is based on Bresnan (2001: 127-131). For a detailed analysis of these aspects of Welsh syntax, see Sadler (1997).

In Welsh, the finite verb occupies the clause-initial position, followed by the subject and the object: V_{fin}SO. However, if the sentence contains a finite auxiliary, that element is clause-initial, followed by the subject, the nonfinite verb and the object: $Aux_{fin}SV_nO$. Consider the following minimal pair from Sproat (1985: 176):

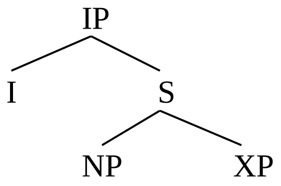
(48) a. *Gwelodd* *Siôn* *ddraig.*
saw-3.SG.PAST John dragon
'John saw a dragon.'

b. *Gwnaeth* *Siôn* *weld* *draig.*
do-3.SG.PAST John see.VN dragon
'John saw a dragon.'

This is a phenomenon standardly analyzed in the Chomskyan tradition by postulating V-to-I movement, as the subject intervenes between the two relevant positions: the nonfinite verb follows the subject and the finite verb (or the finite auxiliary) precedes it. The idea is that a nonfinite verb is base-generated after the subject, and if there is a finite auxiliary, it will occupy the initial (finite) I position, and if there is no auxiliary then the nonfinite verb moves into this initial position, where it will acquire the customary inflectional features. By contrast, LFG strongly rejects the idea of such syntactic transformations (yielding empty categories), and it treats these Welsh facts (and similar phenomena) along the following lines.

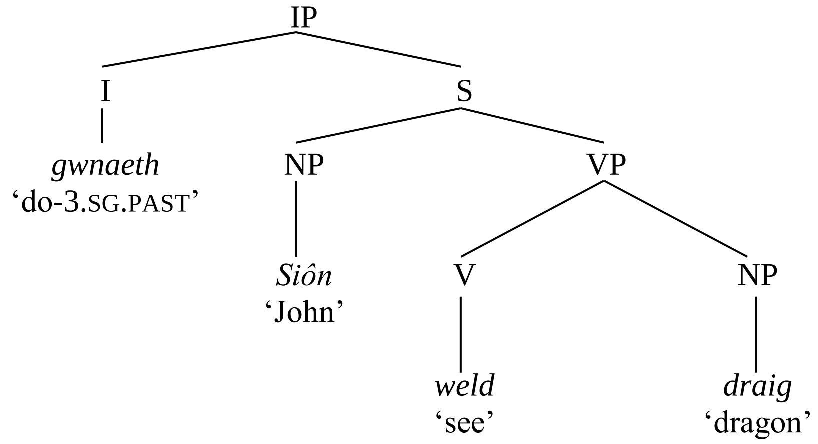
It is assumed in this theory that Welsh is one of the languages which employ both the IP and S syntactic categories, and the latter has the subject-predicate configuration, see (49), where XP ranges over VP, NP, AP and PP. Furthermore, it is assumed that the IP lacks the specifier position, as a parametric option.

(49)



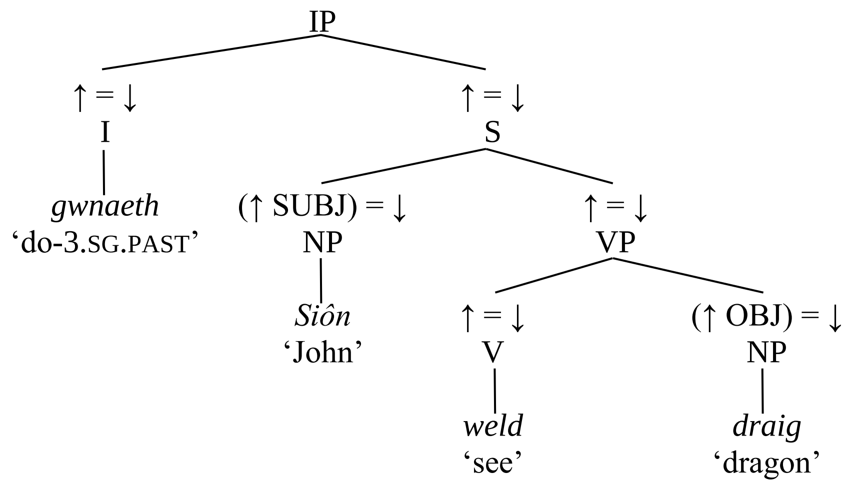
(48b) illustrates the structure in (49) transparently, see (50).

(50)



The finite auxiliary occupies the clause-initial I position and the nonfinite verb (more precisely: the uninflected verbal noun) sits in the head position of the VP, which follows the subject NP, and the object follows this nonfinite verb. The c-structure to f-structure mapping principles provide the structure in (50) with the following annotations.

(51)



As this representation demonstrates, the nodes I, IP, S, VP, and V belong to the same functional domain, in other words, they share the same functional structure. We can assume that the auxiliary only contributes the standard morphosyntactic information (values for the tense and agreement features) and it has no semantic content (that is, no PRED feature), because otherwise this would conflict with the PRED feature of the lexical verb. (A reminder is in order here: in LFG, there can be several functional coheads in a structure, but only one of them can have a PRED feature.) We can assume the following lexical forms for the finite auxiliary (52) and the nonfinite verb (53).

(52) *gwnaeth*: I (↑ TENSE) = PAST
(↑ SUBJ) = ↓
(↓ PERS) = 3
(↓ NUM) = SG

(53) *weld*: V (↑ PRED) = ‘see <(↑ SUBJ) (↑ OBJ)>’

The combination of the annotations these lexical items contribute and that of the annotations in the c-structure in (51) yield the following complete and coherent f-structure, as the reader can check.

(54)
$$f_1: \left[\begin{array}{ll} \text{PRED} & \text{‘see <(} f_1 \text{ SUBJ) (} f_1 \text{ OBJ)>’} \\ & \\ \text{TENSE} & \text{PAST} \\ & \\ \text{SUBJ} & \left[\begin{array}{ll} \text{PRED} & \text{‘NAMED-}\textit{Siôn}\text{’} \\ \text{PERS} & 3 \\ \text{NUM} & \text{SG} \end{array}\right] \\ & \\ \text{OBJ} & [\text{“dragon”}] \end{array}\right]$$

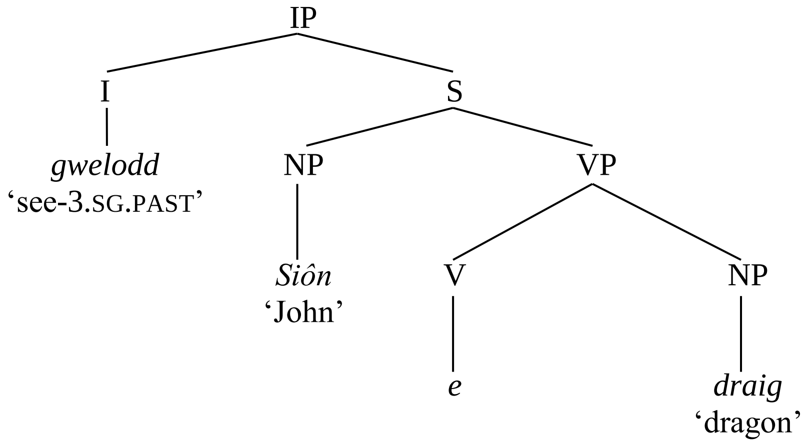
The lexical verb *weld* ‘see’ also has a finite counterpart, which is based on its alternative inflecting stem *gwel-*. In order to capture the fact that, as a rule, Welsh finite verbs appear clause initially, that is, in the I position in (49), we can assume that inflectional morphology in Welsh creates the following form for lexical insertion targeting the I position:

(55) *gwelodd*: I (↑ PRED) = ‘see <(↑ SUBJ) (↑ OBJ)>’
(↑ TENSE) = PAST
(↑ SUBJ) = ↓
(↓ PERS) = 3
(↓ NUM) = SG

Notice that the insertion of the inflected form of the verb in (55) and that of the noninflected form in (53) are in strict complementary distribution. If they were inserted simultaneously, they would belong to the same functional domain, that is, they would have a shared f-structure (see the discussion of (51) above). This means that they would contribute all their functional information to the shared f-structure, including their respective PRED values. Thus, the shared f-structure would have two distinct (although identical) values for the PRED attribute, in violation of the functional uniqueness principle, which requires that semantic features should be uniquely instantiated (see our earlier discussion of the ban on multiple PREDs in a functional cohead configuration).

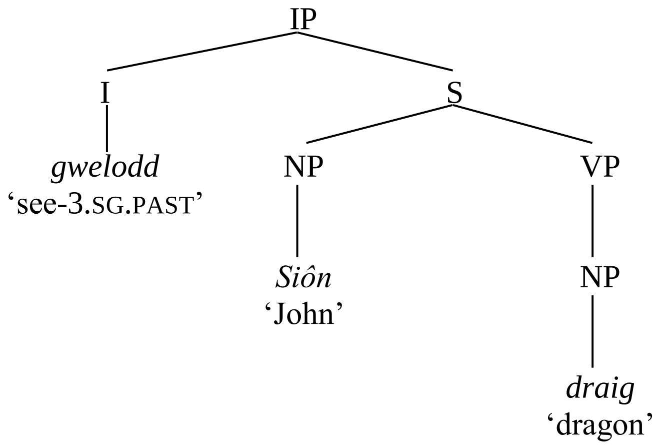
One possible way out of this clash of PRED values could be to insert the finite form in the I position and to omit the lexical content of V (because it is this lexical content that produces the uniqueness violation), and to assume a kind of an empty category in that position. (This could be taken to be an LFG style replica of a Chomskyan transformational treatment.)

(56)



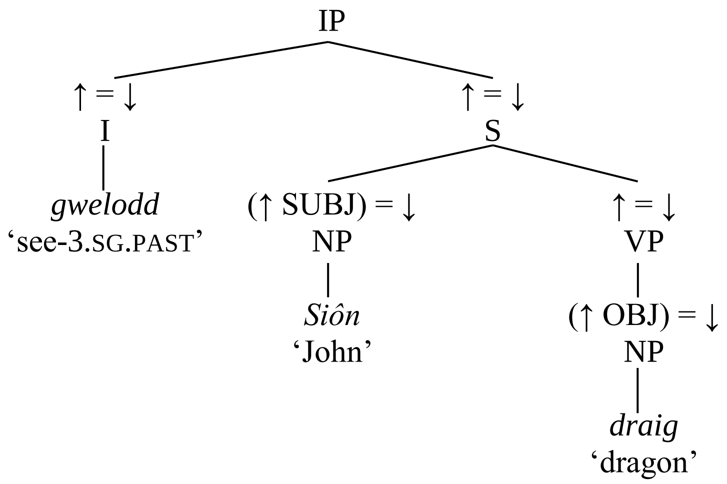
Notice, however, that the V node in this representation makes no contribution to c-structure to f-structure mapping; therefore, LFG's economy of expression will prune it, allowing only the following (more economical) c-structure representation.

(57)



The absence of V within VP has no effect on the principles of structure-function correspondence that we have been using so far (and which produced the annotations in (51)). They will yield the following annotated c-structure of the example in (48a).

(58)



The reader can check that the annotated c-structure in (58) supports exactly the same f-structure, shown in (54), as the annotated c-structure in (51).

The above treatment of "head mobility" within the relevant functional domains raises several general, theory internal questions about the properties of headless phrases.

(A) Why is the VP in (57) not pruned by the economy of expression principle? The fact supporting this question is that Welsh also permits the following S configuration: [$_S$ NP NP], that is, the value of the XP in [$_S$ NP XP] can also be NP. However, in this portion of Welsh syntax, XP has the predicate function, which means that it must be associated with the functional head annotation ($\uparrow = \downarrow$). Thus, in an [$_S$ NP NP] configuration the second NP would, as a rule, be analyzed as a predicator, and this would result in another instance of the violation of consistency, that is, the functional uniqueness principle: both the finite verb in I and the second NP dominated by VP would contribute their respective PRED attributes.

(B) When (57) and (51) are compared, why does the economy principle not eliminate (57) on account of the fact that both structures support exactly the same f-structure, and (57) contains more c-structure nodes than (51)? The answer is that although (57) contains more nodes, the extra nodes are preterminal nodes, that is, they dominate lexical material, and thus, by principle, they are exempt from the principle of economy of expression.

(C) The following is an even more substantial question. Why and how is the fundamental principle of endocentricity assumed by X' theory not violated by VP structures like the one in (51)? The embedded VP contains no V constituent. The answer is as follows. In LFG, it is not correct to say that the VP in (51) has no head, given the fact that the finite verb in I functions as the head of this VP in f-structure. The crucial notion here is that of *extended head*. The following quote from Bresnan (2001) gives all the relevant formal details.

> Because of the imperfect correspondence between c-structure and f-structure, the head of a constituent cannot in general be fixed in a unique structural configuration (indeed, this is why variable head positioning can occur at all, within the present framework); but the head can be recovered from looking at the set of nodes that are mapped into the same f-structure as VP under the correspondence function ϕ. In other words, we use the **inverse function** to ϕ, called ϕ^{-1}, which takes each f-structure f into the set of nodes that correspond to f under ϕ. Within the **inverse image** of ϕ(VP) (that is, within $\phi^{-1}(\phi(\text{VP}))$) will be all of the nodes that are mapped to VP's f-structure by ϕ. Among these nodes, the closest nondominating node to VP can be identified as the head. This will be the internal c-structure head if it is present, otherwise the next higher nondominating node in the functional domain. The well-known tree relation of **c-command** can pick out both these cases: A c-commands B if every node properly dominating A also dominates B. Therefore, to find the extended head of a given node (call it VP), we look in the inverse image of VP under ϕ, throw out all of the nodes therein that dominate VP, and pick a node which c-commands VP and is c-commanded by any other node that also c-commands VP. This gives us our definition of extended head:
>
> (59) **Definition of Extended Head** (based on Jar n.d., Zaenen and Kaplan 1995: 221-2, Bresnan 2000): Given a c-structure containing nodes N, C, and c- to f-structure correspondence mapping ϕ, N is an extended head of C if N is the minimal node in $\phi^{-1}(\phi(\text{C}))$ that c-commands C without dominating C.
>
> Consider how this definition applies to our previous example: the c-structure in (51) and the corresponding f-structure (54). Taking VP to be C, the node requiring an extended head, we see that V and VP are mapped into the same f-structure, V does not dominate VP, and every node that properly dominates V also dominates VP. As for I, I and VP are mapped into the same f-structure, I does not dominate VP, and every node that properly dominates I also dominates VP. However, only V counts as the extended head of VP. The reason is that V is the *minimal* node c-commanding VP, because I c-commands V (every node that properly dominates I also dominates V). […] [i]t is also true that VP cannot be the extended head of I (because it does not c-command I).

> Referring now to (58), the reader can check that I is the extended head of both IP and VP.
>
> Thus (59) amounts to saying that X is an extended head of Y if X is the X' categorial head of Y […], or Y lacks a categorial head but X is the closest element higher up in the tree that functions like the f-structure head of Y. It is easy to see that under this definition there is a many-to-one relation between categories and extended heads: categories have unique but not necessarily distinct heads. For example, in (58), each category including IP and VP has one and only one extended head, but the same finite verb I in (58) serves as the head of two distinct categories, I' and the VP (2001: 132).

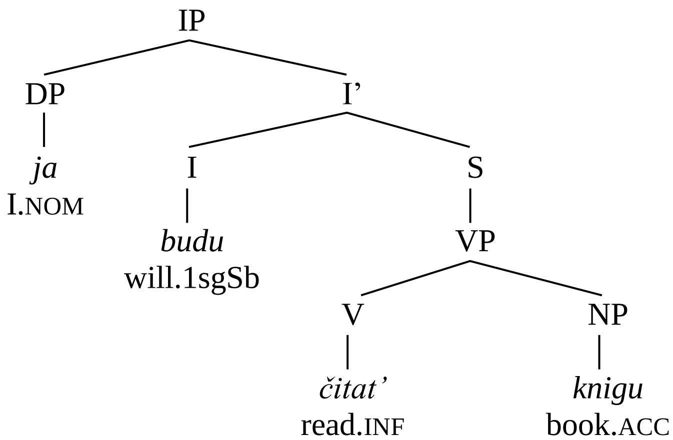
On the basis of these principles and assumptions, Bresnan defines LFG's notion of endocentricity in the following way.

(60) **Endocentricity:**
Every lexical category has an extended head.

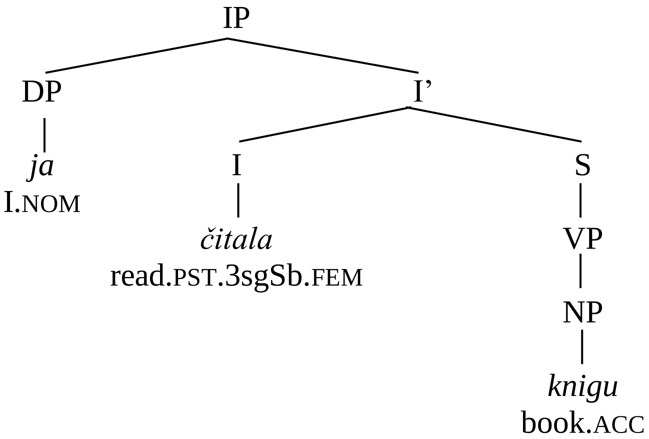
This approach enables LFG to handle the problem posed by head mobility for endocentricity by recovering the head of a locally headless phrase from the inverse image of the f-structure of the given phrase.

Next, Bresnan (2001) discusses the crucial aspects of topicalization in Russian relevant to endocentic and exocentric c-structure issues on the basis of King (1995). The essence of her discussion is as follows. Russian makes use of both configurational and case-marking principles of function specification. It is an internal subject language, which means that it has two subject positions: one in S and another in Spec,IP. S is the complement of I, which is the category of finite verbs and V is the category of infinitives. In King's (1995) analysis, the specifier of IP has the TOP function, which (by default identification) is also a subject position (one of the two subject positions).

(61)

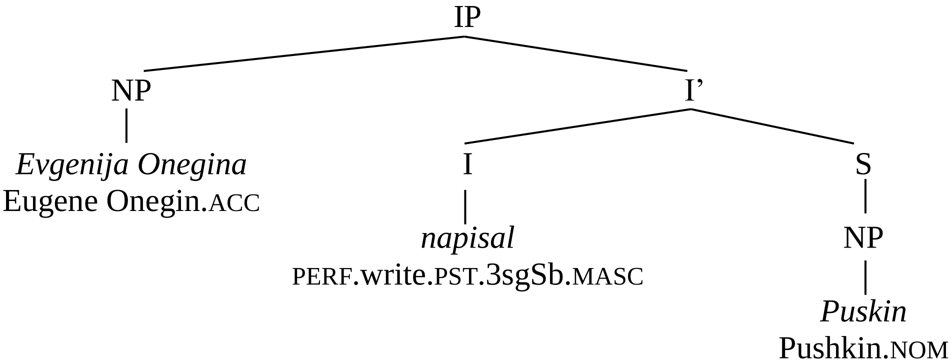


'I will read a book.'

(62) 

‘I was reading a book.’

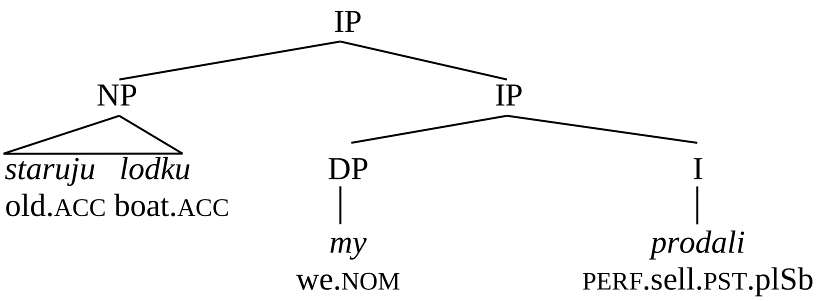
In addition, the Spec,IP position can be filled by a nonsubject. Russian solves this problem by employing the case (dependent-marking) strategy of function specification, in addition to the configurational strategy.

(63) 

‘Pushkin wrote *Eugene Onegin*.’

(64)
$$f:\left[\begin{array}{ll} \text{TOP} & [\text{“Eugene Onegin”}] \\ \text{OBJ} & \\ & \\ \text{PRED} & \text{‘write <(}f\text{ SUBJ) (}f\text{ OBJ)>’} \\ & \\ \text{SUBJ} & [\text{“Pushkin”}] \end{array}\right]$$

Whereas Spec,IP can be either TOP or FOC, a constituent adjoined to IP can only be TOP in Russian:

(65) 

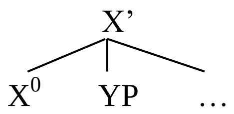
‘The old boat, we sold.’

Notice that in this c-structure representation there is no need for an S node (and further nodes dominated by it), because Russian's mixed endocentric and dependent-marking c-structure to f-structure mapping principles yield a complete and coherent f-structure for sentences with c-structures like the one in (65):

(66)
$$f\text{:}\begin{bmatrix} \text{TOP} & \left\{\begin{matrix}[\text{“old boat”}] \\ [\text{“we”}]\end{matrix}\right\} \\ \text{OBJ} & \\ \text{SUBJ} & \\ \text{PRED} & \text{‘sell <}(f\ \text{SUBJ})\ (f\ \text{OBJ})\text{>’} \end{bmatrix}$$

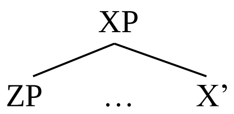
Dalrymple (2001) also makes several basic generalizations about LFG's c-structure representational assumptions and strategies. Naturally, most of them coincide with Bresnan's (2001) generalizations. Below I only cite those generalizations from Dalrymple (2001) which are (partially) different from or additional to those made by Bresnan (2001) and, equally importantly, which are relevant to my LFG treatment of the structure of Hungarian sentences to be proposed in Section 2.4.[36] Given the significance of these generalizations and their exemplification, below I quote them and comment on them in a detailed fashion.

(A) "We further assume that a lexical item of category X^0 is sister to a series of *complement* and *adjunct* phrases (YP…) and forms a constituent of category X' whose phrasal head is X^0 (there is no binary branching requirement). […] The X' node may dominate any number of daughter phrases; we do not assume that constituent structure trees must be binary branching" (2001: 57).

(67)


The first assumption is different from Bresnan's (2001) (27d) and (27e). The former only posits complements below X', and the latter states that either complements or adjuncts can be adjoined to X'.[37] Dalrymple's assumptions are important for my approach for two reasons. They "legitimize" two crucial aspects of my treatment of Hungarian VP structure: I postulate, in the spirit of É. Kiss' (1992) unorthodox GB analysis, that V' has a verb-initial flat structure in which complements and adjuncts freely intermingle.[38]

(B) "The X' category is sister to a series of specifier phrases (ZP…) and forms an XP phrasal constituent with X' as its head:

(68)


Some languages allow only a single specifier phrase; other languages (for example, languages like Russian in which multiple wh-constituents can appear in sentence-initial specifier

[36] In addition, I discuss a case in which Bresnan (2001) and Dalrymple (2001) give two radically different analyses of the same English sentence.

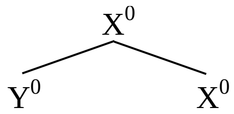
[37] In Bresnan's (2001) representational system L' corresponds to Dalrymple's (2001) X' in (67).

[38] For details, see Section 2.4.

position) allow multiple specifiers" (2001: 57). The LFG-theoretical option of multiple specifiers as represented in (68) will be highly relevant when I discuss the possible accounts of multiple preverbal WH-phrases in Hungarian in Chapter 4.

(C) "According to Sadler & Arnold (1994), lexical categories like A, which usually project full phrasal categories, can also appear as a "small" or X^0 category, adjoined to other X^0 categories. […] They argue that English prenominal adjectives participate in these constructions, producing structures like the following" (2001: 58):

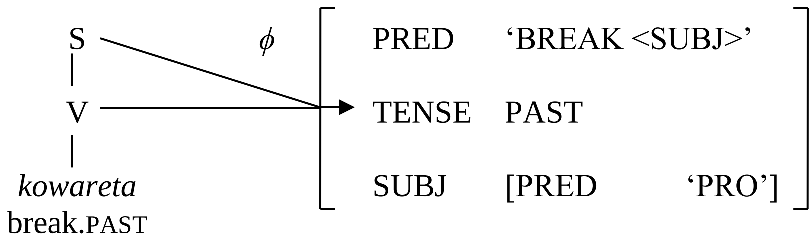
(69)



This is the first mention, in Dalrymple (2001), of a set of phenomena across languages whose common trait is that they are assumed to be best treated as involving word-level (nonprojecting) categories living independent phrase-structural lives. See the discussion of the minor category convention in (77) below. This issue will be highly relevant from the perspective of my treatment of particles in particle-verb constructions and negative particles in Chapters 3 and 5, respectively.

(D) "There are also f-structures that are not related to any c-structure node. In Japanese (Kameyama 1985), a "pro-drop" language with no verbal agreement morphology, the single word *kowareta* 'broke' can appear without an overt subject noun phrase. In such cases the SUBJ f-structure does not correspond to any node in the c-structure" (2001: 70-71):

(70) *koware-ta*
break-PAST
'[It/Something] broke.'

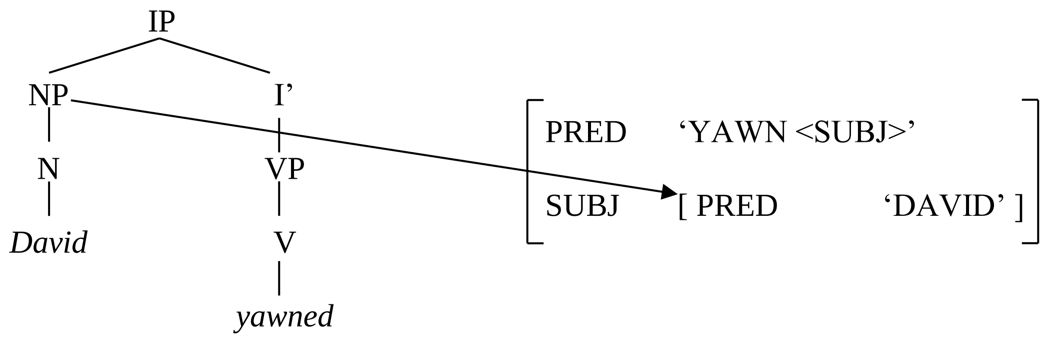


As is well-known, Hungarian is also a pro-drop language. However, it has rich verbal (and nominal) agreement morphology, so its pro-drop potential is natural. Japanese is special, because it employs pro-drop without the regular agreement morphological support.

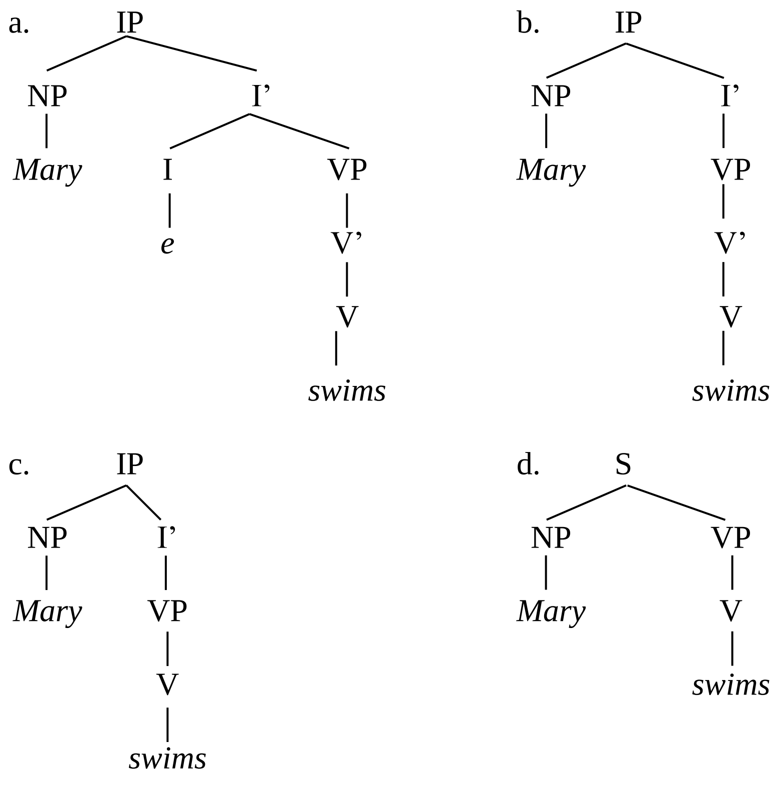
(E) "Modifier phrases fill the specifier of a lexical category (Sadler 1998). Specifiers of functional categories such as IP or CP play special roles, mapping to the syntacticized discourse functions SUBJ, TOPIC or FOCUS (Bresnan 2001)" (2001: 71). In Section 2.2, capitalizing again on É. Kiss' (1992) insightful (but unorthodox) GB analysis and on the basis of my LFG account of the relevant phenomena, I propose that the specifier of a VP (the projection of a lexical category) should also be assumed to be capable of potentially hosting the FOCUS discourse function. Furthermore, as I point out in Section 2.4.2, it is also a highly plausible assumption in an LFG approach that certain designated (reduced or nonreduced) arguments of verbal predicates occupy the Spec,VP position in Hungarian neutral sentences. My dual assumption in my analysis then is that in the (single) specifier position of Hungarian VPs foci and designated arguments are in complementary distribution. Consequently, the generalization cited above needs to be radically augmented.

(F) "In English and many other languages, the specifier position of IP is associated with the SUBJ function" (2001: 72).

(71) *David yawned.*



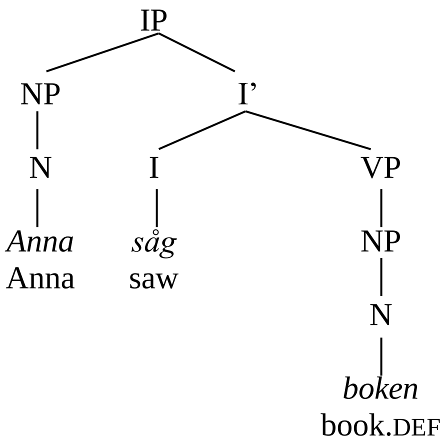
Recall that Bresnan (2001), on the grounds of the economy principle rejects such an IP analysis of this (auxiliariless) sentence type in English (her example is this: *Mary swims*), and she argues for an S analysis. Consider (40) repeated here as (72) for convenience.

(72)


Note that of the four options discussed by Bresnan (72c) is identical to Dalrymple's (2001) analysis in (71), and Bresnan rejects (72c) and advocates (72d). My interpretation of this contrast is as follows. (i) Dalrymple (2001) uses this example and analysis in (71) to illustrate the generalization that Spec,IP is a designated subject position in English. (ii) Bresnan (2001) emphasizes the fact that her argumentation goes through under the assumption that in English there are two designated subject positions: [NP,IP] and [NP,S]. (iii) Maybe Dalrymple (2001) did not take the assumption in (ii) into consideration as her goal with this example was different. (iv) Ultimately, it should be a general empirical and theory-internal issue to address whether the treatment of all the relevant English phenomena (independently) requires the postulation of S and [NP,S].

(G) In the above context, Dalrymple's (2001) discussion of Sells' (1998) analysis of Swedish and Icelandic is particularly interesting and intriguing. According to Sells, both languages have VP, which is a constituent that under general assumptions does not include the subject, but Icelandic also deploys the exocentric category S. In Sells' analysis, a typical Swedish sentence has the following structure.

(73) *Anna* *såg* *boken.*
Anna saw book.DEF
'Anna saw the book.'

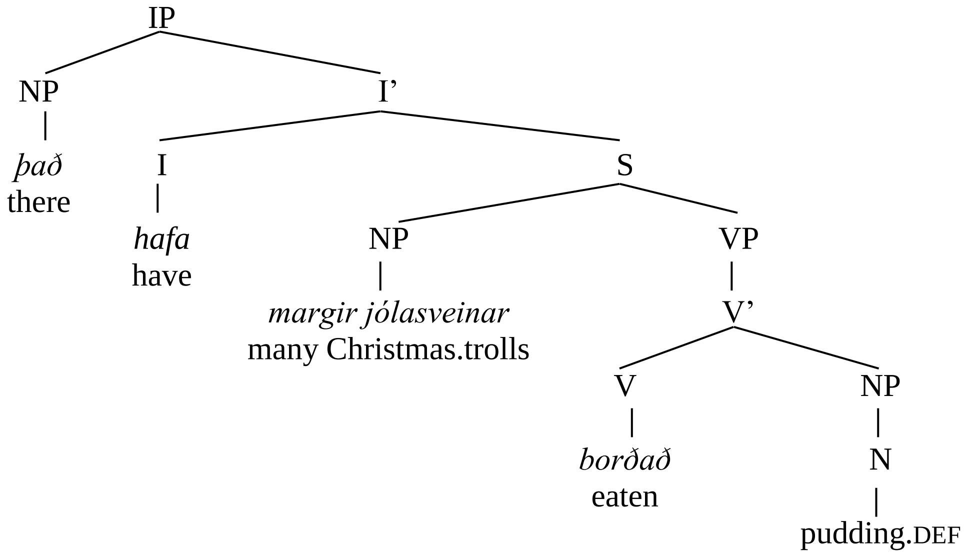


Sells claims that Swedish (like English) rejects the "transitive expletive construction," illustrated in (74): in this configuration, the verb occupies the second position in the sentence, and it is immediately preceded by an expletive subject and immediately followed by a thematic subject:

(74) **Det* *har* *mäng* *män* *ätit* *puddingen.*
there have many men eaten pudding.DEF
'Many men have eaten the pudding.'

Given that Swedish rejects the category S, it only has a single subject position available and does not allow a sentence with two phrases in two subject positions. By contrast, the transitive expletive construction is permitted in Icelandic (Kaplan and Zaenen 1989; Sells 1998):

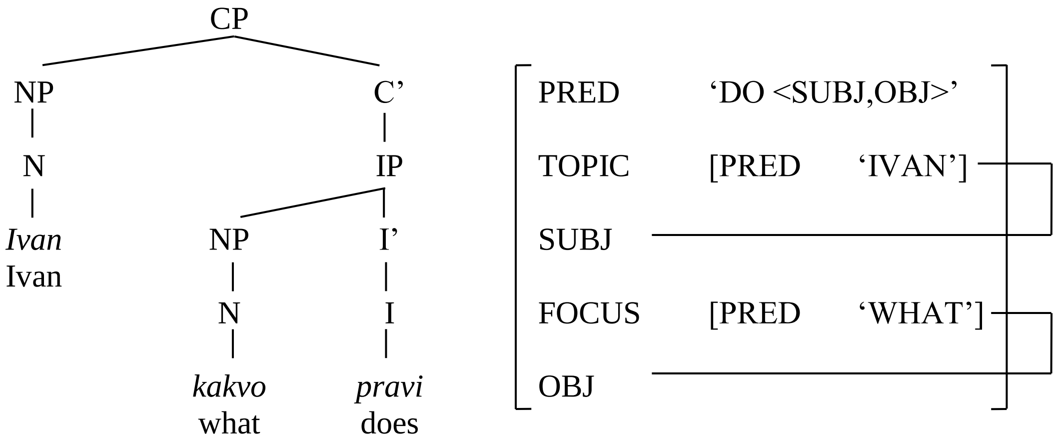
(75) *það* *hafa* *margir* *jólasveinar* *borðað* *búðinginn.*
there have many Christmas.trolls eaten pudding.DEF
'Many Christmas-trolls have eaten the pudding.'



Sells assumes that this structure is possible in the Icelandic language because the presence of the S node provides an additional phrase structure position for a subject constituent: the two potential positions for subjects are [NP,S] and [NP,IP].

(H) Dalrymple’s next example is Bulgarian. “Wh-phrases in Bulgarian fill the specifier position of IP (see Rudin 1985) and bear the syntacticized FOCUS function” (2001: 73) :

(76) *Ivan kakvo pravi?*
Ivan what does
‘What is Ivan doing?’

(77)


Naturally, this Bulgarian case might be considered to yield independent evidence and motivation for the LFG-style postulation of IP in Hungarian and for the assumption that in this language, too, focused constituents are in Spec,IP. However, in Section 2.4 I will strongly argue against an analysis along these lines.

(I) Finally, let me quote an entire section from Dalrymple (2001),[39] because it is directly relevant to my analysis of particles in particle-verb constructions in Hungarian, see Chapter 3, and negative particles in Hungarian, see Chapter 5. In both cases, I will point out that their treatment in LFG justifiably calls for a minor category (i.e. nonprojecting word) analysis.

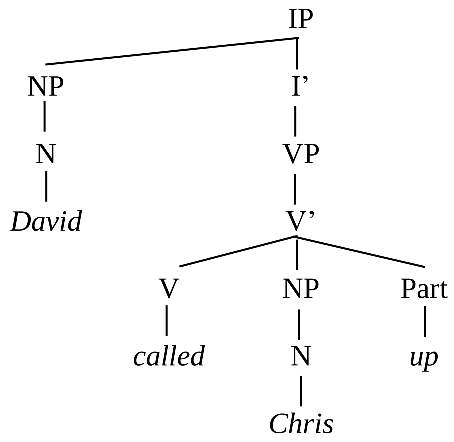
[39] Section 2.4 (Dalrymple 2001: 77).

There is some degree of tension between the general principles relating constituent structure and functional structure, which we have been discussing, and the demands of idiosyncratic words and constructions in particular languages. Like Kay and Fillmore (1997), LFG aims to provide analyses of idiomatic language patterns as well as the relatively general properties of languages. In some cases, generalizations can be drawn about particular categories other than the major lexical and functional categories discussed; for example, Zaenen (1983) proposes the *Minor category convention*:

(78) Minor category convention:
Minor categories map onto the same f-structure as the node that immediately dominates them.

We adopt this treatment of minor categories such as the English particle, according to which a particle like *up* in the sentence *David called Chris up* contributes information to the f-structure of its verb phrase:

(79) *David called Chris up.*



$$\begin{bmatrix} \text{PRED} & \text{‘CALL.UP <SUBJ,OBJ>’} \\ \text{SUBJ} & [\ \text{PRED} \quad \text{‘DAVID’}\ ] \\ \text{OBJ} & [\ \text{PRED} \quad \text{‘CHRIS’}\ ] \\ \text{PARTICLE} & \text{UP} \end{bmatrix}$$

Comparatively little research has been done on the constituent structure properties of minor categories, so it is not easy to draw significant crosslinguistic generalizations about their distribution and phrasal properties. It seems clear that at least in some instances, their distribution is language dependent and does not fall under the general rules we have been discussing. We must examine other idiomatic, language-specific, or construction-specific syntactic properties on a case-by-case basis to determine their properties (Dalrymple 2001: 77, Section 2.4).

2.3. On some previous LFG(-compatible) analyses of Hungarian sentence structure

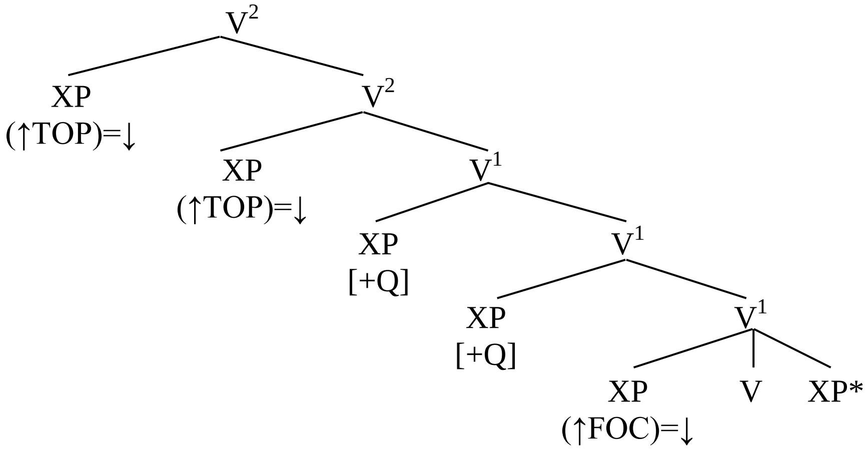
In this section I briefly discuss (i) pure LFG analyses; (ii) analyses cast in the framework of LFG combined with Optimality Theoretic (OT) constraints; and (iii) pure OT analyses claimed to be compatible with an LFG-style GEN (generator) component, which generates an infinite number of input candidate structures to be processed by OT constraints.

(A) Börjars et al. (1999) offer some programmatic considerations against functional projections like TopP and FocP (à la GB/MP)[40] for languages like Hungarian and some hints at a possible LFG alternative with an extended verbal projection in which word order

[40] In Section 2.4.1.2, I discuss further details of the argumentation in Börjars et al. (1999).

regularities are capturable by dint of OT style constraints. They claim that the assumption that discourse functions are not necessarily associated with the specifier positions of functional projections allows an analysis of Hungarian in which quantifier phrases and topics are positioned within an extended verbal projection, avoiding the postulation of functional projections without heads. They propose that Hungarian sentences are VP projections, as in (80), and they suggest that the immediately preverbal occurrence of the focused constituent should be captured by dint of Optimality Theoretic constraints.[41] They do not at all discuss VMs and their complementarity with focused phrases.

(80)



(B) Adopting the basic representational assumptions and ideas of Börjars et al. (1999), in their OT framework,[42] Payne & Chisarik (2000) develop an analysis of Hungarian preverbal syntactic phenomena: the complementarity of constituent question expressions, focused constituents, NMR and verbal modifiers. They use the following abbreviations: FOC = positive or negative focused phrase, INT = interrogative phrase, NEG = negative phrase, NMR = negative marker, PART = (aspectual) particle (representing the entire class generally referred to as verbal modifiers (VMs)). NEG subsumes the following four types:[43] INQ = inherently negative quantifier (e.g. *kevés* ‘few’), INA = inherently negative adverb (e.g. *ritkán* ‘seldom’), NUQ = negated universal quantifier (e.g. *nem mindenki* ‘not everyone’), NCI = negative concord item (e.g. *senki* ‘nobody/anybody’).[44]

After presenting the basic empirical facts, they give a critical overview of three major types of approaches in the GB/MP tradition: (A) a VP analysis without functional projections like F(oc)P, see É. Kiss (1992, 1994a), for instance; (B) unarticulated FP analysis, with a single functional projection, see Brody (1990, 1995), for instance; (C) articulated FP analysis, with multiple functional projections, see Puskás (1994, 1998), for instance.

The essence of Payne & Chisarik’s (2000) analysis is as follows. They assume the overall structure in (81) for the relevant portion of a Hungarian sentence.

---

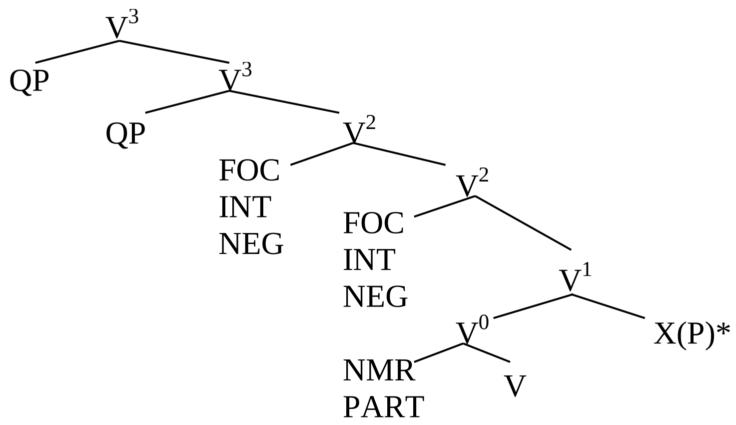
[41] The superscripts in V^1 and V^2 encode X-bar syntactic levels.

[42] Although OT is compatible with a variety of generative frameworks, including LFG and GB/MP, the authors claim that their preferred model is LFG (2000: 206, Fn. 10). This makes the discussion of their analysis here all the more important and at the relevant points I will compare their account with my approach from this perspective, in this chapter and in Chapters 3, 4 and 5.

[43] Notice that for Payne & Chisarik (2000) NEG does not subsume ordinary constituent negation. They simply assume that FOC can have affirmative and negative (negated) variants. Nor does the NEG symbol stand for the negative particle, because they represent it as NMR, and they assume that it is associated with the verbal head (even when the Spec,VP position is not filled) as in É. Kiss’ (1994a) analysis. When I present my analysis, I will claim that it is an intuitively more plausible option, at least from an LFG perspective, to assume that the negative marker can also fill Spec,VP. For a similar assumption in an MP framework, see Surányi (2011), briefly discussed in Section 2.1.1 in this chapter.

[44] NCIs are also frequently called n-words.

(81)



They do not postulate an ordinary VP constituent; instead, following Börjars et al. (1999), they employ a multilevel projection of the verb. In agreement with É. Kiss (1994a), among others, they assume free word order in the postverbal domain (regulated, to a considerable extent, by semantic, prosodic and information structure factors in the form of tendencies). They write:

> The assumption we shall make in this paper is that, from a purely syntactic point of view, the order of postverbal constituents is essentially free. This then entails an alternative account of the preverbal INT > FOC > NEG hierarchy (2000: 200).

They propose the following ranking of OT constraints with respect to the preverbal position.

(82) ALIGN INT > ALIGN FOC > ALIGN NEG > {ALIGN NCI, IN SITU}[45]

This analysis captures several basic Hungarian syntactic facts.

(i) If there is a question phrase in the sentence then it will occupy the designated preverbal position, and not a focused constituent or a negative phrase.[46] Compare the examples in (83) and (84).

(83)	*Melyik könyv-et*	*olvasta el*	*CSAK JÁNOS?*	**INT-FOC**
	which book-ACC	read.PAST VM	only John.NOM	
	**CSAK JÁNOS*	*olvasta el*	*melyik könyv-et?*	**FOC-INT**
	only John.NOM	read.PAST VM	which book-ACC	
	'Which book did ONLY JOHN read?'			
(84)	*Melyik könyv-et*	*nem olvasta el*	*senki?*	**INT-NCI**
	which book-ACC	not read.PAST VM	nobody.NOM	
	**Senki*	*nem olvasta el*	*melyik könyv-et?*	**NCI-INT**
	nobody.NOM	not read.PAST VM	which book-ACC	
	'Which book did nobody read?'			

[45] The {ALIGN NCI, IN SITU} part of the ranking is intended to capture the generalization that, among the NEG types, NCIs only optionally compete for the verb-adjacent position.

[46] A reminder: in their analysis, a negative phrase (NEG) has four types: INQ, INA, NUQ and NCI. In these examples an NCI is used.

(ii) If a focused constituent and a negative phrase compete, the former wins out, cf.:

(85)	*CSAK EZT KÖNYV-ET*	*nem olvasta el*	*senki.*	**FOC-NCI**
	only this book-ACC	not read.PAST VM	nobody.NOM	
	**Senki*	*nem olvasta el*	*CSAK EZT KÖNYV-ET.*	**NCI-FOC**
	nobody.NOM	not read.PAST VM	only this book-ACC	
	'Nobody read ONLY THIS BOOK.'			

The alignment ranking in (82) is proposed to capture the complementarity of INT, FOC and NEG below V^2 in Payne & Chisarik's (2000) structure in (81). They treat the NMR *nem* 'not' and verbal modifiers separately in the following way.

1. They assume that both NMR and VMs are morphologically incorporated into the verb when they precede it. The authors take preverbs (particles) to be the prototypical representatives of this categorially heterogeneous class,[47] and they use the PART label for them.
2. NMR and PART are also in complementary distribution in a position dominated by V^0, see (81), and the former is stronger in the competition.
3. In order to capture the word order facts also involving the V^0 domain, Payne & Chisarik (2000) augment the constraint hierarchy in (82) in the following way.

(86) ALIGN INT > ALIGN FOC > ALIGN NEG > {ALIGN NCI, IN SITU} >
ALIGN V^0 > ALIGN NMR >ALIGN INCORP > {ALIGN V | *INCORP}

The extension aligns V^0 first if there are not stronger candidates in the preceding portion of the hierarchy, and the priority of the negative marker over the VM is encoded by the ALIGN NMR > ALIGN INCORP order.[48]

My remarks on Payne & Chisarik's (2000) analysis are as follows.

1. Agreeing with both Börjars et al. (1999) and Payne & Chisarik (2000), I share the LFG-style rejection of functional categories like F(oc)P and TopP, for details, see Section 2.4.1.2.
2. On the basis of the argumentation and considerations in Section 2.4.2, I maintain that the postulation of a VP constituent with a single specifier position is tenable (and useful), and the relevant phenomena can be captured in a fully LFG framework, and it could also be captured in an OT (or OT-LFG) approach.
3. The NEG label very strongly invokes the notion of genuine (syntactic and/or morphological) negation. However, Payne & Chisarik's (2000) NEG basically subsumes "semantic negation": INQ, INA and negative concord elements (NCIs), which themselves do not encode negation. In this group, NUQs are formally (and semantically) really negated elements (and they are substantially different from all the other elements in this group in their distributional properties). Thus, this NEG label is rather misleading here. Moreover, if morpho-syntactic negation is taken seriously, the authors' INT > FOC > NEG hierarchy calls for some clarification and explanation. The reason for this is that an ordinary negated constituent has priority over an ordinary focused constituent, cf.:

[47] On the basis of É. Kiss (1994a), they mention the following additional VM types: postpositions, bare nonreferential nouns, bare resultative adjectives and bare infinitives.

[48] INCORP stands for the preverbal morphological incorporation of VMs.

(87) a. *NEM A KÖNYV-ET olvasta el CSAK JÁNOS.*
not the book-ACC read.PAST VM only John.NOM

b. **CSAK JÁNOS olvasta el NEM A KÖNYV-ET.*
only John.NOM read.PAST VM not the book-ACC

ca. 'It wasn't the book such that it was only John that read it.'

Naturally, NEG in this OT hierarchy can be used in the way the authors do (with appropriate remarks); however, the contrast in (87) has to be captured in this framework as well.[49]

4. I think the most serious problem with Payne & Chisarik's (2000) analysis is their treatment of VMs (and, to a smaller extent, the treatment of NMR) for the following reasons.
   a) Referring to É. Kiss (1994a), they assume that both VMs and NMR are morphologically incorporated into the verb optionally.[50] First of all, É. Kiss (1994a) only assumes semantic incorporation of VMs even when they are preverbal, and she claims that even preverbally they are syntactically separate elements (occupying the Spec,VP position in her system). Secondly, É. Kiss (1994a) does not incorporate the negative marker morphologically, either. Instead, she adjoins it to the verbal head.[51]
   b) Of course, morphological incorporation could be an alternative solution, but this would require argumentation and supporting evidence. In Chapter 3, I argue in a detailed fashion against the incorporation analysis of VMs in general.[52]
   c) Even if we accept the morphological incorporation treatment, it raises a conceptual problem: Payne & Chisarik's (2000) alignment rules mix two dimensions, a syntactic level and a morphological level. This is a rather marked solution the nature of which would call for some independent support, on the one hand, and it would only be an appealing alternative if no other (less marked) solution was available, on the other hand. This latter requirement, however, does not seem to be satisfied, see the next point.
   d) Even if we disregard the syntax-morphology-mix issue and accept the analysis, it is important to see that Payne & Chisarik (2000) do assume two distinct positions for VMs and FOC et al. From this it follows that there is no radical conceptual difference between their idea and the (un)articulated GB/MP style FP analyses they criticize. They explicitly state that their alignment hierarchy has been designed to capture the preverbal complementarity of INT, FOC, NEG *and* VMs in such a way that VMs are the weakest candidates. Then it is rather questionable why VMs are assumed to occupy a different position at a distinct level of representation.
5. Payne & Chisarik (2000) subscribe to a popular view of the distribution (and complementarity) of focused constituents and question expressions, on the one hand, and VMs, on the other hand. They assume that *(i)* the two types occupy two distinct preverbal syntactic positions and *(ii)* VMs are head-adjoined to the simplex verb and incorporation takes place, and, as a consequence *(iii)* the complementarity of the two types has to be captured by special means. As I argue in a detailed fashion in Chapter 3, the treatment of all types of VMs along the head-adjunction and incorporation lines is counterintuitive and untenable, because *(a)* some types are clearly maximal projections (so the postulation of

[49] In the authors' approach, both *nem a könyvet* 'not the book' and *csak János* 'only John' in (87) are treated as FOC elements, and this ±neg dimension in this domain is not at all addressed.

[50] When they are left-adjacent to the verb, they are incorporated, and elsewhere they are independent syntactic elements.

[51] By contrast, É. Kiss (1992) left-adjoins her NEG to V'. Obviously, É. Kiss' (1994a) solution is an instance of head-adjunction, and É. Kiss' (1992) treatment is phrasal adjunction.

[52] See point 5 below.

head-adjunction is unavailable) and *(b)* some types clearly defy the assumption of any notion of incorporation. This is a general problem for any approach along these lines. However, as far as I can see, OT, Payne and Chisarik's (2000) chosen framework, would naturally provide the appropriate principles and devices to capture this famous complementarity in an intuitively more plausible way. It would be worth considering developing an OT analysis by postulating a single designated preverbal position and assuming that all the relevant constituents compete for this position and various violable constraints regulate their complementarity in that position. In Chapter 3, I present an LFG analysis along the single designated position lines (with a system of various disjunctions of functional annotations), and it seems to me that this approach could also be translated into OT terms.

(C) Mycock (2006) develops a detailed and comprehensive typological analysis of constituent questions in her LFG framework. She analyzes Hungarian as a representative of the multiple syntactic focusing type. She only postulates those aspects of an LFG style syntax of Hungarian which are directly relevant to her account of 'wh'-questions in this language. Below I discuss her basic hypotheses that are important from our syntactic perspective.

(i) She adopts some central ingredients of É. Kiss' (1981, 2002) empirical generalizations. For instance, the topic-predicate articulation of sentences and the quantifier field in the left periphery of the predicate phrase.

(ii) Relying on É. Kiss (1981), she also assumes that a VM and the verb make up a word both morphologically and phonologically, and they also constitute a single unit semantically. She does not go into any details about VMs. In Chapters 3 and 4, I argue against this view of VMs, including the preverb.

(iii) In the spirit of É. Kiss (1981), and also in accordance with É. Kiss (1992, 1994a), and contrary to É. Kiss (2002), Mycock assumes that a preverbal focused constituent occupies the Spec,VP position, and she does not adopt a F(oc)P view, which is also in line with general LFG assumptions about functional projections, see the discussion of Börjars et al. (1999) above.

(iv) She points out that several GB/MP analyses of Hungarian assume that only the question phrase adjacent to the verb is in Spec,VP, and all the other question phrases function as universal quantifiers adjoined to VP, see É. Kiss (1994a, 2002), Horvath (1998), Lipták (2001) and Puskás (2000). However, by referring to Surányi (2006), Mycock claims that this universal quantifier analysis is to be rejected, and she proposes that *all* 'wh'-phrases should be assumed to occupy the Spec,VP position (on a multiple specifier view). It is also noteworthy in this connection that Gazdik (2012) claims that nonverb-adjacent 'wh'-phrases need to be treated as topics.

In Chapter 4, I discuss, in a detailed fashion, Mycock's (2010) very important phonological experimental results and generalizations pertaining to a great number of Hungarian construction types, including foci, VMs, quantifiers, negation, and (multiple) questions,[53] and I present my formal LFG analysis of all these phenomena.

(D) Gazdik (2012), capitalizing on Gazdik & Komlósy (2011), outlines an LFG analysis of Hungarian finite sentence structure, predominantly driven by discourse functional assumptions and considerations. Below is a summary of the most important ingredients of her approach.

[53] In Chapter 4, I also give a critique of various aspects of Mycock's (2006) approach outlined above.

1. Following (and somewhat extending) recent approaches to discourse functions (DFs), she breaks them down into feature values, see Table 4.[54]

+ prominent		– prominent	
+ discourse-linked	***– discourse-linked***	***+ discourse-linked***	***– discourse-linked***
thematic shifter, contrastive topic, question word (Q)	focus, hocus, question word (Q)	completive information	background information

Table 4. Gazdik's (2012) classification of DFs

2. She claims that Hungarian sentences do not even have a VP constituent, i.e. they are flat (except that she does admit a V' constituent in one of the two major sentence structure types she distinguishes, see points 3 and 4 below).
3. As regards the immediately preverbal position, which Gazdik calls prominent preverbal position (PPP), she writes:

> The question is now how to accommodate the PPP and the elements immediately preceding the verb into the structure. One option is to assume one PPP, which accounts for the complementary distribution of the hocus, the focus, question words and verbal modifiers. The other way is to assume two positions, the PPP for the focus, the hocus and question words, and another for verbal modifiers, which would account for the prosodic and lexical unit of verbal modifiers and the verb (for instance, verbs undergo nominalization together with verbal modifiers). In this case, the verbal modifier and the verb constitute a complex predicate under the V' node. However, this necessitates the introduction of additional rules that exclude the co-occurrence of the PPP and V' projection. In this paper I opt for the second possibility, keeping in mind, [sic!] that the first cannot be excluded, either (2012: 81-82).

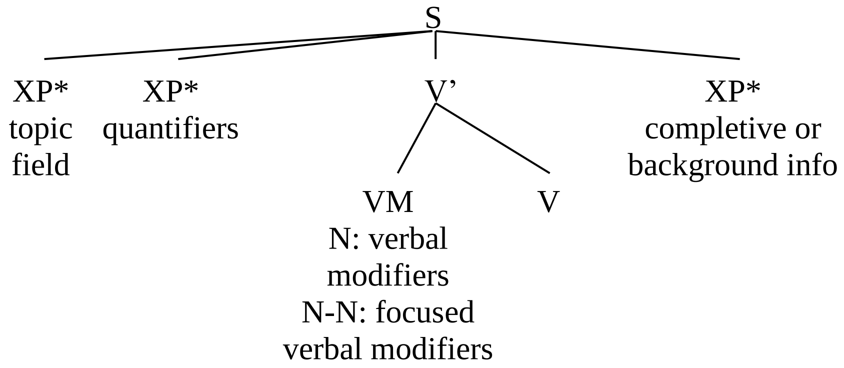
4. Relying heavily on Kálmán's (2001) descriptive characterization of word order in Hungarian sentences, and on the basis of the previous point, Gazdik distinguishes two sentence structure types, and she assumes that both structures are available to both neutral (N) and nonneutral (NN) sentences, and N and NN sentences are distinguished by their different prosodic behaviours.

(88) S

XP*	XP*	XP	V	XP*
topic field	quantifiers	N: hocus N-N: focus, Q, negated constituents		completive or background info

[54] Hocus is a special notion, see Kálmán (1985) and Kálmán (2001). Gazdik gives the following description (2012: 66-67). Hocus is assumed to be the counterpart in neutral sentences of ordinary focus in nonneutral sentences (the two sentence types have radically different intonation patterns). Both hocus and focus strictly occur immediately preverbally, and they constitute a phonological word with the verb (which loses even its word-initial stress). Both express identification; however, focus expresses the exhaustive/exclusive type of identification. Therefore, focus needs a special context, for instance, a question-answer or a correction situation, while hocus can be used without any special context, in "out-of-the-blue" sentences. For further details and examples, see Gazdik (2012).

(89)



My remarks on Gazdik’s approach are as follows.

- Basically, I sympathize with Gazdik’s general treatment of DFs, see point 1. I agree that all these functions need to be handled at a distinct representational level (in information or discourse structure). However, for simplicity of exposition, as the DF details are not relevant to the main thrust of this dissertation, I simply follow the classical LFG convention of representing TOP and FOC in f-structure. DF issues are at the forefront of current LFG investigations (see, for instance, Mycock 2013, Mycock & Lowe 2014, and Lowe & Mycock 2014), and in this light the notion of hocus, which Gazdik adopts from Kálmán (2001), has to be carefully studied, and it has to be explored how it can be accommodated in the newly emerging DF-system.[55]
- As far as Gazdik’s rejection of the VP constituent in Hungarian sentence structure is concerned, see point 2 above, I do not share her view, and in Section 2.4.2.2 in this chapter, I defend the postulation of VP and I posit it in a general parametric context from an LFG perspective.
- In my opinion, points 3 and 4 pose some crucial and rather insurmountable problems for the strictly syntactic ingredients of Gazdik’s approach. While it has to be appreciated that Gazdik basically concentrates on the discourse functional dimension of Hungarian sentences (as the title of her paper also indicates) and the truly syntactic aspects are only programmatic at most, these aspects are rather problematic, and, therefore, I think they seriously weaken the overall approach.
  a) Gazdik does not give any justification for choosing the PPP vs. V’ duality of structure.
  b) This duality account is tantamount to subscribing to the split focus—VM view, fundamentally assuming distinct syntactic positions for these two major constituent types.
  c) Gazdik herself admits that special additional rules need to be introduced for ensuring the preverbal complementarity of the two constituent types. She does not even offer a hint as to how this could be carried out in her system (and, as far as I can see, this would be far from being a trivial task, especially in the light of the next point).
  d) Gazdik practically multiplies Hungarian sentence structure variants by assuming that both the PPP version and the V’ version are available in both neutral and nonneutral sentences. This gives us 4 variants altogether, which makes the entire setup somewhat suspicious, allowing for redundancy on the one hand,[56] and making the task of capturing basic instances of complementarity rather challenging, on the other hand.

[55] My preliminary impression is that its treatment could be channelled into the treatment of informational (as opposed to identificational) focus. I intend to explore this dimension in future work; see my remarks in Chapter 7.

[56] For instance, the preverbal PPP in a V’-less structure can be focused (as opposed to a hocus constituent sitting in that position), and a VM below V’ can also be optionally focused, which yields two distinct preverbal syntactic focus positions.

e) Following the general descriptive tradition, Gazdik uses the umbrella term VM rather loosely and vaguely. On the one hand, in an appropriate LFG (or other generative theoretical) representation, the VM symbol is more than questionable (it is not an appropriate syntactic category to begin with), and, on the other hand, the real categories it subsumes in Gazdik's rather informal presentation are so diverse that they themselves call for a careful, detailed and differential (i.e. "individualized") treatment: preverbs, (obligatorily) bare nouns and fully fledged XPs are lumped together.

f) As the quote in point 3 above testifies, Gazdik also subscribes to the widely accepted, and definitely untenable, sweeping generalization that a (preverbal) VM and a verb always make up a complex predicate and form a lexical unit. On the one hand, the notion of complex predicate is typically not satisfactorily defined (if at all) in various approaches, and, on the other hand, it is more than questionable whether in Gazdik's "goal secondary predicate" example in (90) *Szegedre* 'to Szeged' and the verb are analyzable as a lexical unit in any (generative) linguistically meaningful sense.[57]

(90) *'János* ***'Szegedre*** *utazott.*
John Szeged.SUBL travel.PST
'John travelled to Szeged.'

(E) In Laczkó & Rákosi (2008-2013), our implemented grammar, we employ a modified version of É. Kiss' (1992) sentence structure. The most important features of this grammar implementation from the perspective of this dissertation are as follows.

- Not only quantifiers but also sentence adverbs, ordinary topics and contrastive topics follow the adjunction pattern, and the adjunctions of these three different categories in the topic field can freely intermingle.

(a) As regards the treatment of the Spec,VP position, the current version of our grammar is rather limited. As is well-known and as has also been pointed out above, this position can be occupied by a whole range of different types of VMs (see the discussion above) and, at least in several approaches (including É. Kiss (1992, 1994a) and ours), by focused constituents, and by 'wh'-expressions (in complementary distribution); however, our grammar posits only a focused constituent or a particle belonging to VMs (no question expressions and no other types of VMs). We assume that the preverb (having the syntactic category PRT) is a nonprojecting word (in the sense of Toivonen (2001)). From the complementarity of the two categories it also follows that a PRT can never be focused in our approach.

(b) The current version of our implemented grammar is far from being complete for several reasons, one of them being that it does not systematically cover some crucial aspects of simple finite clauses (e.g. (multiple) wh-questions, various VM types, etc.). My fundamental aim in this dissertation is to develop a much more comprehensive LFG-theoretical analysis of finite clauses in Hungarian. Hopefully, this will have two significant contributions to our XLE grammar as well. On the one hand, it will establish solid LFG theoretical foundations for the implemented grammar, and, on the other hand, it will contribute to improving and advancing this implemented grammar by proposing important XLE-specific details of the analysis.

[57] This is example (6) in Gazdik (2012: 62). I have left everything (including the apostrophes, bolding, which simply identifies the VM constituent, and the glosses) in (90) above intact. The apostrophes indicate ordinary word-initial stress. The absence of an apostrophe in front of the verb shows that *Szegedre* and *utazott* constitute a single phonological word. However, it would be highly implausible to assume that they also make up a lexical unit.

2.4. Towards an exocentric LFG account of Hungarian finite sentences

In this section, first I argue against assuming an LFG-style IP for the structural-categorial representation of Hungarian sentences (Section 2.4.1) – against the background of the LFG analysis of several other languages (at least partially) along the IP lines, see Section 2.2. Then I present my S-based alternative, which is closest in spirit to É. Kiss' (1992) GB approach (Section 2.4.2).

2.4.1. Against the IP approach

In this section I discuss the rather controversial category of auxiliaries in Hungarian and propose a possible treatment for them in the syntax of Hungarian sentences in LFG. I argue that although LFG uses the functional category I for auxiliaries in languages like English and Russian, for example, and although there are verbal elements in Hungarian that satisfy all the basic criteria of auxiliarihood, they should be taken to belong to the (ordinary) lexical category V. This approach is motivated by the following considerations. Despite the fact that the relevant elements could justify the postulation of I (just like in English and Russian) even according to the principles of LFG, the (uniform) syntactic behaviour of these elements and other (lexical) verbs with respect to designated positions in Hungarian sentence structure makes the use of I untenable. Thus, Hungarian auxiliaries proper and other (more or less) auxiliary-like elements are best handled as special subclasses of verbs, requiring appropriate lexical representations.

The structure of this section is as follows. First, I higlight some significant aspects of the literature on Hungarian auxiliaries (2.4.1.1). Then, for the sake of comparison, I briefly discuss the use of the functional category I in the analysis of English and Russian sentences in LFG and in the Chomskyan mainstream (2.4.1.2). Next, I outline a way of treating auxiliaries in my LFG syntax of Hungarian with particular attention to focused constituents and verbal modifiers (2.4.1.3). Finally, I make some interim concluding remarks (2.4.1.4).

2.4.1.1. On Hungarian auxiliaries

Kenesei (2000, 2008) offers an excellent critical overview of the three most fundamental approach types to Hungarian auxiliaries, and applies a carefully selected battery of tests for the definition of this category in this language. Below, I summarize his assessment of previous accounts and his proposal.

(A) The traditional, descriptive approaches, represented by Keszler (1995) and M. Korchmáros (1997), among others, simply give a list of what they consider auxiliaries. These are rather mixed lists containing, for instance, *fog* 'will', *van* 'be' and *marad* 'remain'. Kenesei remarks that these approaches do not apply any formal-distributional criteria at all, and they only refer to the "values" of the elements in this category: they perform functions similar to those of bound inflectional morphemes.

(B) Another approach, saliently represented by Kálmán et al. (1989), employs very strict formal-distributional criteria. The three most important ones are as follows. (i) These elements are, as a rule, combined with an infinitival verb. (ii) In a neutral sentence, i.e. a sentence containing no heavily stressed preverbal focused constituent, the infinitive without a preverb (a.k.a. verbal prefix or particle) has to precede the auxiliary immediately (and the auxiliary loses its ordinary word initial stress). (iii) In a neutral sentence, if the infinitive has a preverb, the auxiliary comes between the preverb and the infinitival verb. Given that this approach only uses these distributional diagnostics and that several kinds of verbal elements exhibit the relevant properties, the list of "auxiliaries" has 19 items, including *kíván* 'wish', *óhajt* 'desire' and *szándékozik* 'intend'.

(C) Generative approaches, represented by É. Kiss (1987, 1992), for instance, assume that there are no auxiliaries in Hungarian at all. All verbal elements belong to the category V, and it is in the lexical specifications of individual verbs that their "auxiliary-like" distributional behaviour, see (B) above, and their semantic-argument-structural properties have to be captured.

Kenesei's (2000) main concern is as follows. In (A), the criteria are too loose. In (C), there are no criteria at all. In (B), there are very few criteria, and, therefore, too many ordinary verbs are relegated to the category of auxiliaries. Then Kenesei gives a (selected) list of auxiliary properties taken from Heine (1993). It contains 18 items, some of which are interrelated. He argues that the following five criteria are crucial for identifying Hungarian auxiliaries. (i) Their paradigms are defective. (ii) They cannot function as semantic predicates of sentences. (iii) They cannot be complements of other predicates. (iv) They cannot be nominalized. (v) In their presence, the main verb is in its infinitival form. After applying these five diagnostics, Kenesei (2000) concludes that there are three verbal elements in Hungarian that satisfy all of them: *fog* 'will', *szokott* (literally: 'was accustomed (to)', meaning: general present habituality despite the past tense morphology), and *talál* (literally: 'find' meaning: 'happen to'). Consider the examples in (91).[58] Kenesei also notes that *talál* has weaker auxiliary properties inasmuch as it can have both present and past tense forms and it is also compatible with the *-na/-ne* conditional mood suffix and the *-hat/-het* potentiality suffix. Kenesei (2008), on the basis of thematic considerations, adds two further elements in their epistemic use: *kell* 'must' and *szabad* 'possible'. He claims that these five elements make up a closed class of auxiliaries in Hungarian, and he assumes that they belong to the general verbal category (V) and they represent an independent subclass there: V_{Aux}.

(91)	*János*	*el*	*fog*	*me-nni*	*a*	*mozi-ba.*
	John.NOM	PV	will	go-INF	the	cinema-into
			szok-ott			
			be.accustomed-PAST.3SG			
			talál-t			
			find-PAST.3SG			

'John will go / (usually) goes / happened to go to the cinema.'

Part of Kenesei's (2008) motivation for treating these Hungarian auxiliaries as Vs comes from the properties of English auxiliaries. He presents the relevant facts in a generalized generative linguistic representation in the following way.

(92)	a.	C	Subject	Infl	$[_{VP}$ *have*	$[_{VP}$ *be*$_{Progr}$	$[_{VP}$ *be*$_{Pass}$	VP …]]]
	b.		*Jim*	*may*				*write*
	c.			*may*	*have*	*been*		*writing*
	d.			*has*	←*e*			*written*
	e.			*is*		←*e*	*being*	*written*
	f.	*has*		←*e*	←*e*	*been*		*writing*
	g.	*did*		←*e*				*write*
	h.			*to*	*have*			*written*
	i.			*to*			*be*	*written*

He points out that it is modal auxiliaries like *may, can, will,* etc. and the *do* of "do-support" that must be taken to belong to the category Infl because they are in complementary distribution in that position, and when they are present in a sentence, they undergo movement

[58] In the gloss, PV stands for "preverb" and INF stands for "infinitival suffix". In (91), the auxiliaries intervene between the infinitival verb and its preverb.

to the complementizer (C) position in questions. The other auxiliaries, the perfective *have*, the progressive *be* and the passive *be*, are best treated as verbs subcategorizing for a VP constituent in a particular, hierarchical fashion, see (92). These other auxiliaries can only occupy the Infl position (in this approach, by movement) if it is not filled by an Infl element (a modal auxiliary or *do*), and then they can be negated like an Infl, and they can move to C.

Bresnan (2001) also discusses these auxiliary facts in her LFG framework. Given that LFG fundamentally rejects syntactic movement operations in general and movement of the sort exemplified in (92) in particular, her solution is to assume that the finite forms of *have* and *be* belong to the Infl category and their nonfinite forms are Vs. LFG's lexical representational principles and its commitment to the Strong Lexicalist Hypothesis, which assumes that all morphological processes (both derivation and inflection) are lexical, can naturally accommodate this solution.

It is noteworthy that Komlósy (1989), in the same volume as Kálmán et al. (1989), criticizes É. Kiss' (1983) model partially on the basis of different stress and word order properties of a great number of verbs in Hungarian. Thus, the stress and word order diversity is present in Hungarian not only in the case of verbs that are combinable with infinitival constructions. Pelyvás (1998) remarks that the elements identified by Kálmán et al. (1989) as "central" and "secondary" auxiliaries on the basis of their stress and word order behaviour cannot be characterized with respect to their cognitive-semantic properties, in particular, in terms of epistemic grounding. He observes that out of the 89 verbal elements examined and classified into 6 different categories by Kálmán et al. (1989), and only the first two being real auxiliary categories (central and secondary), there are only 11 that can be considered epistemic grounding predicates. On the one hand, out of the 19 elements in the first two categories, only 8 are epistemic grounding predicates, and, on the other hand, there are such predicates in the clearly nonauxiliary categories as well. It is important in this connection that Pelyvás (1998) claims that even English auxiliaries exhibit varying degrees of auxiliarihood and this category is better viewed as radial (i.e. it has prototypical organization) rather than discrete. Let me add that Kenesei's (2000, 2008) discussion of the relevant Hungarian elements also invokes the notion of gradient. Furthermore, Kenesei (2001) and Rákosi (2006) also distinguish the category of semi-auxiliaries (although they use different criteria). These details are not relevant here.[59] What is crucial for my present purposes is that we can safely identify at least three verbal elements (in certain uses) which satisfy all the relevant and widely acknowledged criteria for auxiliarihood, and this fact could, in principle, justify the postulation of the functional category I in Hungarian in an LFG framework.

2.4.1.2. On the functional category I in English and Russian – in GB and LFG

As regards the treatment of auxiliaries in English, Kenesei's (2008) characterization in (92) uses the classical GB phrase structural and categorial system. However, as is well-known, in recent versions of MP, the I functional category is no longer used (it has "exploded" and "proliferated"); instead, a whole range of other functional categories (and their X-bar projections) have been introduced: T(ense), Agr(eement), Mood, Mod(ality), Asp(ect), Voice, etc. From this it follows that the relevant verbal elements in (92) can find their respective categorial labels in the new system.

By contrast, mainstream LFG frameworks still standardly admit only three functional categories: I and C for sentences and D for noun phrases. It is important that this theory has always allowed both endocentric (CP, IP) and exocentric (S) sentence structures. It assumes

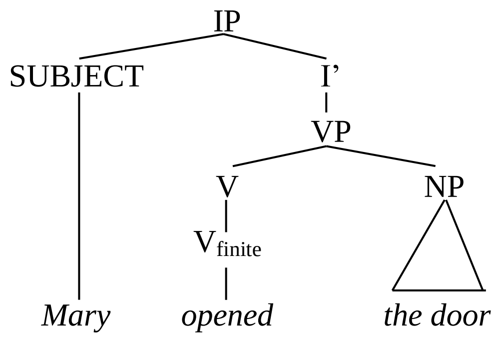
[59] Rákosi (2006) offers a detailed and illuminating discussion of a variety of approaches to various uses of Hungarian auxiliary-like elements, including his own view (see Section 5.6 and Chapter 6 in his work).

that the choice between them is another dimension of parametric variation: there are languages with only endocentric sentences, there are also exocentric languages, and, as a third option, there are mixed languages. Likewise, in certain languages noun phrases are best treated as NPs, in others they are more amenable to the DP analysis. For details, see Bresnan (2001), Dalrymple (2001) and Falk (2001), and Section 2.2 in this chapter.

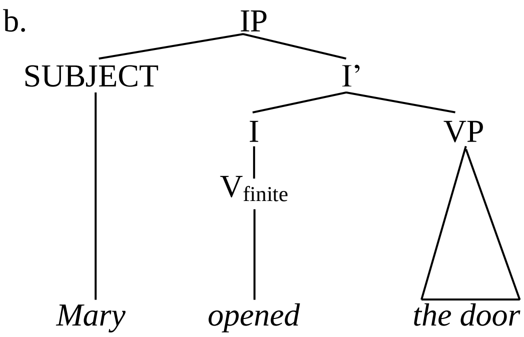
Börjars et al. (1999) offer a very important discussion of the possible special treatments of I(P) structures that the principles of LFG allow, concentrating on sentences which contain a finite verb and no auxiliary. They schematize the two possibilities as in (94a,b). I have additionally included the words of the example in (93). The basic motivation and justification for the postulation of the IP node in a language with the relevant properties (e.g. English) is that the (configurational) encoding of the subject function can be carried out in the general (i.e. generative-theory-neutral) manner: Spec,IP. Given that LFG rejects syntactic movement operations, including V-to-I movement, one transparent solution, presented in (94b), is to insert the finite verb in the I head position. This is possible, because in LFG (i) it can be naturally assumed that finite verbs belong to the category I (ii) the principle of the economy of expression admits phrasal projections without a head position. Bresnan defines this principle as follows. “All syntactic phrase structure nodes are optional and are not used unless required by independent principles (completeness, coherence, semantic expressivity)” (Bresnan 2001: 91). The VP in (94b) is necessarily headless. According to Börjars et al. (1999), this is a head-movement-mimicking solution (without real movement but with the same effect). The other alternative, shown in (94a), is to assume a headless IP (again, the economy principle makes this a legitimate step in LFG).

(93) *Mary opened the door.*

(94) a.



b.



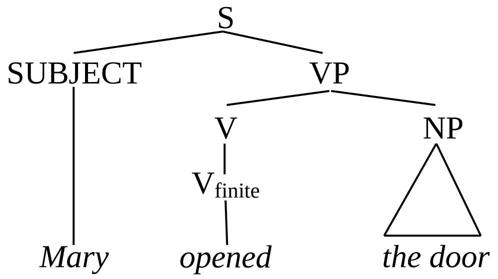
Börjars et al.’s (1999) main point is that although these possibilities are available in LFG, the postulation of IP in a language requires particular circumspection. They write:

> Complementisers like *that* and determiners like *the* indeed seem to be sufficiently distinct from verbs and nouns respectively to justify separate functional category status. I is however used variously to represent auxiliary verbs (which look like a special subclass of verb) and clusters of grammatical features (tense, agreement) which are precisely not verbs, and are spelled out in certain linear positions (e.g. second position in the analysis of Warlbiri in Austin & Bresnan (1996)). Arguably these are not the same and should be handled distinctly.
>
> Despite the potential restrictiveness of the LFG conception of functional categories, a liberal interpretation of Specialization has come to allow lexical categories which are morphologically marked for some functional feature (like tense or definiteness) to be considered as functional categories, and therefore as potential occupants of functional nodes (many such analyses can be found in the LFG literature, for examples, see Kroeger (1993), King (1995) and Sells (1998)). In conjunction with clause (b) of Structure-Function Association, this allows LFG analyses effectively to mimic P&P

> analyses which use movement from lexical to functional nodes, though of course, because of the principle of Economy of Expression, traces are disallowed per se (1999: 1-2).

In the light of these considerations, it is noteworthy that Bresnan (2001) gives an exocentric analysis of a sentence like (93), see (95).[60]

(95)



It is a fundamental difference between LFG and GB or MP that the former respects the Lexical Integrity Principle (LIP): in this framework any syntactic position can only be occupied by a syntactic atom: a word. No bound morphemes are allowed to live independent syntactic lives. Moreover, as partially follows from LIP, in LFG the postulation of the existence of any one of the three functional categories in a particular language is an empirical issue: there has to be at least one word in that language that can be plausibly taken to belong to the given functional category.[61] For instance, in English all the three functional categories are justified: C (*that*), I (*may*) and D (*the*). In Section 2.2 I pointed out that Bresnan (2001), for example, assumes the same category labels as Kenesei (2008) in (92) (without, however, the movement part of the analysis), which is a natural consequence of these LFG principles.[62]

As I discussed in Section 2.2 in Chapter 2, Bresnan (2001) adopts the following aspects of King's (1995) LFG analysis of Russian, which is also highly relevant to our concerns here.[63] Russian makes use of both configurational and case-marking principles of function specification. It is an internal subject language, which means that it has two subject positions: one in S and another in Spec,IP. S is the complement of I, which is the category of finite verbs and V is the category of infinitives. In King's (1995) analysis, the specifier of IP can have the TOP function, which (by default identification) is also a subject position (one of the two subject positions).

---

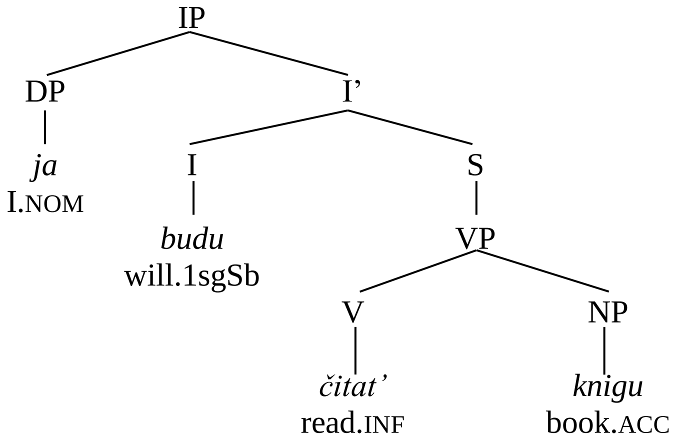
[60] Interestingly, Dalrymple (2001) analyzes this type as in (94a).

[61] Also see the relevant discussion of Börjars et al. (1999) above.

[62] The V treatment of *have* and the two *be*-s requires a marked solution in both frameworks, because the VP complements of these Vs are nonthematic, as opposed to the complements of ordinary lexical Vs. In Kenesei's framework, these elements do not have a theta-grid, that is, they do not assign theta roles. In Bresnan's system, they do not have a PRED feature, that is, they do not have real semantic content, let alone an argument structure. They are annotated in c-structure as functional coheads with their complement VP. They make their aspectual or voice contribution, while the true verbal semantic content is contributed by the V functional head of the VP functional cohead.

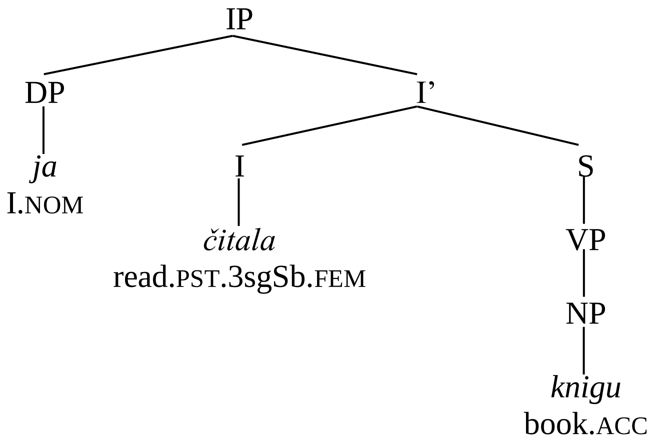
[63] For convenience, here I repeat examples (61), (62), (63) and (65) from Section 2.2 as (96), (97), (98) and (99), respectively.

(96)



‘I will read a book.’

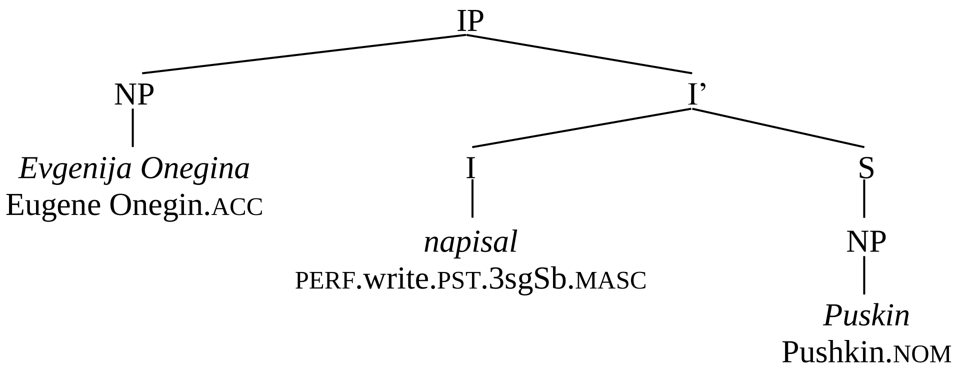
(97)



‘I was reading a book.’

In addition, the Spec,IP position can be filled by a nonsubject. Russian solves this problem by employing the case (dependent-marking) strategy of function specification, in addition to the configurational strategy.

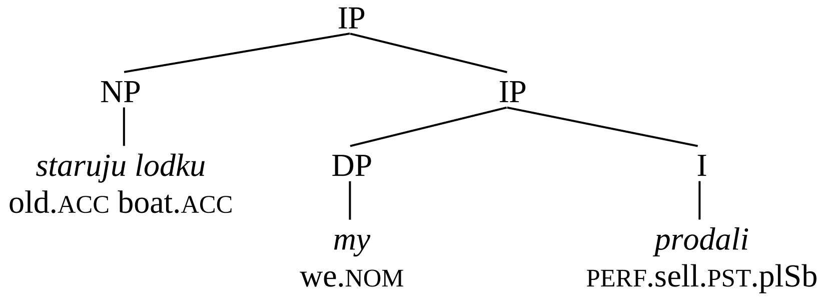
(98)



‘Pushkin wrote *Eugene Onegin*.’

Whereas Spec,IP can be either TOP or FOC, a constituent adjoined to IP can only be TOP in Russian:

(99)



'The old boat, we sold.'

2.4.1.3. On the treatment of auxiliaries in an LFG syntax of Hungarian

In this section, capitalizing on the discussions in Sections 2.4.1.1. and 2.4.1.2, I present the most important conclusions we can make about developing an LFG syntax of Hungarian finite simple sentences in general and the treatment of Hungarian auxiliaries in this system in particular. My main claim is that although clearly there are auxiliaries in Hungarian, which could, in principle, justify the postulation of an IP category in Hungarian, there are very strong arguments against employing IP and assuming that auxiliaries are Is.

Kenesei (2000, 2008) convincingly shows that there are at least five verbal elements in Hungarian that must be considered to be auxiliaries, at least in one of their uses, on the basis of all major and generally acknowledged and widely used criteria. This fact would justify assuming them to represent the category I in this language. Given that the postulation of CP is unquestionable (there are complementizers like *hogy* 'that' in this language and the relevant word order facts are also appropriate) the sentence could be taken to have the CP-IP phrasal-categorial articulation. It is noteworthy already at this point that Kenesei himself suggests that these five auxiliaries are best treated as Vs making up a subgroup of Vs with special properties which have to be encoded in their lexical representations.

As has been discussed in Section 2.2, in LFG, provided that there is at least one word that can be demonstrated to exhibit the properties of a finite auxiliary, also see the previous paragraph, the postulation of IP is motivated if its specifier position is associated with a distinct function. For instance, in English it is the subject (grammatical) function, and in Russian it is a discourse function. Now, it is widely assumed that there is no empirical evidence for a designated subject position in Hungarian. By contrast, the Russian discourse functional pattern could be taken to lend rather strong support to employing an IP as the LFG counterpart of Brody's (1990) FP (Functional Projection) and more recent accounts' F(oc)P (Focus Phrase), see, for instance, É. Kiss (2002). However, below I argue that even this use of the IP has no empirical support, and, therefore, it has to be abandoned.

The IP approach to Hungarian sentence structure, following the Russian pattern, would have the following aspects to it. We could assume that its specifier position hosts focused constituents, and only focused constituents, excluding ordinary (nonfocused) VMs. In addition, it would have to be assumed that (finite) auxiliaries and finite verbs can occupy the I head position, just like in Russian. There would be, however, at least three serious problems with this scenario.

(A) It can be shown that a whole range of clearly unfocused VMs can also immediately precede an auxiliary (on this account: they can also occupy the Spec,IP position). Obviously, these elements are the VMs of the infinitival complements of the auxiliary. Consider the following examples, illustrating three salient VM types.[64]

(100) a. *János be rúg-ott.*
John.NOM in kick-PAST.3SG
'John got drunk.'

b. *János be fog rúg-ni.*
John.NOM in will.3SG kick-INF
'John will get drunk.'

(101) a. *János pali-ra ve-tte Péter-t.*
John.NOM paul-onto take-PAST.3SG Peter-ACC
'John made a dupe of Peter.'

b. *János pali-ra fog-ja ve-nni Péter-t.*
John.NOM paul-onto will-3SG.DEF take-INF Peter-ACC
'John will make a dupe of Peter.'

(102) a. *János könyv-et olvas-ott a villamos-on.*
John.NOM book-ACC read-PAST.3SG the tram-on
'John was reading a book (= was book-reading) on the tram.'

b. *János könyv-et fog olvas-ni a villamos-on.*
John.NOM book-ACC will.3SG read-INF the tram-on
'John will be reading a book (= will be book-reading) on the tram.'

In (100a) the particle (preverb) *be* 'in(to)' is used in an absolutely noncompositional complex predicate (particle verb construction, PVC). It does not receive heavy (= focus) stress (eradicating stress, see Kálmán 2001), and the whole intonation pattern is typical of neutral sentences. In (100b), the combination of the particle, the auxiliary and the infinitive exhibits exactly the same properties. This is the unmarked use and interpretation of both sentences in (100). It is to be noted that occasionally the particle can receive focus stress as well in (100a,b). In such a case the interpretation of the construction is that of verum focus ('John DID get drunk.') However, the main point from our perspective is that the alleged Spec,IP position can also be filled by a nonfocused VM. In (101), the VM is an idiom chunk (*palira* 'paul.onto'). Needless to say, it cannot receive focus stress and focus interpretation in its own right. Still it can occupy the alleged Spec,IP position.[65] The examples in (102) illustrate exactly the same scenario, but this time the VM is a bare noun object.

(B) As is demonstrated in a detailed and comprehensive fashion by Kálmán et al. (1989), and as is particularly emphasized by Kenesei (2000, 2008), there are several finite lexical verbs, taking infinitival complements, that share the above behaviour with auxiliaries, i.e. in neutral sentences they must be preceded by the VM of their infinitival complement. However, a great number of other finite verbs, also taking infinitival complements, reject this pattern, and they require their infinitival complements to be preceded by their own VMs. Compare the following examples.

[64] A reminder: contrary to the standard Hungarian spelling convention, following É. Kiss (2002) and Laczkó & Rákosi (2011), among others, I spell the particle and the verb as two separate words even when the former immediately precedes the latter. This is because we assume that the two elements occupy distinct syntactic positions.

[65] In this case, too, occasionally the idiom chunk in both (101a) and (101b) can receive heavy focus stress; however, in this case, too, this can only encode verum focus: 'John DID make a dupe of Peter.'

(103) *János* *be* *akar-t* *rúg-ni.*
John.NOM in want-PAST.3SG kick-INF
'John wanted to get drunk.'

(104) *János* *pali-ra* *szeret-né* *ve-nni* *Péter-t.*
John.NOM paul-onto like-COND.3SG.DEF take-INF Peter-ACC
'John would like to make a dupe of Peter.'

(105) a. **János* *be* *utál* *rúg-ni.*
John.NOM in hate-PRES.3SG kick-INF
'John hates to get drunk.'

b. *János* *utál* *be* *rúg-ni.*
John.NOM hate-PRES.3SG in kick-INF
'John hates to get drunk.'

(106) a. **János* *pali-ra* *imád-ja* *ve-nni* *Péter-t.*
John.NOM paul-onto love-PRES.3SG.DEF take-INF Peter-ACC
'John loves to make a dupe of Peter.'

b. *János* *imád-ja* *pali-ra* *ve-nni* *Péter-t.*
John.NOM love-PRES.3SG.DEF paul-onto take-INF Peter-ACC
'John loves to make a dupe of Peter.'

The problem then is that there is a split between two groups of finite verbs. One group patterns with the auxiliaries and the other does not. This is rather suspicious, because we do not find such a split either in English or in Russian: all auxiliaries and all finite verb forms share the same general properties as heads of IPs.

(C) Infinitival constructions also exhibit the same duality of preverbal constituents. These constituents can be either focused phrases or VMs. Compare the following examples.

(107) a. *János* *szeret-ne* *újság-ot* *olvas-ni.*
John.NOM like-COND.3SG newspaper-ACC read-INF
'John would like to read a newspaper (= to newspaper-read).

b. *János* *szeret-ne* *ÚJSÁG-OT* *olvas-ni* *(és nem KÖNYV-ET).*
John.NOM like-COND.3SG newspaper-ACC read-INF and not book-ACC
'John would like to NEWSPAPER-read (and not BOOK-read).

c. *János* *ÚJSÁG-OT* *szeret-ne* *olvas-ni* *(és nem KÖNYV-ET).*
John.NOM newspaper-ACC like-COND.3SG read-INF and not book-ACC
'John would like to NEWSPAPER-read (and not BOOK-read).

In (107a) the infinitival construction contains a bare noun VM preceding the infinitive. In (107b) the same bare noun receives focus stress and interpretation. (As (107c) shows, the focused element can also precede the finite verb.) In the Spec,IP=focus approach, the type exemplified by (107b) would inevitably lead to assuming that infinitival constructions are also IPs. Then, however, the fundamental "I = (finite) auxiliary or finite verb" aspect of the analysis would collapse. It is important to point out that following from the different principles and assumptions of LFG and GB/MP, the facts discussed above, which would defy an LFG-style IP analysis of focus constructions, would also be problematic for a GB/MP-style approach, although for a different reason. In the classical version of GB both finite and nonfinite clauses are treated as IPs, which would be an advantage, see the discussion above; however, in that framework the Spec,IP position is reserved for subjects and not for foci by default. I think this explains primarily why alternative solutions have been developed in this theory. É. Kiss (1992) assumes that the Spec,VP position is the focus position, which, as I remarked above, is problematic, because she is forced to collapse foci and VMs in an unprincipled manner. Since the introduction of functional categories in addition to IP and CP at the clausal level, the standard treatment has been the postulation of a functional projection that hosts a focused constituent in its specifier position: Spec,F(oc)P, for an overview of various alternatives along this general line, see É. Kiss (2002). Given that the IP approach in LFG is implausible, see the discussion above, and no additional functional categories are admitted in the theory, an LFG account needs to employ a basic S/VP configuration. For a brief overview of a variety of analyses, see Section 2.3.

In Section 2.4.2, I will develop a detailed LFG analysis of focus and VM constructions. I will argue that É. Kiss' (1992) unorthodox GB approach can be adapted and accommodated in LFG in a theory-internally principled manner, thanks to the architecture and assumptions of this model. It is a representational (i.e. nonderivational) theory with several parallel structural components (e.g. annotated constituent structure, corresponding functional structure, information structure and prosodic structure). One and the same c-structure position (node) can be associated with alternative annotations providing the mapping (linking) to other relevant levels of representation. I will claim that the Spec,VP position can be assigned the following two functional annotations (among others which are not relevant here).[66]

(108) { (↑ FOCUS) = ↓
| (↓ CHECK _VM)$=_c$ +}[67]

This disjunction encodes the fact that the position (node) is either a focus or a VM (and in a fuller analysis the two disjuncts are also combined with additional annotations providing the appropriate linkage to the corresponding elements in prosodic structure). Lexical items, in turn, can also be provided with appropriate annotations encoding their properties. For instance, *érkezik* 'arrive' and the *vesz* 'take' predicate of the idiom *palira vesz valakit* 'make a dupe of somebody' are verbs which require a designated VM element in Spec,VP in neutral sentences: *érkezik* requires its oblique argument (as its VM) to fill this position, while the designated VM of *vesz* is the idiom chunk. In a nonneutral clause the same position is occupied by a focused constituent, as usual. The simplified lexical forms of these two predicates are given in (109) and (110).[68]

(109) *érkezik*, V (↑ PRED)= 'arrive <(↑ SUBJ) (↑ OBL)>'
{ (↑ FOCUS) **|** (↑ OBL CHECK _VM)= + **}**

(110) *vesz,* V (↑ PRED)= 'make-a-dupe-of <(↑ SUBJ) (↑ OBJ)>' (↑ OBL)
(↑ OBL FORM) = PALIRA **{** (↑ FOCUS) **|** (↑ OBL CHECK _VM)= + **}**

In the spirit of Kenesei's (2008) claim that Hungarian auxiliaries should be taken to be Vs (making up a special subgroup), and in the vein of Bresnan's (2001) treatment of the nonmodal auxiliaries *have* and *be*, we can assume that *fog* 'will', for instance, is a verb with the following lexical entry.

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[66] In addition, the general property of Hungarian verbs that they themselves can be focused is also shared by verbal elements in their truly auxiliary use, and, furthermore, they also exhibit uniform behaviour with respect to negation facts.

[67] An XLE-specific remark is in order here. Technically, the true complementarity in the case of disjunctions like (108) has to be encoded in such a way that in the second disjunct the negation of the first is also included:

(i) { (↑ FOCUS) = ↓
| ~(↑ FOCUS)
(↓ CHECK _VM)$=_c$ +}

For simplicity of exposition, I will leave these negative existential constraints out.

[68] The representation in (110) encodes that the verb has two semantic arguments, the subject and the object, and the oblique constituent is only a formal complement having no semantic content: only a form feature.

(111) *fog*, V (↑ TENSE) = future
(↑ SUBJ NUM) = SG
(↑ SUBJ PERS) = 3
{ (↑ FOCUS) **|** (↑ CHECK _VM)= + **}**

It has no PRED feature (i.e. no semantic content). It contributes the future value for the TENSE feature of the VP[69] (and, consequently, of the entire sentence) as well as the values for the number and person features of the subject. In addition, it requires a focused constituent or a VM in Spec,VP. The "subclass" property of auxiliaries like *fog* in Kenesei's sense is reflected by the fact that they have no PRED feature.[70]

Finally, let me also point out that it would also be possible to develop an LFG analysis of neutral VM and nonneutral focus clauses in such a way as to mimic the generally advocated GB/MP approach. We could assume two distinct positions for foci and VMs. The most natural way of implementing this would be to posit that the VM is in Spec,VP and focus is the first XP left-adjoined to VP. It would be possible to capture their complementarity by dint of appropriate annotations and constraints. However, intuitively, the complementarity is most naturally handled by postulating a single designated position, and LFG's principles and architecture make it possible to encode the contrasting functional, word order and prosodic properties of the two constituent types by employing appropriate sets of disjunctive annotations associated with the same node.

2.4.1.4. Interim conclusions

In this section (2.4.1), capitalizing on Kenesei (2000, 2008), I pointed out that there are at least five verbal elements that can be unquestionably regarded as auxiliaries, and this, in theory, would make it possible to employ the IP category in general, and to treat nonneutral, focus constructions in this setting in particular. However, on the basis of empirical and theory-internal considerations, I argued that the IP approach would be implausible and highly problematic. Instead, I (repeatedly) subscribed to the exocentric S/VP framework, endorsing an analysis which postulates that foci and VMs are in complementary distribution in Spec,VP. Although it would be possible, even in this LFG approach, to assume two distinct positions for VMs and foci: Spec,VP and left-adjunction to VP, respectively, it is more intuitive and more in the spirit of LFG to employ a single designated position associated with alternative sets of annotations. In this approach, in accordance with Kenesei's (2008) generalization, I assume that Hungarian auxiliaries are Vs, and their special properties, just like the similar special properties of a large group of lexical verbs, have to be encoded in their lexical forms.

2.4.2. An S analysis in an LFG framework

The aim of this section is twofold. (A) I will present the essential ingredients of the first most comprehensive LFG analysis of Hungarian finite clauses,[71] designed to be XLE-implementable (Section 2.4.2.1). (B) I will discuss what certain aspects of my approach can contribute to augmenting LFG's parametric space potentially available to c-structure—grammatical-or-discourse-function associations (Section 2.4.2.2).

[69] It can be assumed that, in addition to the past and present (or, rather, nonpast) values of the TENSE feature, which have morphosyntactic encoding, *fog* is a syntactic encoder of the future value.

[70] Actually, they can be seen as a subsubclass: they belong to the large subclass of Vs that require the Spec,VP position to be occupied by either a focused constituent or a VM, and within this subclass, there are two subsubclasses: that of lexical verbs like *érkezik* 'arrive' and idiomatic *vesz* 'take' and that of auxiliaries like *fog* 'will' and *szokott* 'habitual present'.

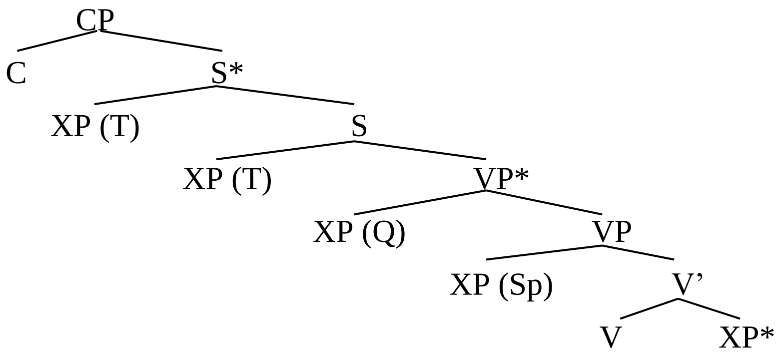
[71] For details of the treatment of constituents in Spec,VP, see Chapters 3 and 4. For an analysis of negation, see Chapter 5. The details of an account of quantifiers are left for future work.

2.4.2.1. *The fundamental aspects of the analysis*

In the spirit of our implementational grammar, Laczkó & Rákosi (2008-2013), partially inspired by É. Kiss (1992), I assume the skeletal sentence structure in (112). This follows É. Kiss' (1992) GB structure, shown in (9) in Section 2.1.1, with some differences.

a) I do not assume an E (=expression) node for hosting left-dislocated contrastive topics.[72]
b) Instead of a flat topic/sentence field, I assume a binary branching left-adjoined structure, which É. Kiss (1992) also does in the quantifier field.[73]
c) Naturally, in my structure, the nodes are associated with customary LFG functional annotations. In (112), I schematically represent the most crucial ones to be discussed in a detailed fashion below (T, Q, Sp).

(112)



This overall structure is fully in the spirit of the fundamental aspects of the structural approach in Laczkó & Rákosi's (2008-2013) HunGram, except that in that implemented grammar, following the standard XLE practice in order to enhance parsing and generation efficiency, we employ a whole range of specific c-structure node labels.[74]

Table 5 gives an overview of the essential features of the disjunctive annotations associated with the topic field, the quantifier zone and the Spec,VP position, schematically represented in (112).[75]

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

Table 5. Basic functional annotations in the left periphery

Let me now discuss the most crucial details of the analysis.

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[72] As I pointed out in Section 2.1.1, more recent empirical evidence testifies that contrastive topics, ordinary topics and sentence adverbs can intermingle; thus, the structural separation of contrastive topics is no longer tenable.

[73] In (112), S* and VP* encode this binary branching, left adjoined structural organization of the topic and quantifier domains.

[74] Here are some examples: Sfinctopic = a finite sentential node dominating a contrastive topic, Sfintopic = a finite sentential node dominating an ordinary topic, CPembed = a finite clausal argument, CPcond = a finite conditional clause.

[75] The annotations associated with the quantifier field and the Spec,VP position are part of my new proposal, and it is left for future research to test their implementability in our HunGram grammar and to efficiently implement them.

(A) As I have mentioned above, I assume a binary branching, left-adjoined structure in the topic field as well, contrary to É. Kiss' (1992) flat structure. My main motivation for this is that in this way we can capture instances of coordination with shared topic and/or sentence adverbial constituents, illustrated in (113), in a more intuitive and a much more implementable way. The first (right-most) topic or sentence adverb occurs in the clause-initial position dominated by S, and all the others are iteratively left-adjoined to S, see (112). This is similar to King's (1995) treatment of multiple topics in Russian: the first topic is in Spec,IP, and all the others are left-adjoined to IP.[76]

(113)	*Pali*	*tegnap*	*a könyvet*	*oda*	*adta*	*Évának,*
	Paul.NOM	yesterday	the book.ACC	VM	gave	Eve.to
		és	*a fotót*	*el*	*küldte*	*Katinak.*
		and	the photo.ACC	VM	sent	Kate.to

'Yesterday Paul gave the book to Eve and sent the photo to Kate.'

The annotations in the topic field are rather straightforward. The first main disjunct encodes the following: the relevant constituent bears a particular grammatical function, and, in addition, it has one of the two topic functions. The second main disjunct is for sentence adverbs. The first line states that it always has an adjunct function, and the constraining equation in the second line only admits adverbs of the sentential type (so specified in their lexical forms).

Let me now comment on the annotations I propose for the quantifier field.

- As I will discuss in a detailed fashion in Chapter 4, there are two major ways of treating multiple constituent questions. The wider-spread view is that it is always a single question phrase (the one closest to the verb) that occupies the Spec,VP position, and all other question phrases are VP-adjoined in the quantifier field. The alternative stance is that all question phrases are in Spec,VP.[77] In the analysis I propose here, I subscribe to the former view.
- A constituent in this field bears a grammatical function, and (following from the previous point) it is either a quantifier or a question phrase. This is encoded by the disjunction.
- In the two disjuncts, I use the XLE-style CHECK featural device. Its essence is that these CHECK features come in pairs: there is a defining equation and it has a constraining equation counterpart. These CHECK feature pairs can ensure that two elements will occur together in a particular configuration,[78] or that a particular element will occur in a designated position. It is this latter property that I utilize here.
- In the first disjunct, the constraining CHECK feature equation requires a constituent containing an element that is (inherently) specified as a quantifier.[79] The defining CHECK feature equation counterpart is included in the lexical entries of the quantifier elements involved, see the generalized lexical form representation in (114).

(114) L (quantifier) …
(CHECK _QP (GF*↑))= +

[76] É. Kiss (1992: 89-91) points out that either the iteratively binary branching solution or her flat structure can capture the relevant coordination phenomena. She does not particularly argue for choosing the latter, and she only mentions that in that approach the shared (nonrepeated) topics or sentence adverbs have to be assumed to be gapped. Interestingly, É. Kiss (1994a) uses the other strategy. One of the motivations for this could be the fact that in this work she postulates a TP (TenseP) instead of S. Thus, her TP based solution is similar in spirit to King's (1995) IP treatment.

[77] For details and references, see Chapter 4.

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

[79] _QP is mnemonic of this category.

- The reason why this CHECK feature is expressed in an inside-out functional uncertainty relation is that a quantifier can be (multiply) embedded in a constituent, and it will still turn the entire constituent into a quantified phrase which is required to occupy the designated quantifier position.[80]
- The second disjunct regulates the occurrence of additional question phrases in multiple constituent questions. The combination of the (↑CHECK _VM-INTER)=c + and the (↓CHECK _QP-INTER)=c + constraining equations guarantees that this position can be occupied by an interrogative expression (second equation) iff the Spec,VP position is already occupied by another interrogative expression (first equation).[81] I have included the (↓ SPECIFIC)=c + constraining equation to capture É. Kiss' (1992) empirical generalization to the effect that in multiple constituent questions specific interrogative expressions target the quantifier field. Question words are assumed to have the generalized lexical form shown in (115). The annotations encode the following properties respectively.

    - These elements are interrogative pronouns.
    - They occur in constituent questions.
    - They occur in sentences that do not contain a focused constituent.[82,83]
    - They are constrained to occur in the Spec,VP or the (VP-adjoined) quantifier positions.

(115) L (wh-word) …[84]
(↑ PRON-TYPE)= interrogative
(STMT-TYPE (GF* ↑))= wh-interrogative
~(FOCUS (GF* ↑))
{ (CHECK _VM-INTER (GF* ↑))= +
| (CHECK _QP-INTER (GF* ↑))= + **}**

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

- The three main disjuncts encode the complementary distribution of focused constituents, question phrases and VMs, respectively.
- The first disjunct is straightforward.[85]

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80 It is for the very same general reason that in the generalized lexical form of question words in (115) the inside-out functional uncertainty notation is employed.

81 The defining equation counterpart of the first equation is associated with the Spec,VP position, see below, while the defining counterpart of the second equation is included in the lexical forms of question words, see (115).

82 This captures the fact that, on the one hand, question phrases and ordinary focused constituents are in complementary distribution, aspiring to the same Spec,VP position, and, on the other hand, even when one or several of them do not occur in Spec,VP that position has to be occupied by another question expression (and not a focused constituent).

83 It is a widely discussed exception that the question word *miért* 'why' behaves differently: it can occur in a VP-adjoined position when Spec,VP is occupied by a focused constituent. This calls for a special treatment which I will include in my detailed analysis of (multiple) constituent questions in Chapter 4. However, it is obvious already that the ~(FOCUS (GF* ↑)) negative existential constraint will have to be removed from the lexical form of this particular question word, and in the annotations associated with the VP-adjoined position the simultaneous presence of an ordinary focused constituent will have to be optionally encoded, but all this will have to be appropriately constrained to questions containing *miért* 'why'.

84 An XLE technical remark is in order here. (GF* ↑) in these annotations has to refer to the same path, so a local variable needs to be used to anchor it.

85 However, a (repeated) reminder is in order. Although I subscribe to the very strong recent view in LFG that discourse functions are to be uniformly represented in i-structure, for a useful discussion of the relevant literature, see Gazdik (2012), for the sake of simplicity of exposition here I apply the classical LFG representation of TOPIC and FOCUS in f-structure.

- In the second disjunct, the first (constraining) CHECK feature equation requires the presence of a question phrase in this designated position. Its defining counterpart is included in the lexical forms of question words, see (115).
- In the second disjunct, the second, optional, defining CHECK feature equation serves as the licensor of the occurrence of question phrases in the quantifier field.[86] When it is not present in the structure, no question phrase can occur in the quantifier position. When it is present, it requires the presence of one or more question phrases. From the perspective of question phrases in the quantifier position: they can only occur there if the Spec,VP position is filled by a question phrase.
- The third disjunct handles VMs. The defining counterpart of its constraining CHECK feature equation is included in the lexical forms of the elements that can occupy this position in neutral sentences (in nonfocused sentences and nonconstituent-question sentences). The functional head annotation (↑=↓) in the disjunction is for particles, while the (↑GF)= ↓ annotation is for all the other types of VMs.
- In Chapter 3, I present a detailed analysis of various types of VMs.

2.4.2.2. On c-structure positions and functional annotations

My proposed analysis of Hungarian finite clauses poses three problems for standard LFG assumptions about c-structure—function associations. However, in this section, I claim that the relevant Hungarian phenomena and my analysis can be seen as providing evidence for augmenting the cross-linguistic, parametric space for these structure-function correspondences.

(A) Consider the following quotes, repeated here from Section 2.2 for convenience.

- "Functional categories are specialized subclasses of lexical categories which have a syncategorematic role in the grammar (such as marking subordination, clause type, or **finiteness**)" (Bresnan 2001: 101).
- "Specifiers of functional categories (IP or CP) play special roles, mapping to the syntacticized discourse functions SUBJ, TOPIC or FOCUS" (Bresnan 2001: 102).
- "Modifier phrases fill the specifier of a lexical category" (Dalrymple 2001: 71).

In Section 2.4.1, I argued extensively against postulating I(P) in Hungarian. However, there is evidence for a designated preverbal position which can be occupied by a focused constituent (in complementary distribution with other constituent types), and this position is best analyzed as Spec,VP. On the one hand, it is clearly a highly distinguished position, and, on the other hand, the postulation of a VP (and a specifier within it) makes the treatment of quantifiers as VP-adjoined constituents feasible. In addition, coordination facts can also be straightforwardly captured by dint of the Spec,VP analysis.[87] The problem then is that the designated focus position is not in the specifier of either a CP or an IP (cf. the second quote from Bresnan 2001); moreover, the assumption that it is in Spec,VP goes against the generalization expressed in the quote from Dalrymple (2001) above.

I think this problem can be solved in the following way. Both CP and IP are regarded as extended functional projections of the verb. We can assume that it is fundamentally the specifier positions of the projections of the verb (whether lexical: VP or functional: CP, IP) that can (optionally) host constituents with discourse functions. For a discussion of extended heads from an LFG perspective (as compared to the GB view), see Section 10.3 of King (1995).

[86] Its constraining counterpart is associated with the VP-adjoined position.

[87] The entire "post-focus" portion of a sentence can be conjoined. This can be neatly treated by assuming that the relevant portion of the sentence is a V' constituent, and we are dealing with V'-coordination.

It is noteworthy in this respect that this is not the first instance in which a basic structure-function generalization needs to be augmented. Bresnan (2001: 109) discusses a similar case. The original assumption was this. “Complements of lexical categories are the nondiscourse argument functions.” However, for the appropriate treatment of English examples like *Mary will not be running*, the following needed to be added: “… or f-structure coheads”. This made it possible to assume that progressive *be* and the *-ing* VP it subcategorizes for (i.e. its complement) can be made functional coheads. My claim is that if a generalization about the complements of lexical categories can be augmented on solid empirical grounds, then this, in principle, can be an option in the case of the specifiers of lexical categories – under similar circumstances.[88]

(B) Consider the following quote. “The daughters of S may be subject and predicate” (Bresnan 2001: 112). I propose, on the basis of my analysis, that this generalization should be modified in the following way.

(116) The daughters of S may be subject/topic and predicate.

This modification receives independent support from the following rule from Bresnan & Mchombo (1987).[89]

(117) $$\mathrm{S} \rightarrow \begin{pmatrix} \mathrm{NP} \\ (\uparrow\mathrm{SUBJ})=\downarrow \end{pmatrix}, \begin{pmatrix} \mathrm{NP} \\ (\uparrow\mathrm{TOPIC})=\downarrow \end{pmatrix}, \begin{pmatrix} \mathrm{VP} \\ \uparrow=\downarrow \end{pmatrix}$$

(C) Gazdik (2012) rejects the postulation of a VP in Hungarian by referring to Dalrymple’s (2001) generalization: a VP is justified if it does not contain the subject. In the light of point (B) above, I think it is reasonable to modify this generalization. The modified version could run as follows: a VP can contain a subject if the XP in $[_S$ XP VP] is a topic. This would require all other occurrences of VP to be subjectless.[90]

2.4.3. Implementational issues

In our HunGram implementational LFG grammar (Laczkó & Rákosi 2008-2013), we “translate” É. Kiss’ (1992) GB analysis of Hungarian finite sentences into LFG-theoretic terms, and we implement this by employing a whole range of labelled constituent structure categories, as is customary in the practice of the ParGram enterprise. As I pointed out above in passing, É. Kiss’ (1992) model is unorthodox with respect to some crucial GB assumptions: (i) it employs the exocentric sentence label S (ii) it does not use verb-related functional categories at all (not even IP) (iii) it postulates a verb-initial, flat, free-word order V’, also containing the subject argument, and, consequently, it violates both the strict binary branching principle and the structurally asymmetrical representation of the subject and the object, and, even more generally and more seriously: there is no designated configurational encoding of these grammatical functions even in deep structure, which is alien to all mainstream Chomskyan models. Needless to say, all these marked aspects of É. Kiss’ GB account are absolutely unmarked for an LFG approach. Thus, at the LFG-theoretic level, in Laczkó & Rákosi (2008-2013) we adopt É. Kiss’ unorthodox GB analysis in LFG in a fundamentally orthodox fashion in the above respects. There are, however, three aspects of our approach, which are not in accordance with standard LFG c-structural representational principles.

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[88] Eventually, it may turn out that it is only verbs (VPs) that call for, or admit, this augmentation cross-linguistically.

[89] On the basis of (117), *subject and/or topic* seems even more appropriate than *subject/topic* in (116).

[90] On this scenario, the following three parametric options seem to emerge across languages: (i) strictly VP-external subject (English) (ii) VP-internal subject in a designated position (Russian) (iii) VP-internal subject without a designated position (Hungarian).

(A) If a language is analyzed as making use of the [$_S$ NP XP] configuration then the default assumption is that the NP has the SUBJ grammatical function, see Section 2.2 above. By contrast, in our analysis this constituent (potentially bearing a whole range of argument and adjunct functions) has the topic discourse function.

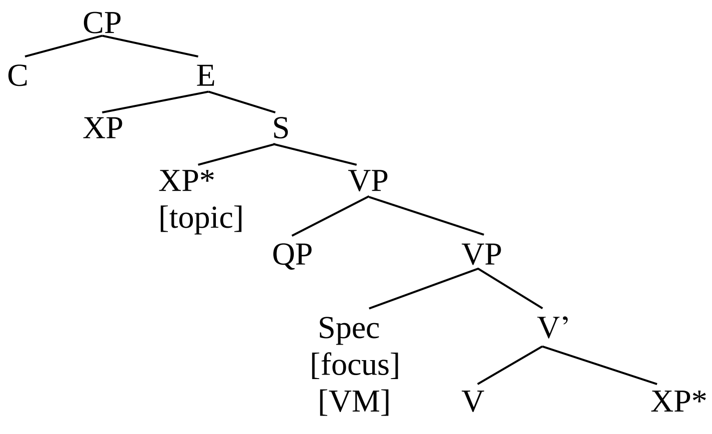
(B) The other unusual aspect of our approach in an LFG setting is that the specifier position of our VP (at least optionally) hosts a focused constituent. This assumption is in contrast with the rather generally accepted view that it is the specifier positions of functional categories that typically host constituents with discourse functions, and the VP is a lexical projections, see the discussion of Bresnan (2001) and Dalrymple (2001) in Sections 2.2 and 2.4.2.2. For a treatment of Spec,VP as hosting focus, similar to our approach in this respect, see Mycock (2006).

(C) Another rather widely-accepted VP-related view is that VPs normally contain all the arguments of the verb except for the subject (also see point (A) above). By contrasts, we and Mycock (2006) assume that, unless it has a discourse function, the subject is also generated within the VP (in a flat, verb-initial V').

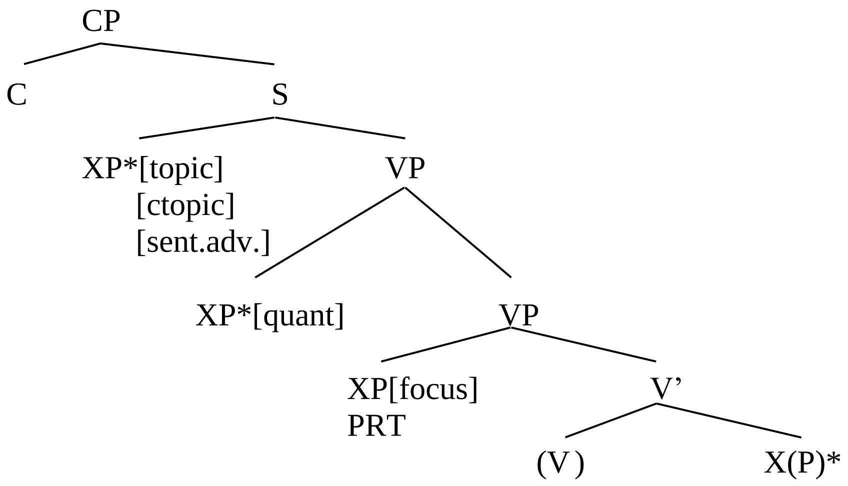
When I am developing my LFG analysis of Hungarian finite clauses, I will defend the approach outlined above, with its general (and unmarked) and specific (and somewhat marked) aspects.

Let me also mention that the fact that É. Kiss (1994a) replaces the S symbol with T(ense)P makes that version one degree less adaptable in LFG, and the more functional projectional the MP analysis of Hungarian sentence structure becomes the further away it gets from adaptability in LFG. For the above reasons, we found É. Kiss' (1992) model empirically, general (generative) theoretically, theoretic intuitively absolutely attractive (in our view it is a further advantage of É. Kiss (1992) and É. Kiss (1994a) over Brody (1990), (É. Kiss (2002) and many subsequent Chomskyan accounts that these two works capture the complementarity of VMs and focused constituents by assuming a competition between them for a singular designated preverbal position). In Laczkó & Rákosi (2008-2013) our aim was the HunGram (ParGram) implementation of the following LFG-style constituent structural representation of the most crucial aspects of a simple finite sentence in Hungarian. Compare (119) below with the skeletal representation of É. Kiss' (1992) model in (9) in Section 2.1.1 repeated here as (118).

(118)



(119)



The following remarks on (119) are in order here.

(c) É. Kiss (1992) assumes that when there is more than one quantifier constituent preverbally, they are individually and iteratively adjoined to the VP. As opposed to this, in her analysis ordinary topics and sentence adverbs are dominated by S in a flat structural configuration, and contrastive topics are treated as left-dislocated elements between C and S, dominated by the E(xpression) node. By contrast, in our implemented grammar not only quantifiers but also sentence adverbs and both types of topics follow the adjunction pattern, and the adjunctions of these three different categories can freely intermingle.

(d) As regards the treatment of the Spec,VP position, the current version of our grammar is rather limited. As is well-known, this position can be occupied by a great variety of categories of varying complexity, collectively (and loosely) called verbal modifiers (VMs) and, at least in several approaches (including É. Kiss (1992, 1994a) and ours), by focused constituents, and by wh-expressions (in complementary distribution); however, our grammar posits only a focused constituent or a preverb (a.k.a. coverb) belonging to VMs (no question expressions and no other types of VMs). We assume that the preverb (having the syntactic category PRT) is a nonprojecting word (in the sense of Toivonen (2001)). From the complementarity of the two categories it also follows that a PRT can never be focused in our approach.

(e) The reason why the verb is also in parentheses in (119) is that our grammar also covers verbless clauses, containing NP or AP predicates. (In such cases there is no (empty) V positon in our c-structure representation, on the basis of standard LFG assumptions.

(f) The symbol X(P)* below V' in (119) encodes that a nonprojecting word (a PRT, in particular) can also follow the verb.

(g) In a basic way, we also model VP- and V'-negation.

(h) Although we capture the generalized, LFG-style c-structural approach shown in (119), in our implementation of this grammar, following the practice of the implemented grammars of other languages in the ParGram community, we use a whole range of specific c-structure categories with "individuated", mnemonic labels, which enhances the efficiency of the parser. The following figure gives a quasi hierarchical overview of the most important labelled categories. Notice, however, that they are employed to reduce the search space of the parser, and their ontological status is radically different from various functional projections in the Chomskyan paradigm.

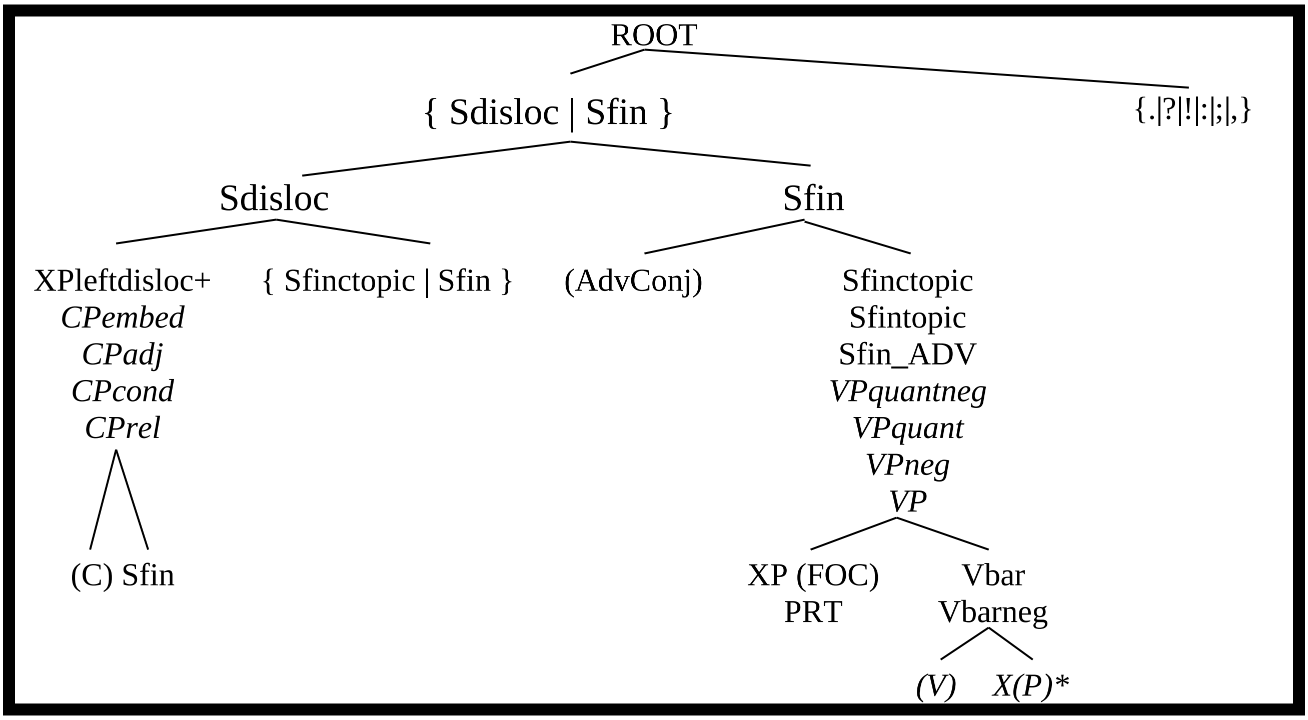


Figure 4. HunGram's labelled categories

Below are some remarks on this figure.

- The values of the ROOT rule has the following important function: if the parser is prompted to analyze a construction, and no specific phrasal category is given in the command then the parser will automatically attempt to analyze the string according to the categorial values specified in the rule. In addition, the rule also handles the punctuation marks at the end of the root categories.
- The two root categories in our grammar are: (i) complex sentences beginning with an embedded clause (Sdisloc, short for "dislocated sentence") or ordinary finite sentences (Sfin), which themselves may contain embedded sentences.
- The Sdisloc version obligatorily contains at least one embedded sentence (CP) of various types (the + symbol stands for "at least one", as opposed to the Kleene star, which means: any number, possibly null) and a finite clause either with a contrastive topic or without it: { Sfinctopic | Sfin }.
- A CP consists of an optional or obligatory C (depending on the CP type) and a finite clause (Sfin).
- A finite clause (Sfin) can be introduced by a conjunction (AdvConj) and it can have three major types: containing a contrastive topic (Sfinctopic), an ordinary topic (Sfintopic) or a sentence adverb (Sfin_ADV). (And, as I pointed out above, they can freely intermingle.)
- A finite clause may contain various types of VP projections with (different) adjunction properties.
- As I already pointed out above, a focused constituent and a PRT are in complementary distribution on Spec,VP.
- Sentence negation is possible even with a focused constituent. In this case the negative particle is between the focus and the verb. Our Vbarneg rule adjoins the negative particle to the V' constituent.

- Above, I have also explained the parentheses around the V and around the P in X(P)* below V': in this way, we can handle verbless clauses, on the one hand, and the possible postverbal occurrence of a PRT, a nonprojecting word, on the other hand.

Some of the screenshots of the c-structures and f-structures of the sentences below exemplify the analyses of some basic finite clausal constructions in the current state of our grammar, Laczkó & Rákosi (2008-2013), while some others show that the treatment of certain (related) phenomena is incomplete or inappropriate.[91]

In Section 1.3 in Chapter 1 I showed our analysis of (58) repeated here as (120).

(120)	Az	okos	fiú	fel#hív-ott	két	szép	lány-t.
	the	clever	boy.NOM	up#call-PAST.3SG.INDEF	two	pretty	girl-ACC

‘The clever boy called up two pretty girls.’

I repeat its c-structure and its f-structure in Figures 5 and 6, respectively. For some comments on these representations, see Section 1.3.

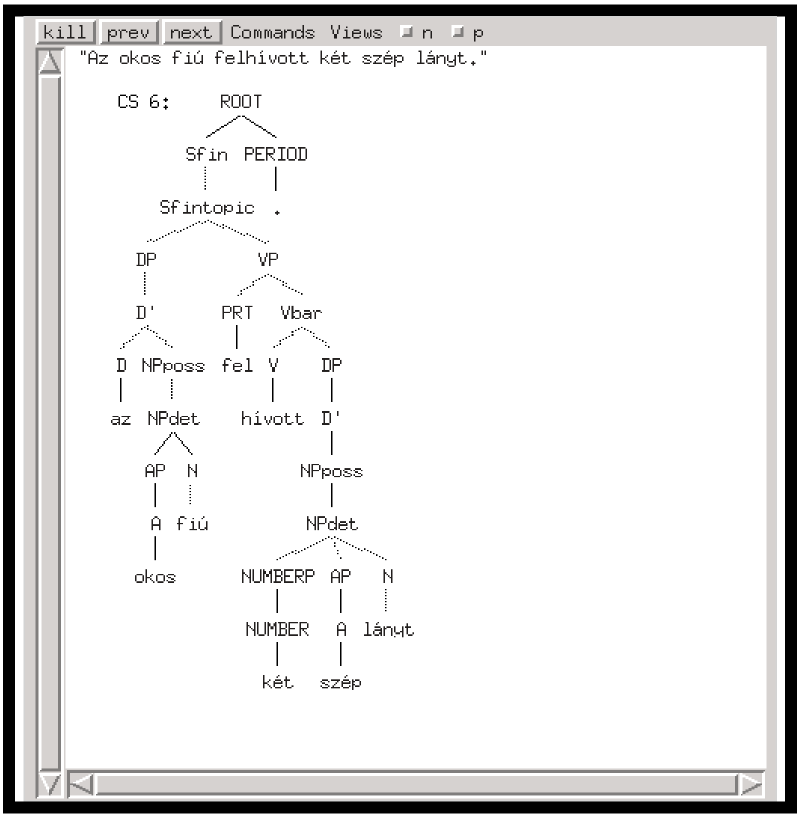


Figure 5. C-structure of (120)

[91] We have not carried out any joint development since 2013. The implementations I present in the rest of this dissertation are the results of my individual research: theoretical investigation and grammar implementation.

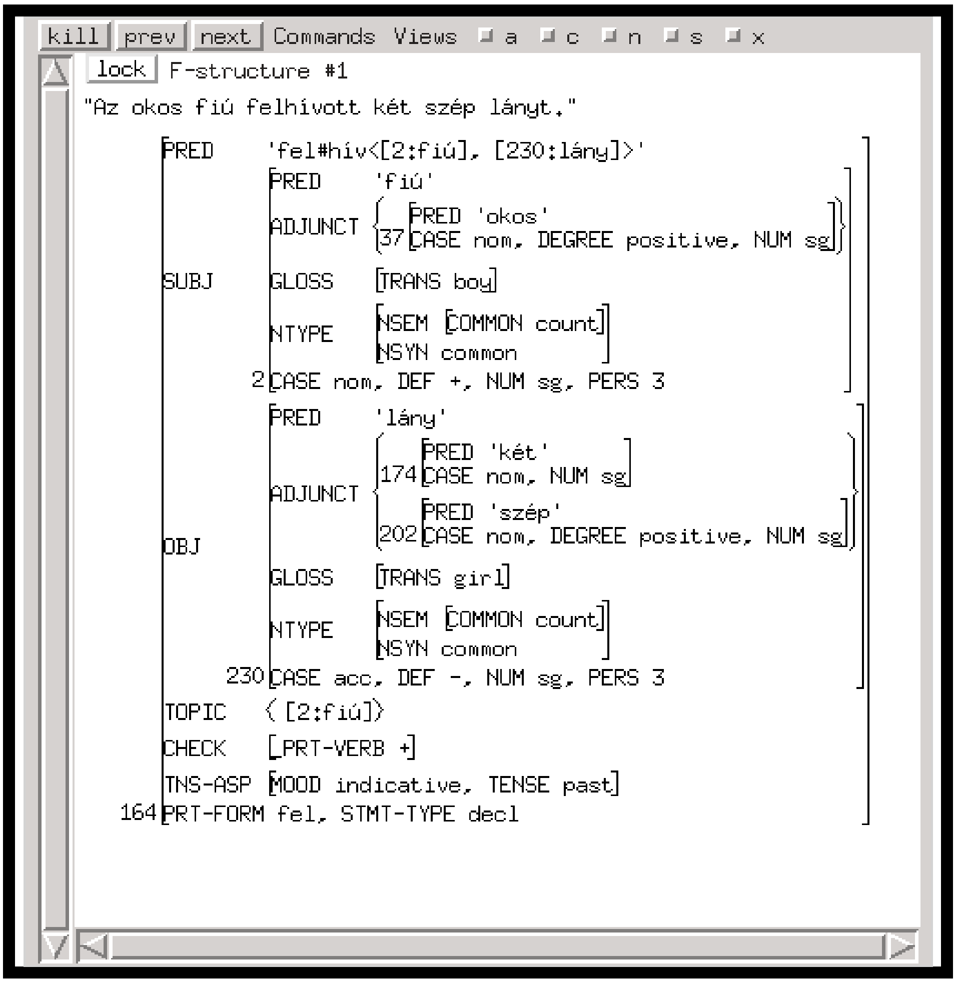


Figure 6. F-structure of (120)

Now consider the analysis of (121), in which the object is the focused constituent, and, therefore, the particle has to follow the verb.

(121)	Az	okos	fiú	két	szép	lány-t	hív-ott	fel.
	the	clever	boy.NOM	two	pretty	girl-ACC	call-PAST.3SG.INDEF	up
	‘The clever boy called up TWO PRETTY GIRLS.’							

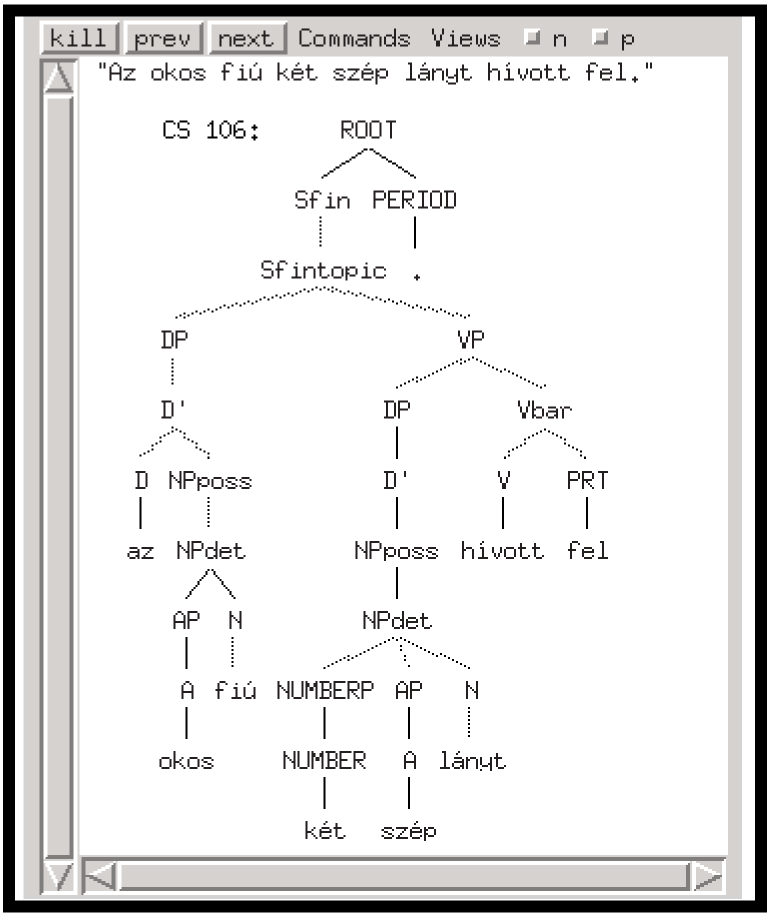


Figure 7. C-structure of (121)

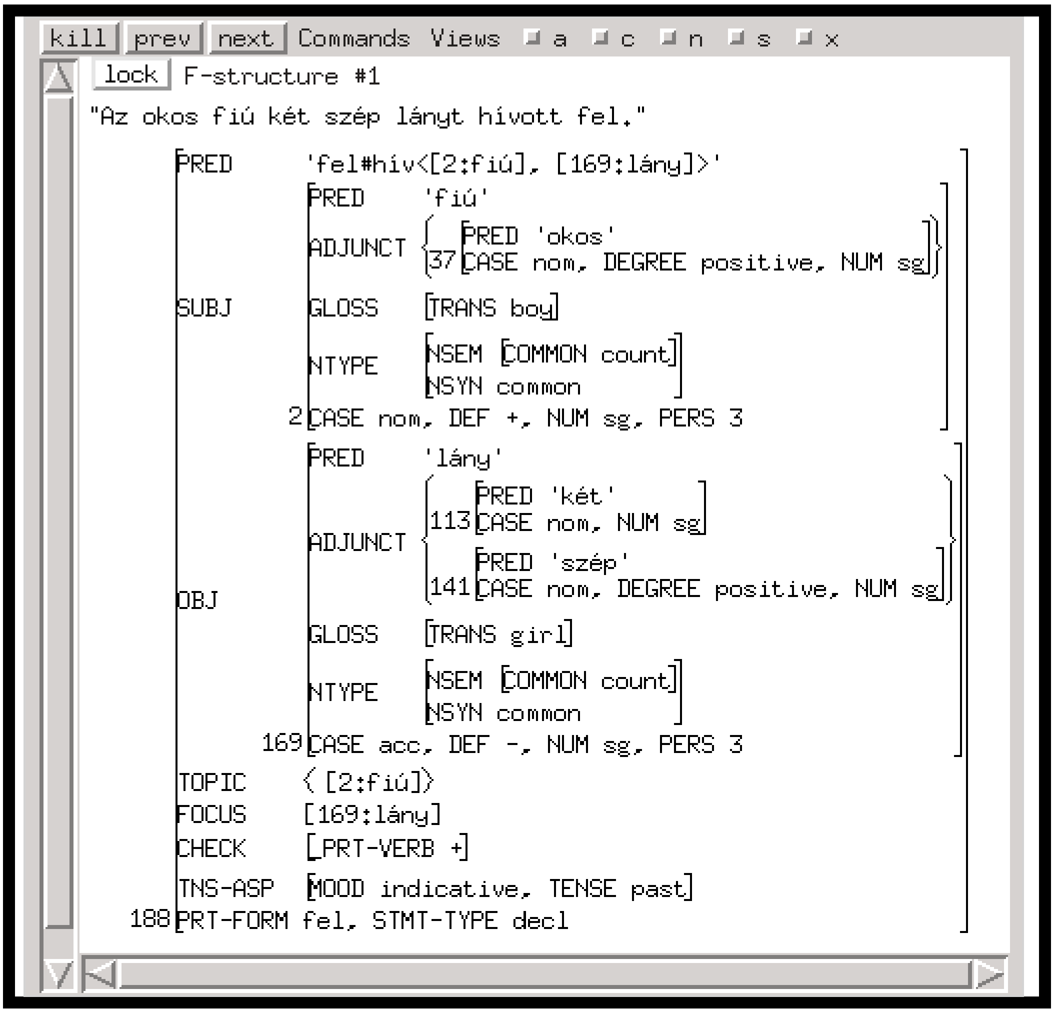


Figure 8. F-structure of (121)

As these representations demonstrate, the basic preverbal complementarity of particle VMs and focused constituents in the Spec,VP position is appropriately captured. However, consider the following example.

(122)	János	az	asztal-ra	tesz-i	a	toll-at.
	John.NOM	the	table-onto	put-PRES.3SG.DEF	the	pen-ACC
	‘John puts the pen on the table.’					

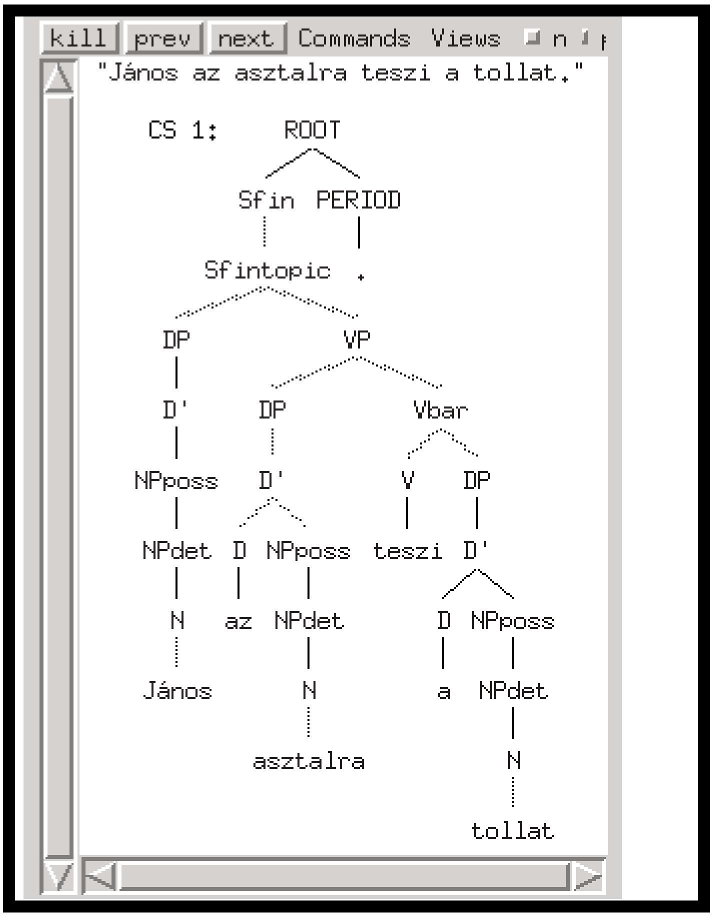


Figure 9. A correctly valid c-structure of (122)

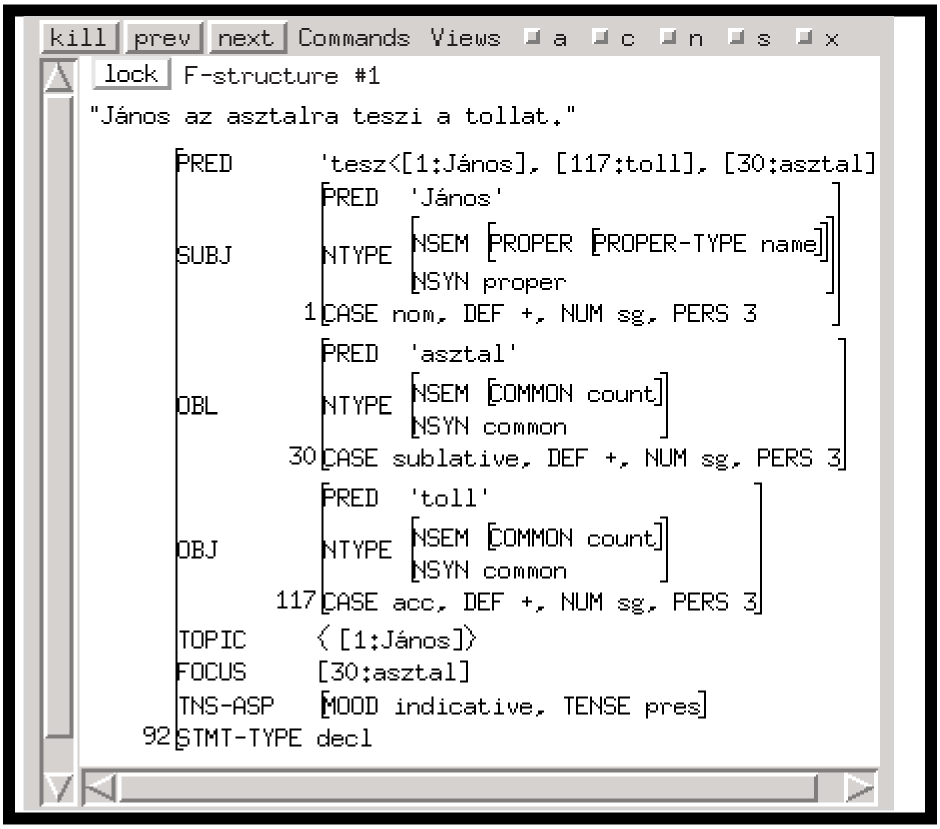


Figure 10. A valid f-structure of (122), corresponding to Figure 9

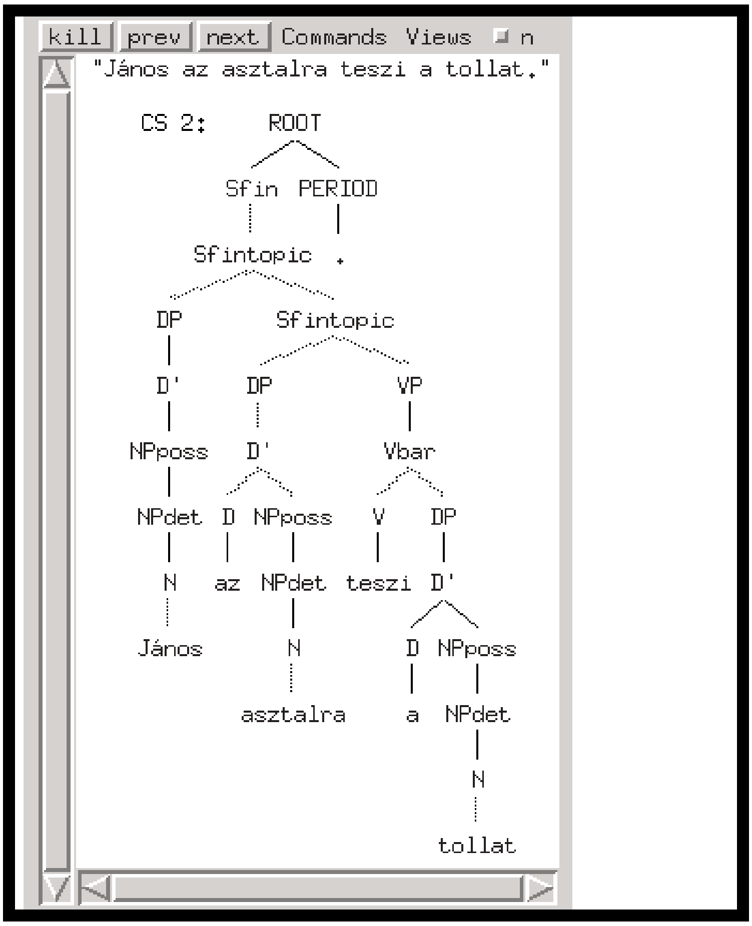


Figure 11. An incorrectly valid c-structure of (122)

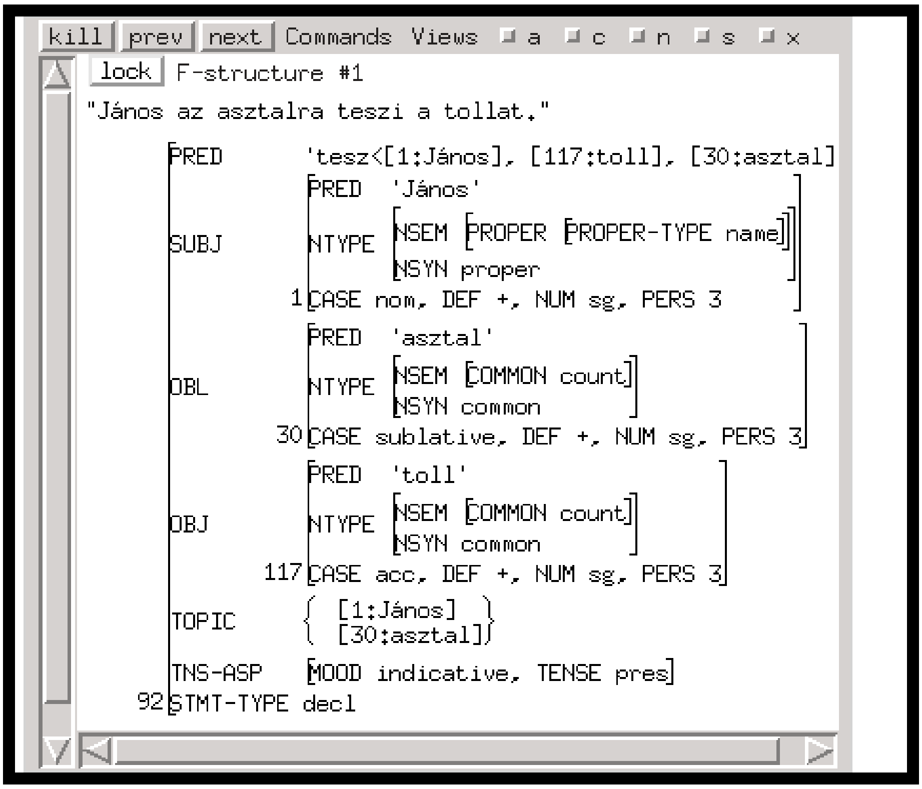


Figure 12. An incorrectly valid f-structure of (122), corresponding to Figure 9

(122) exemplifies a special type of VM: a maximally projected, referential oblique constituent. The Hungarian verb *tesz* 'put' is a three-place predicate in this use, and it requires its (goal) oblique argument to occupy the preverbal position (Spec,VP) in a neutral sentence, or else there must be a focused constituent in Spec,VP. The problem with HunGram's treatment of (122) is twofold. On the one hand, it only provides the focused variant of the two appropriate analyses, see Figures 9 and 10, and there is no neutral sentence, VM analysis available. On the other hand, it erroneously produces an analysis as valid in which the Spec,VP position is not filled, see Figures 11 and 12. Here the oblique argument is analyzed as a topic, which is absolutely inappropriate. In Chapter 3, I will develop a comprehensive LFG-XLE account of the major types of VMs in Hungarian.

Next, consider the sentences in (123) and (124), and the analyses our HunGram produces in Figures 13-15.

(123) Ki hív-ja fel a fiú-t?
who.NOM call-PRES.3SG.DEF up the boy-ACC
'Who calls up the boy?'

(124) *A fiú-t hív-ja fel ki?
the boy-ACC call-PRES.3SG.DEF up who.NOM
'Who calls up the boy?'

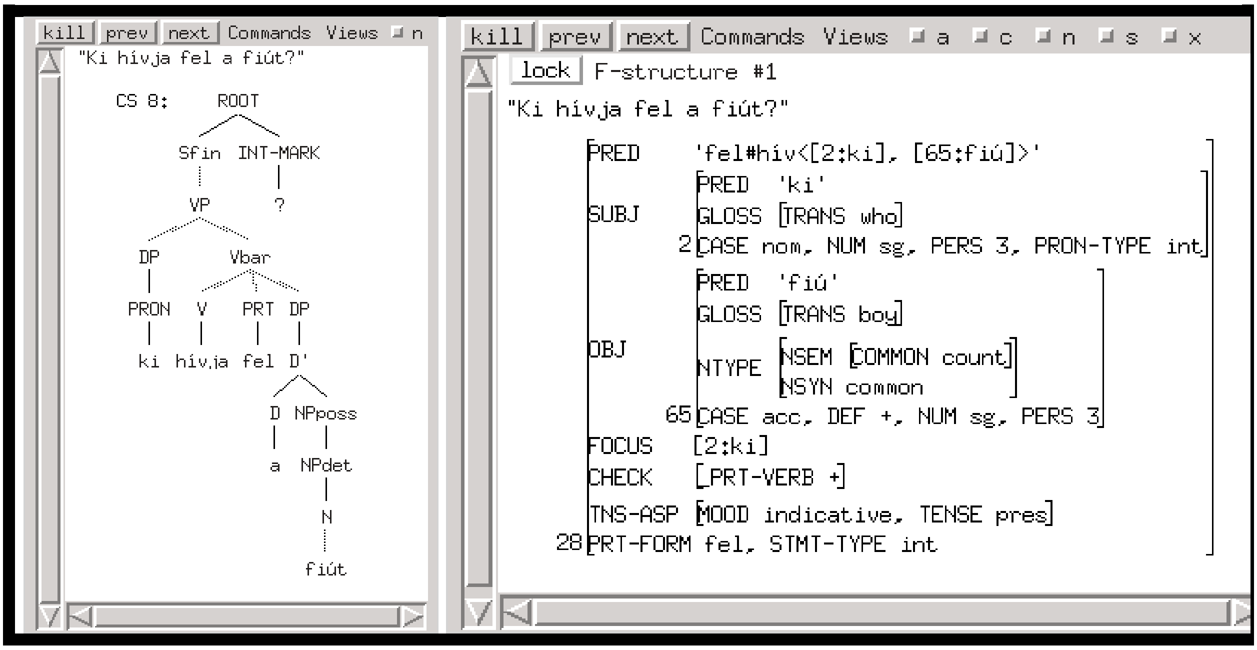


Figure 13. The correct analysis of (123)

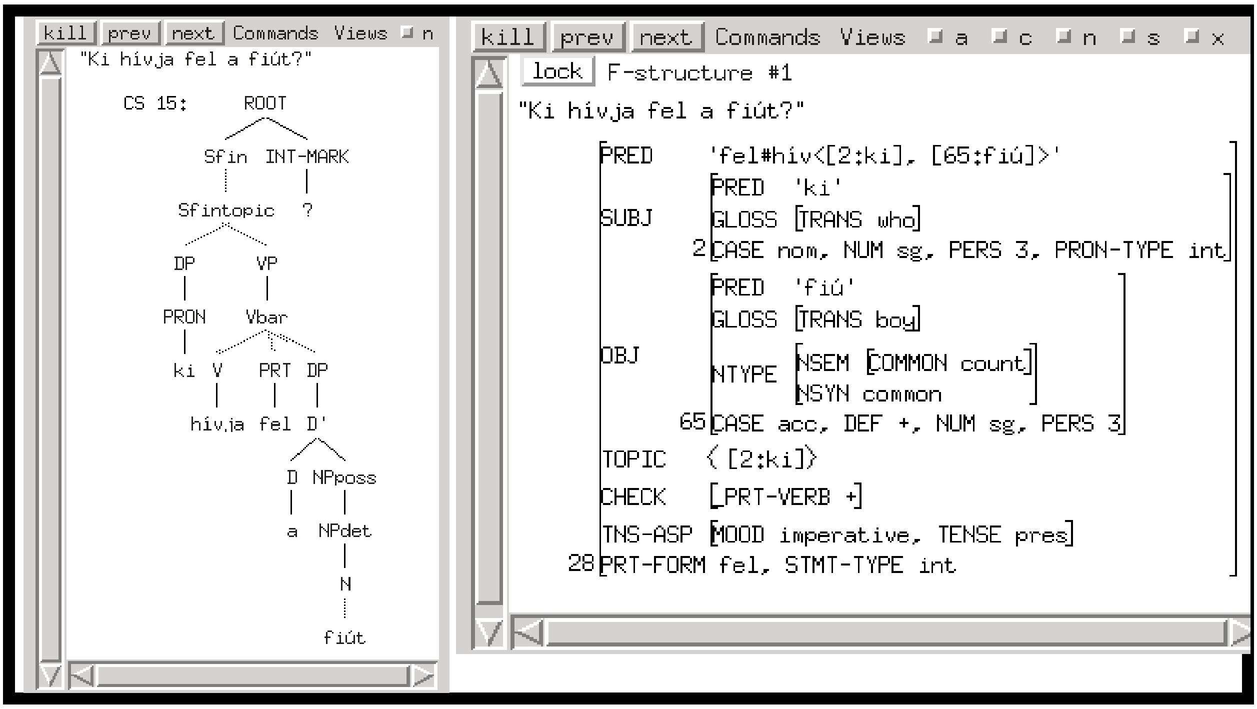


Figure 14. An incorrect analysis of (123)

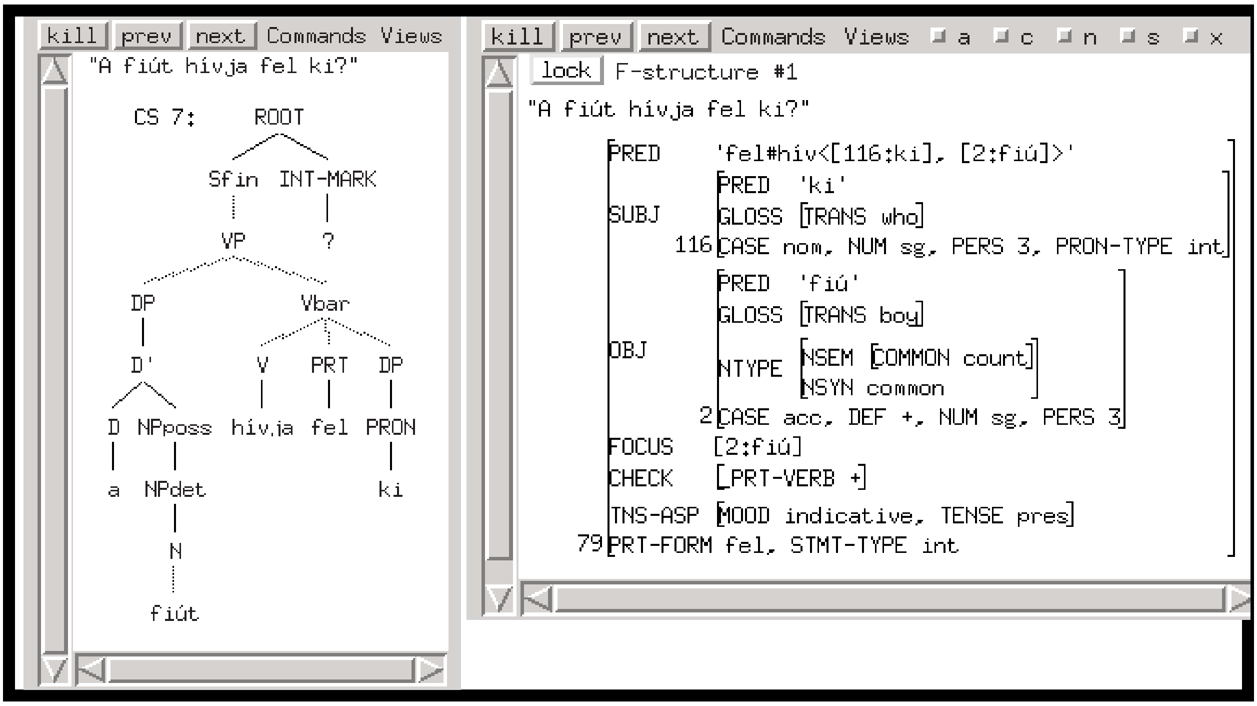


Figure 15. Incorrectly valid c- and f-structures for (124)

Figure 13 shows that the current version of HunGram can analyze a ‘wh’-question appropriately: the ‘wh’-constituent must be focused, but Figures 14 and 15 show that it is not constrained enough to block analyses in which this constituent is not in Spec,VP (in Figure 14 it is analyzed as a topic and in Figure 15 it occurs postverbally). In Chapter 4, I will develop the LFG-theoretic and XLE-implementational aspects of the satisfactory treatment of ‘wh’-questions (including multiple ‘wh’ types).

Finally, consider the following examples containing predicate (i.e. clause) negation in (125) and (126) and our HunGram’s analyses in Figures 16-19.

(125) Kati nem hív-ja fel a fiú-t.
Kate.NOM not call-PRES.3SG.DEF up the boy-ACC
'Kate doesn't call up the boy.'

(126) *Kati a fiú-t hív-ja fel nem.
Kate.NOM the boy-ACC call-PRES.3SG.DEF up not
'Kate doesn't call up the boy.'

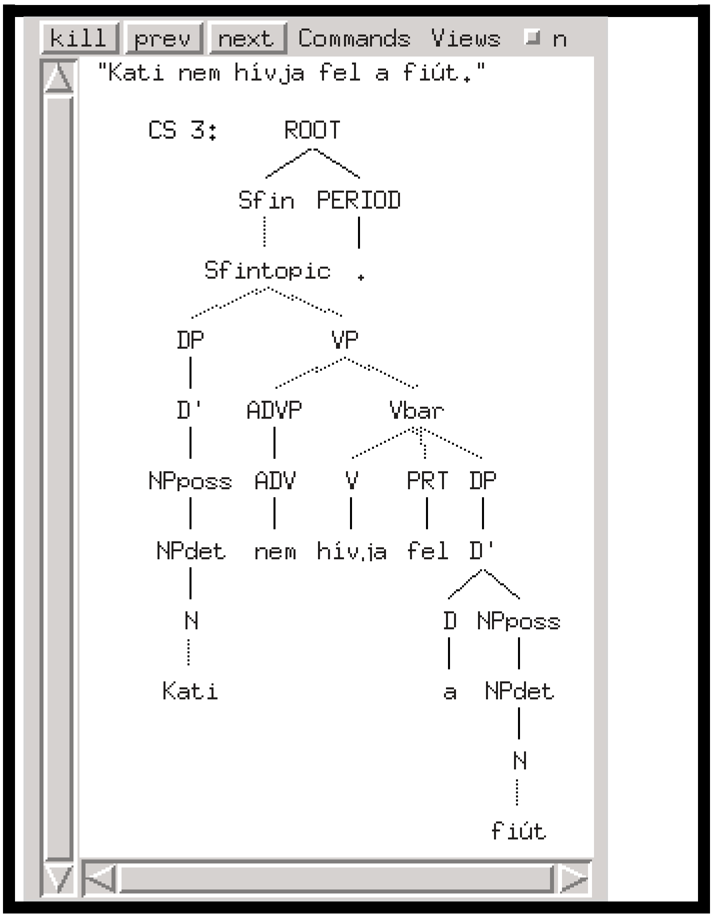


Figure 16. A correctly valid c-structure of (125)

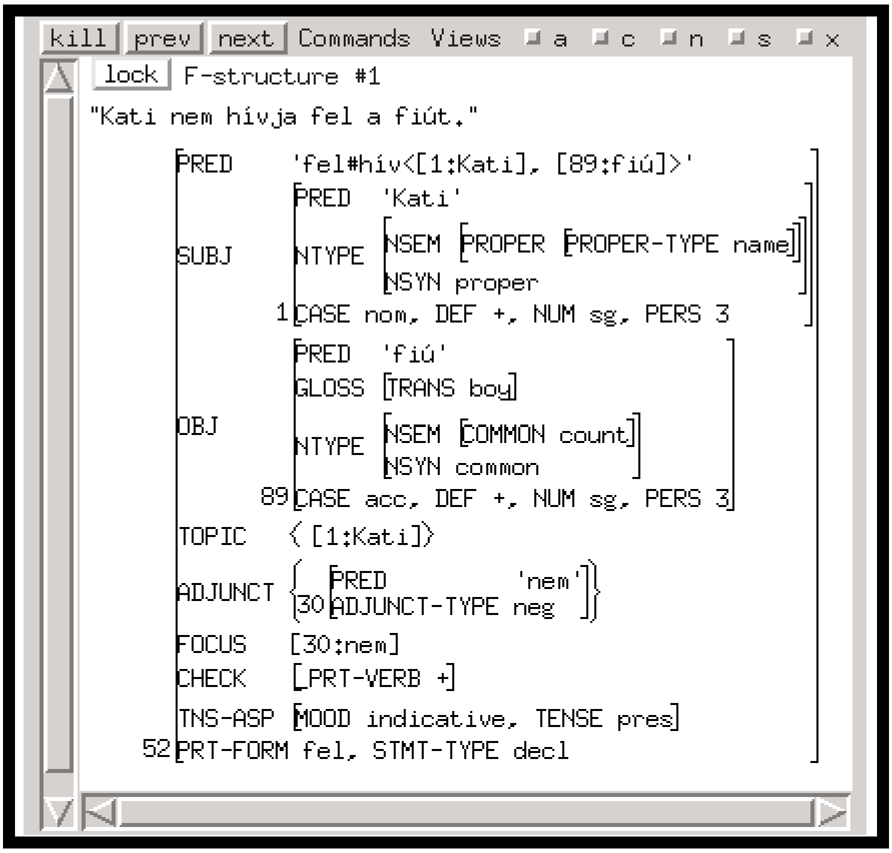


Figure 17. A correctly valid f-structure of (125), corresponding to Figure 16

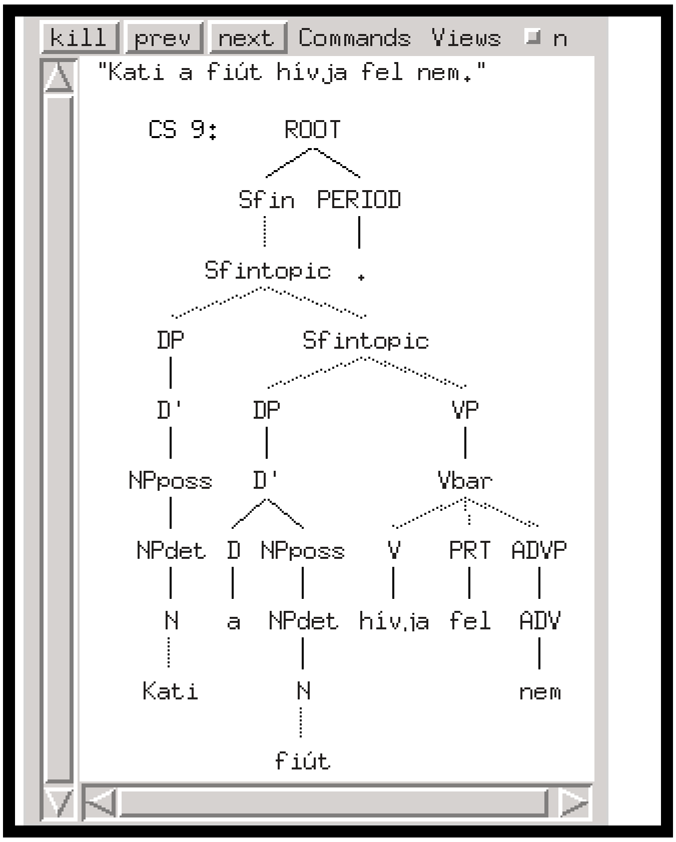


Figure 18. An incorrectly valid c-structure of (the ungrammatical) (126)

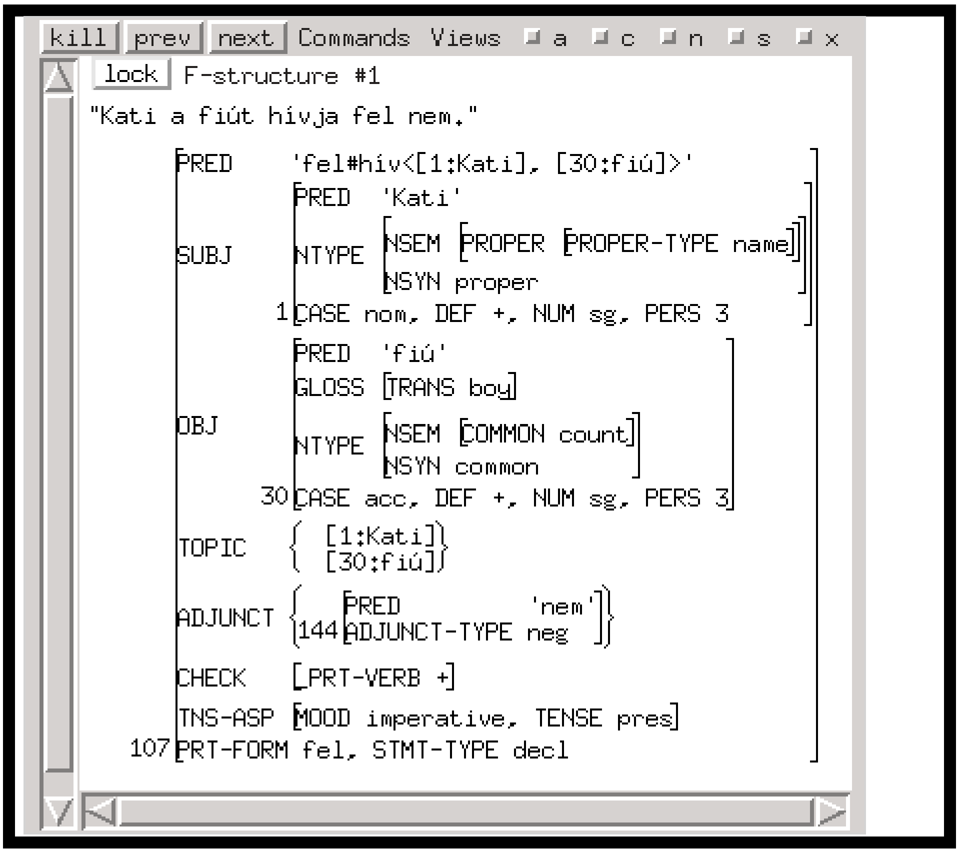


Figure 19. An incorrectly valid f-structure of (the ungrammatical) (126), corresponding to Figure 18

The analysis of (125) in Figures 16 and 17 is a correct one, and (in an appropriately modified form) I will keep it in my considerably augmented analysis of negation to be developed in Chapter 5. However, it is a shortcoming of the current state of HunGram that it does not yield another equally possible analysis of (125), in which *Kati* 'Kate' is not the topic but the focused constituent of the sentence. In Chapter 5, I will also make this alternative analysis available. In addition, as Figures 18 and 19 demonstrate, our current HunGram analyzes examples like (126) as grammatical sentences, in which the clause negating particle occurs after the verb, contrary to fact. In Chapter 5, I will rule this out.

2.5. Conclusion

Below, first I make general concluding remarks (Section 2.5.1), and then I add two implementational remarks (Section 2.5.2).

2.5.1. General remarks

1) In this chapter I have presented the crucial aspects of an LFG (and XLE-implementable) analysis of the preverbal portion of Hungarian finite clauses.
2) The structural representation was largely motivated by É. Kiss (1992) and Laczkó & Rákosi (2008-2013).
3) I argued for S and against IP (and also postulated CP).

4) I employ a hierarchical, binary branching, adjunction structure for the topic field, in addition to a similar setup in the quantifier field.
5) In this analysis I handle all the question phrases other than the question phrase immediately adjacent to the verb in multiple constituent questions as occupying VP-adjoined positions in the quantifier field, and I leave comparing this treatment to alternative approaches.
6) It is also a future research task to develop a detailed analysis of the three major quantifier types when they occur in the preverbal quantifier zone.
7) I assume that focused constituents, verbal modifiers and the (verb-adjacent) question phrase are in complementary distribution in Spec,VP.
8) On the basis of the analysis proposed in this chapter, I suggest that LFG's parametric space that is potentially available to c-structure—function associations should be augmented along the following lines.
   (a) The Spec,VP position should be allowed to host the FOCUS discourse function. In general terms, this amounts to assuming that the specifier of a lexical category can be either a modifier or a DF.
   (b) The XP in [$_S$ XP VP] can also be a topic, in addition to a subject.
   (c) In cases like (b), the VP can also contain a subject.
9) In this chapter I only developed the essential ingredients of my LFG-XLE analysis of the preverbal domain of Hungarian finite sentences by (i) discussing the most salient nonLFG generative accounts of the relevant phenomena; (ii) positing this approach in the context of the architecture and fundamental principles of LFG. In the subsequent chapters, I will develop detailed accounts of a whole range of relevant phenomena in this general framework:
   (a) various types of verbal modifiers: Chapter 3;
   (b) operators (focus, 'wh'-phrases, and quantifiers) Chapter 4;
   (c) negation: Chapter 5;
   (d) copula constructions: Chapter 6.

2.5.2. Implementational remarks

(i) The current version of our implemented grammar is far from being complete for the following reasons. (A) Although it can cover the types of constructions I discussed above, it is not constrained enough: it very often produces a great number of undesired additional parses (which it presents as valid alternatives). (B) Its lexicon is not large and detailed enough. Many sentences do not get the right parse because the words they contain do not have lexical forms appropriately associated with the features that are indispensable for the correct analysis. (C) Several crucial aspects of simple finite clauses are not covered (e.g. (multiple) wh-questions, various VM types, etc.).

(j) My fundamental aim in this dissertation is to develop the crucial aspects of a comprehensive LFG-theoretical analysis of the preverbal domain of finite clauses in Hungarian. At the same time, this will also serve as the necessary theoretical underpinnings of our implemented grammar. In addition, I think that a great number of the details of this approach will considerably contribute (whether directly or indirectly) to improving and advancing this implemented grammar, see the attested implementational dimensions of Chapters 3 through 6.

Chapter 3. Verbal modifiers

In this chapter, I discuss and analyze verbal modifiers (VMs) in Hungarian. Given that the central, best-known, most-widely analyzed and most problematic VM type is the category of preverbs (a.k.a. coverbs or verbal particles), first I will concentrate on them (Section 3.1).[1] Then I will deal with the most important types of other VMs (Section 3.2). This will be followed by my concluding remarks (Section 3.3).

3.1. On particle-verb constructions

Particle verb constructions (hereafter: PVCs) have been in the forefront of generative linguistic investigation across languages and across theoretical frameworks for decades. One of the most remarkable manifestations of this is Dehé et al. (2002),[2] which comprises a detailed presentation of the most crucial problems to be addressed, a highly informative overview of the most salient types of analyses, and several papers of varying theoretical persuasions. These papers propose analyses of a wide range of PVC phenomena in a variety of languages (with Dutch, Hungarian, English, German, and Swedish among them).

As is well-known, PVCs pose the following fundamental challenge for most approaches (aiming at being appropriately formal, explicit, and principled). They have a considerable number of mixed (or, rather, contradictory) lexical and syntactic properties. Furthermore, their analysis necessarily raises issues that are typically addressed in the treatment of the more general domain of complex predicates, see, for example, Alsina et al. (1997).

Hungarian PVCs have been analyzed from various perspectives and in several different descriptive as well as generative theoretically and/or implementationally oriented frameworks, see, for instance, Ackerman (1983, 2003), Horvath (1986), É. Kiss (1987, 1992, 2002, 2004, 2005, 2006b), Komlósy (1985, 1992), Brody (1990, 1995), Piñón (1993), Ackerman & Webelhuth (1993), Ackerman & Lesourd (1997), Csirmaz (2004, 2006), Kiefer & Ladányi (2000), Surányi (2009a, 2009b, 2009c, 2011), Broekhuis & Hegedűs (2009), Forst et al. (2010), Laczkó & Rákosi (2011), Rákosi & Laczkó (2011), Hegedűs (2013), Laczkó (2013), Laczkó & Rákosi (2013) and the references in these works.

The structure of this section is as follows. First, I will present the most important types and aspects of GB/MP treatments of PVCs, the overwhelming majority of which being strictly syntactic in nature (3.1.1). Then I will show the traits of strictly lexicalist accounts (3.1.2) and some previous LFG(-compatible) analyses (3.1.3). This will be followed by the discussion of a mixed approach, which treats noncompositional PVCs lexically and compositional (productive) PVCs syntactically (3.1.4). Finally, I will develop my own fully lexicalist alternative (3.1.5).

3.1.1. GB and MP treatments of PVCs

Let me start this discussion with a quote from É. Kiss (1994a), which is very important and informative for the following reasons.[3] (i) It appropriately demonstrates “the verbal prefix problem”. (ii) It firmly argues for the syntactic analysis of these particles. (iii) It draws a

[1] It is generally assumed that they (just like other VM types) make up *complex predicates* with the lexical verbs they combine with. Their combinations with lexical verbs also have a frequently used term (particular to them): ***particle verb constructions*** (***PVCs***). In what follows I will also use this term to separate this type from the rest of VM + V combinations.

[2] Also see Booij & Jaap (2003).

[3] Most of these empirical generalizations go back as far as Soltész (1959).

parallel between idiom chunks and their treatment in idiomatic expressions, on the one hand, and particles and their treatment in PVCs, on the other hand.[4] (iv) It can be considered to be a classic epitome of the most crucial shared aspects of the assumptions underlying the sweeping majority of GB and MP accounts of these phenomena.[5] (v) At the same time, part of the argumentation in this text also serves as a trigger for strong critical remarks.

> The clearest type of incorporated constituents, whose marked syntactic and semantic properties are the easiest to identify, is the verbal prefix, traditionally analyzed as a kind of Adv. Its main characteristics could be summarized as follows:
>
> (1) The verbal prefix and the V selecting it form a single lexical unit; this unit serves as input to lexical word formation processes. Example: *fel-tesz* 'up-put [assume]'; *feltétel* 'assumption'.
> (2) The verbal prefix and the V form a single semantic unit. Their meaning is often noncompositional, as in *be-rúg* 'get drunk' (lit. 'in-kick').
> (3) If the verbal prefix immediately precedes the V, they form a sing phonological unit.
> (4) The verbal prefix is syntactically free of the V; it moves separately.
>
> | (KÉK98) | *Fel*$_i$ | *kell,* | *hogy* | *hív-ja-m* | t$_i$. |
> |---|---|---|---|---|---|
> | | up | needs | that | call-SUBJUNC-I(.him) | |
> | | 'It is necessary that I call him up.' | | | | |
>
> The question is whether the syntactic representation of prefixed verbs should be based on properties (1)-(3), which suggest their unity, or it should be based on property (4), which suggests that the prefix and the V are two separate constituents. Actually, property (3) does not seem to be crucial; any constituent moved into the immediately preverbal Spec,VP position forms a singe phonological unit with the V; that is, whether the prefix and the V should be one or two syntactic constituents, property (3) will fall out. As for properties (1), (2), and (4), they co-occur in the case of idioms, as well.
>
> | (KÉK99) | a. | *Mari-t* | *be-húzt-ák* | *a* | *cső-be.* |
> |---|---|---|---|---|---|
> | | | Mary-ACC | in-pulled-they | the | tube-into |
> | | | 'They pulled Mary into the tube. [They tricked Mary.]' | | | |
> | | | or: | | | |
> | | b. | *Mari-t* | *cső-be* | *húzt-ák.* | |
> | | | Mary-ACC | tube-into | pulled-they | |
> | | | 'They pulled Mary into the tube. [They tricked Mary.]' | | | |
>
> *Behúz a csőbe* or *csőbe húz* constitute a single lexical unit; the *csőbe húz* variant can even be nominalized.
>
> | (KÉK100) | *A* | *csőbehúzás* | *nem* | *sikerült.* |
> |---|---|---|---|---|
> | | the | pulling_into_tube | not | succeeded |
> | | 'The tricking did not succeed.' | | | |
>
> It forms a single semantic unit, too; its meaning is noncompositional. At the same time, the parts of the idiom are syntactically independent; they need not be adjacent.

[4] In Section 3.2 I will elaborate on this parallel from the perspective of the generalized treatment of VMs.

[5] I change her example numbers in the following way: (98) → (KÉK98). Thus, the original ones can be identified, but they do not interfere with my example numbers in this chapter. Where necessary, in the glosses I change her hyphens to the more appropriate underscores, as in: pulling-into-tube → pulling_into_tube.

(KÉK101) *Be* *akar-ják* *húz-ni* *Mari-t* *a* *cső-be.*
in want-they pull-INFIN Mary-ACC the tube-into
'They want to pull Mary into the tube.'

In spite of their lexical and semantic unity, idioms have never been analyzed as syntactic units dominated by a single V or V' node. I shall adopt a similar treatment for the verbal prefix, too; that is, I shall assume that the verbal prefix is an idiomatically selected complement of the V. It has no role; it is not an argumental but a predicative complement. Its role is similar to the role of the adverb in the phrase *behave well*.

I assume that in D-structure, the prefix is one of the XPs generated postverbally as sisters to the V and to each other. (It is of the category [$_{AdvP}$ [Adv]].) This accounts for why its postverbal order is basically free – although recall that unstressed, clitic-like elements are more felicitous if they are ordered immediately after the V in V'.

(KÉK102) a. *Imre* *tavaly* *ismerkedett* *meg* *Erzsi-vel.*
Imre last_year got_acquainted PREV Lisa-with
'Imre got acquainted with Lisa last year.'

b. ?*Imre* *tavaly* *ismerkedett* *Erzsi-vel* *meg.*

c. *Imre* *tavaly* *ismerkedett* *vele* *meg.*
Imre last_year got_acquainted with_her PREV
'Imre got acquainted with her last year.'

If the verbal prefix is one of the major postverbal constituents, it is a potential target of Focus Movement; hence the complementary distribution of the prefix and a focused XP in preverbal position immediately falls out. If the prefix is moved into Spec,VP, then there is naturally no room there for another focus, too.[6]

(KÉK103) a. [$_{TP}$ I*mre$_i$* [$_{VP}$ *Erzsi-vel$_j$* [$_{V'}$ *ismerkedett* *meg* t_i t_j]]]
Imre Lisa-with got_acquainted PREV
'It was Lisa who Imre got acquainted with.'

b. [$_{TP}$ I*mre$_i$* [$_{VP}$ *meg$_j$* [$_{V'}$ *ismerkedett* *Erzsivel* t_i t_j]]]
'Imre got acquainted with Lisa.'

It might seem implausible at first sight to assign parallel analyses to the sentences in (KÉK103a) and (KÉK103b), as they have very different interpretations: (KÉK103a) involves a focus operator; (KÉK103b), on the other hand, is a neutral sentence. In the Spec,VP of (KÉK103a) *Erzsivel* expresses identification with exclusion, while in the Spec,VP of (KÉK103b) *meg* merely bears an emphasis, which we understand as the emphasis of the whole prefixed V. In fact, this difference falls out from the theory of

[6] TL's remarks. (i) I have corrected a representational typo (VP → V' in (KÉK103a)). (ii) Notice that on this account the movement of the verbal prefix (just like that of any other VM type) is also an instance of focus movement, and it is assumed that this movement, in a sense, blocks the movement of an ordinary constituent to be focused. I think this complementarity issue can be viewed differently. We can assume that if there is a constituent to be focused (i.e. to receive the [+F] feature from the verb in Spec,VP) and there is also a verbal prefix (or any other VM) in the postverbal domain then it is the former that will be moved into the preverbal position, and the "default" VM type focus movement is blocked. In addition, notice that if É. Kiss assumes that both an ordinary constituent to be focused and a VM are potential foci then she would need an explicit (perhaps OT style) rule to ensure that the presence and movement of the former blocks the movement of the latter. (Compare the two views above in this context.) At several points in this dissertation I claim that it is inappropriate to assume that VMs in Spec,VP are always and necessarily focused constituents. É. Kiss herself changed her (1992, 1994a) view and as of É. Kiss (2002) at least she has assumed that VMs and foci do not occupy the same preverbal position. For details, see Section 2.1.1 in Chapter 2, the subsequent part of the quote from É. Kiss (1994a) and my remarks on it in the next footnote.

focus outlined in Sections (KÉK)5.1 and (KÉK)5.2.[7] Recall that an XP in Spec,VP receiving the feature [+F] expresses identification with exclusion only if it denotes an entity. This is what happens to *Erzsivel* in (KÉK103a). If the feature [+F] percolates onto an XP which is not referential, the feature [+F] will only express identification. […] Since a verbal prefix is not an independent semantic entity, the identifying role assigned to it via the feature [+F] is associated with the whole Prev + V unit.

Similar to other adverbials in Spec,VP, a verbal prefix can actually act as an operator expressing identification with exclusion if it is set into an explicit contrast, that is, if the context provides a set of two (or more) contrasted elements, one of which can be identified through the exclusion of the other. This is only possible in the case of verbal prefixes which express direction.

(KÉK104)	*János*	*nem*	[$_{VP}$ *KI*	[$_{V'}$ *szaladt*]],	*hanem*	[$_{VP}$ *BE*	[$_{V'}$ *szaladt*]]
	John	not	out	ran	but	in	ran

‘Jon did not ran OUT, but he ran IN.’

(É. Kiss 1994a: 42-44)

From the perspective of this dissertation, É. Kiss’ (1994b) discussion of foci in Spec,VP is also very important. She uses the following two examples (1994b: 132).[8]

(1)	a.	[$_{VP}$ *JÁNOS*	[$_{V'}$ *ette*	*meg*	*a*	*süteményt*]]		
		John	ate	PERF	the	cookie		

‘JOHN ate the cookie.’

b.	[$_{VP}$ *Egy*	*’autó*	[$_{V'}$ *állt*	*meg*	*a*	*ház*	*előtt*]]
	a	car	stopped	PERF	the	house	in-front-of

‘A car stopped in front of the house.’

---

[7] TL’s remark: the essence of the assumptions in those sections (KÉK5.1 and KÉK5.2) relevant to our discussion here is that É. Kiss assumes a single [+F] feature (thus, my remarks in the previous footnote are still valid), and it expresses either identification with exclusion or identification. In the latter case, this identification percolates up to the entire VP. I think the greatest problem with this approach is that a prev + V complex can systematically behave in two different ways, compare (i) and (ii). *Meg* ‘PERF’is a perfectivizing verbal prefix. In (i), it does not receive any special (focal) stress, it simply makes up a phonological word with the verb, and the entire sentence has the regular, neutral sentence level prosody intonation pattern. By contrast, in (ii) *meg* receives heavy (focal) stress and the sentence has an intonation pattern typical of sentences containing a focused constituent. Given that *meg* is not a (contentful) directional verbal prefix, on É. Kiss’ account here we are dealing with an [+F] encoding identification *without* exclusion. (Such a construction is also often referred to as VP-focus or verum focus.) Thus, É. Kiss’ focus theory covers the case of (ii). However, as far as I can tell, it fails to cover (i), which does not seem to involve any aspect of focusing. If one still wanted to assume that (i) was also an instance of VP/verum (identificational) focusing, then the challenge would be to capture the obvious differences between the two “ID-foci” in (i) and (ii). On the basis of these considerations, it seems understandable why later GB/MP approaches (including those developed by É. Kiss) account for the preverbal complementarity of VMs and foci by postulating different syntactic positions, and by capitalizing on the aspect encoding and/or complex predicate forming potential of VMs. By contrast, one of my main claims in this dissertation is that LFG’s architecture and assumptions make it possible to capture this VM vs. focus complementary by postulating a single designated preverbal position (in the spirit of the what-you-see-is-what-you-get principle).

(i)	*János*	*meg*	*érkez-ett*	*Debrecen-be.*
	John.NOM	PERF	arrive-PAST.3SG	Debrecen-into

‘John arrived in Debrecen.’

(ii)	*János*	*MEG*	*érkez-ett*	*Debrecen-be.*
	John.NOM	PERF	arrive-PAST.3SG	Debrecen-into

‘John DID arrive in Debrecen.’

[8] I keep the format, the glossing and the translations of these examples intact. Her example number is (59).

É. Kiss makes the following observations.

> Whereas (1a) can only be used as an answer to the question *Who ate the cookie?*, (1b) can also answer the question *What happened?*. While (1a) expresses identification with exclusion, (1b) expresses identification only. (In fact, (1b) is ambiguous: it could also be an answer to *What stopped in front of our house?*, or its focus could be set into a contrast; that is, it is also capable of expressing identification with exclusion.) […] The focus of (1a) is interpreted contrastively because it is assumed that the situation described in the sentence involves a closed set of persons who were in the position of being capable of eating the given cookie. […] In the case of (1b), it is very likely that there is no closed set of relevant entities in the domain of discourse that could have performed the act of stopping in front of the house. The set being open […], the identification operation performed by the focus operator does not go together with an exclusion operation; so no contrast is implied (1994b: 132-133).

On the basis of the foregoing discussion of É. Kiss (1994a, 1994b) the following "focusing picture" emerges in her 1994 approach:

(a) identification of the constituent in Spec,VP with exclusion: (KÉK103a) and (1a),
(b) identification of the VP: (KÉK103b),
(c) identification of the constituent in Spec,VP without exclusion: (1b).

Later (a) was separated from the rest and became the standard id/exhaustive focus type. As I pointed out above, (b) is actually Janus faced: (i) when there is no focus stress, this is an instance of ordinary VM + V combination, and a syntactically and semantically different (nonfocused) analysis was developed along the aspectual/complex-predicate lines; (ii) when there is focus stress, we are dealing with VP-focusing. The (c) type does not seem to have received due theoretical attention. Prosodically and semantically it seems to manifest a clearly distinct focus type, which can be taken to be presentational focus, and it can be regarded as different from "real" id-focus without exclusion. It can be argued that this construction type is the last (and "weakest") type on the following focus scale:[9]

(2) (A) id-focus with exclusion > (B) id-focus without exclusion > (C) presentational focus

As regards the categorial and phrase structural status of the verbal prefix, in comparison with other VM types, É. Kiss (2002) offers the following detailed and classic discussion. She starts out by giving the following examples[10] illustrating the syntactic independence of the verbal prefix. Although in neutral sentences it immediately precedes the finite verb: (3), under clearly definable circumstances they are separated. In the presence of a focused constituent or in the case of clausal negation, the preverb has to follow the verb, see (4a) and (4b), respectively. They can also be separated in the unmarked order by a particle, see (5). Moreover, the verbal prefix can move further away from the verb: it can occupy a contrastive topic position: (6a), and it can even be raised into a superordinate clause: (6b-c).

(3) János fel-olvasta a verseit.
John up-read his poems
'John read out his poems.'

[9] It can be claimed that (B) requires situational/contextual support, and it is the type dubbed "hocus" by Kálmán et al. (1986), while (C) can be used in entirely out of the blue situations. For examples and discussion, see Chapter 7.

[10] I have kept her examples, glosses and translations intact, except for the numbers of the examples. I have changed them in such a way that they should fit into the numbering of the examples in this chapter.

(4) a. János \tegnap **olvasta fel** a verseit.[11]
John yesterday read up his poems
'It was yesterday that John read out his poems.'

b. Péter nem **olvasta** őket **fel**.
Peter not read them up
'Peter did not read them out.'

(5) János fel akarta olvasni a verseit, és **fel** is **olvasta** őket.
John up wanted to.read his poems and up also read them
'John wanted to read out his poems, and out he read them.'

(6) a. **Fel** csak János **olvasta** a verseit.
out only John read his poems
'Loudly, only John read his poems.'

b. János **fel** szeretné **olvasni** a verseit.
John up would.like to.read his poems
'John would like to read out his poems.'

c. **Fel** akarom, hogy **olvasd** a verseidet.
up I.want that you.read your poems
'I want that you should read out your poems.'

É. Kiss concludes that the prefix has to be inserted as an independent syntactic unit that is a lexically selected complement of the verb, and she adds that there are further questions as well.[12] (A) Should it be inserted preverbally or postverbally? (B) Should it be treated as a phrase or as a head? É. Kiss' answers are as follows.

(A) It is an argument for the postverbal base generation of the prefix that its preverbal occurrence in constructions like (6b,c) is definitely not base generated, given that the prefix is not selected lexically or semantically by the verbs adjacent to it, so its position in (6b,c) is a derived position, the landing site of prefix movement. É. Kiss adds that verbal prefixes are a subtype of a larger class of elements, collectively called verb modifiers (VMs), which includes objects, oblique goal complements and nonagentive subjects, see (7).

(7) a. János újságot olvas.
John newspaper-ACC reads
'John is engaged in newspaper-reading.'

b. János iskolába ment.
John to.school went
'John went to school.'

c. Víz szivárog a falból.
water oozes the wall.from
'Water is oozing from the wall.'

[11] The \ symbol indicates heavy (focus) stress.

[12] In this connection, advocates of lexicalist approaches very often point out that the uniform, generalized assumption of a predicate-complement relationship between the verb and the particle becomes much less feasible if we take noncompositional PVCs into consideration (the more noncompositional, the less feasible). Below I will discuss what I believe an example of the most extreme case: *meg-vet* PERF-throw 'despise'. Here the perfectivizing particle does not even perfectivize; thus, the meaning of this PVC is absolutely noncompositional.

É. Kiss claims that although the VMs in (7) are not referential, they bear case and they appear to be associated with theta roles; thus, they should be treated as arguments, and, just like ordinary arguments, they are best base generated postverbally. Verbal prefixes are adverbs and they can be analyzed as AdvPs that merely consist of a head. The basic question is what type of movement they are involved in: phrasal movement or head movement (in other words, whether their landing site is a specifier position or a head-adjoined position). É. Kiss gives the examples in (8) to show that this prefix movement can be nonlocal (also see 6b,c above), and she points out that head movement is generally assumed to be local; therefore, prefix movement can only be taken to be phrasal in these examples.

(8) a. János **fel** akarja **olvasni** a verseit.
John up wants read-INF his poems
'John wants to read out his poems.'

b. Jánosnak **fel** kell **olvasnia** a verseit.
John-DAT up needs read-INF-3SG his poems
'John needs to read out his poems.'

c. János **fel** szeretném, hogy **olvassa** a verseit.
John up I.would.like that read-SUBJ-3SG his poems
'I would like that John read out his poems.'

d. János **fel** kell, hogy **olvassa** a verseit.
John up needs that read-SUBJ-3SG his poems
'It is necessary that John read out his poems.'

É. Kiss adds that the prefix can also undergo topicalization and focusing, see (9), and both operations are phrasal.

(9) a. [$_{\text{TopP}}$ **Fel** [$_{\text{FP}}$ János olvasta a verseit]][13]
up John read his poems
'Loudly, JOHN read his poems.'

b. [$_{\text{TopP}}$ János [$_{\text{NegP}}$ nem [$_{\text{FP}}$ **fel** ment a lépcsőn]]], hanem **le** ment.
John not up went the stairs but down went
'It was not up but down that John went the stairs.'

---

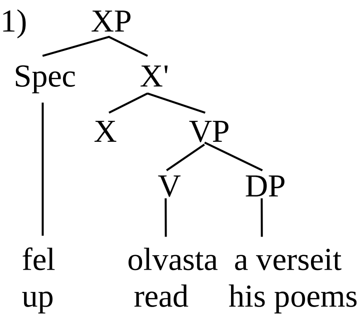
13 Two remarks are in order here. **(i)** In her more recent model, É. Kiss (2002) uses the Focus Phrase (FP) functional projection, so the focused constituent in (9a) has been moved to Spec,FP, as opposed to Spec,VP in E. Kiss' (1994a) framework, see (KÉK103a) above. **(ii)** I do not think that (9a), which is the same as (6a) above, is an appropriate (felicitous) example for the following reason. Elsewhere É. Kiss points out that the verbal prefix can be focused if it is meaningful enough (e.g. when it expresses direction), see her example in (KÉK104) above. It stands to reason that the condition on the availability of the contrastive topic status to the prefix is the same kind of contentfulness (only something contentful enough can be contrasted). The problem with (6a) is that *fel* 'up' in this example does not express direction: it expresses a mode of reading: 'loudly', cf. *read out* in English; therefore, it cannot be felicitously "contrastive-topicalized", as it cannot be naturally (and minimally) contrasted with something else (cf.# *le olvas* down read 'read in'). The following example with *fel* 'up' as a contrastive topic expressing direction would be appropriate.

(i) *Fel JÁNOS dob-ta a labdá-t és nem KATI.*
up John.NOM throw-PAST.3SG.DEF the ball-ACC and not Kate.NOM
ca. 'As regards upward motion, it was John who threw up the ball, and not Kate.'

É. Kiss also observes that the prefix can constitute an elliptical sentence on its own, which is yet another phrasal property, see (10).[14]

(10) **Fel** olvasta János a verseit?
'Did John read out his poems?'
Fel.
'He did.'

On the basis of the above facts and considerations, É. Kiss concludes that the prefix is an AdvP which only consists of a head, it is base-generated postverbally, among all the other arguments of the verb, and it is moved into the specifier position of a functional projection, that is, phrasal movement takes place. Consider her structure in (11).

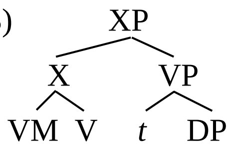
(11)


She points out that assuming this structure would receive considerable support if the VP in it could undergo coordination, one of the classic constituency diagnostics. However, this expectation is not satisfied:

(12) a. János [fel [hívta Marit]] és [fel [olvasta neki a versét]] →
John up called Mary and up read her his poem

b.*János [fel [hívta Marit] és [olvasta neki a versét]]

(12b) is ungrammatical on the reading on which the prefix is interpreted as also belonging to the second conjunct. É. Kiss remarks that if we assume the following structure for the predicate part of (3) then the ungrammaticality of (12b) can be naturally accounted for.

(13)


Furthermore, from this structural approach the grammaticality of the coordination in (14) also follows.

[14] It is to be noted, however, that short answers of the (10) type also admit clearly word-level elements, for instance parts of compounds:

(i) A: Ez fehérbor vagy vörösbor?
this white_wine or red_wine
'Is this white wine or red wine?'

B: Vörös.
red

(14) János [[le írta] és [fel olvasta]] a verset.
John down put and up read the poem
'John put down and read out the poem.'

É. Kiss adds, however, that the grammaticality of (14) does not provide strong evidence for the structure in (13), because (14) can also be analyzed as an instance of right node raising. Then she continues in the following way. "The contradictory evidence indicating the phrasal nature of prefix movement, and the incorporated head status of the prefix in surface structure can be resolved if we analyze the prefix as a projection both minimal and maximal, capable of acting either as a phrase or as a head. Suppose that the verbal prefix is generated in postverbal position as an AdvP complement of the V; then it undergoes phrasal movement into the specifier position of a functional projection dominating the finite VP, e.g. into Spec,AspP; and eventually it cliticizes to the adjacent verb" (2002: 61). I find this idea, expressed in an MP formalism, very important from my perspective, and when I develop my LFG analysis of the Hungarian verbal prefix I will refer back to it. Capitalizing on an influential proposal about Swedish particles (and VMs in general) by Toivonen (2001) in an LFG framework, I will point out that some categories in Hungarian can be naturally analyzed as having a "nonprojecting word" status, with the verbal prefix (and the negative particle) among them. É. Kiss' somewhat informal suggestion above[15] seems to be quite close to this idea in spirit.

In Section 2.1.1 in Chapter 2 I discussed some salient GB/MP analyses of VMs and foci, and offered a tabular comparative overview of their most important aspects in Table 3,[16] which I repeat here as Figure 1 for convenience (next page). It is worthwhile taking a repeated look at this figure, highlighting the most significant variants of the analysis of VMs in the GB/MP tradition. The most important ingredients of these approaches (either in isolation or in various combinations) are as follows. VM movement to a preverbal position is triggered/motivated by:

(a) the focus [+F] feature (abandoned rather early),
(b) incorporation,
(c) the encoding of aspect,
(d) complex predicate formation,
(e) the stress-avoidance of V.

Let me also make three general remarks on these GB/MP approaches to VMs in Hungarian.

(a) They are strictly syntactic.
(b) They aim at uniformly (and syntactically) treating both compositional and noncompositional VM + V combinations.
(c) Although it is generally assumed that VMs (both compositional and noncompositional, both verbal prefixes and other VM types) are complements of the lexical verb, some of them are fully-fledged, referential arguments, it is not clear what is the essence of the process called complex predicate formation. The crucial properties of the assumed (types (?) of) complex predicates are usually not spelled out formally. More generally, when I present my LFG analysis of Hungarian VMs, I will discuss this complex predicate formation issue, and I will argue that it is not plausible or feasible (from a relatively theory-neutral perspective) to assume a uniform complex predicate formation process for the treatment of this wide variety of VM + V combinations.[17]

[15] As I pointed out in Section 2.1.1 in Chapter 2, É. Kiss (1999) explicitly argues for the head movement of VMs to V^0, which is another instance of the VM+V incorporation idea.

[16] For the details of the discussion, see Section 2.1.1.

[17] Also see the remainder of this section discussing Hegedűs (2013).

	focused constituent	verbal modifier	remarks
É. Kiss (1992)	complementary distribution in a single position Spec,VP		a major problem: ordinary VMs in neutral clauses assumed to have the [+focus] feature
Brody (1990)	Spec,FocP	[VM,V+]	the co-head- / X^0-like status of VM is problematic, base-generation ⇔ É. Kiss (1999): head-movement analysis of VMs to V^0
É. Kiss (2002)	complementary distribution of alternative functional projections		a special in-between solution to the complementarity issue: the preverbal position is the same and not the same
	Spec,FocP	Spec,AspP	
É. Kiss (2004), Csirmaz (2004, 2006)	Spec,FocP	Spec,AspP + Spec,PredP	VM: aspect encoding + complex predicate formation
É. Kiss (2006b)	special complementary distribution in two extended v*P projections Spec,FocP and Spec,PredP		rationale: id-focus is also predicational
Surányi (2011)	partial complementary distribution (also involving NEG) in a single position Spec,TP		VM: aspectual Spec,TP: EPP satisfied by id-focus / VM / NEG
	Spec,TP	Spec,AspP (possibly) → Spec,TP	
Hegedűs (2013)	Spec,FocP	Spec,VP	VM: complex predicate formation, feature-checking and stress-avoidance by the verb, see Broekhuis & Hegedűs (2009)

Figure 1. Some GB/MP treatments of VMs and foci

At the end of this section on GB/MP I discuss some important parts of Hegedűs (2013), because (i) it offers a very useful critical assessment of several GB/MP analyses of VMs (including copula constructions, the topic of Chapter 6 of my dissertation); (ii) although briefly, it also reflects on alternative lexicalist views; (iii) it manifests a recent instance of a small-clause-and-complex-predicate-formation-based approach to these phenomena.

(A) Hegedűs starts the relevant discussion with a few comments on some lexicalist approaches to VMs, in particular, on Ackerman (1987) and Ackerman & Webelhuth (1998). She, agreeing with many other researchers,[18] admits that cases of noncompositionality and the fact that a great number of VM + V combinations can systematically and productively serve as input to word formation processes (which, according to many theories, are considered to be genuine lexical processes) can be taken to support the lexical derivation of a VM+V and its insertion under a V^0 head in the syntax.

However, agreeing with others again,[19] she points out that the syntactic separability of the VM and the V strongly argues against this kind of lexicalist treatment. Let me remark here

[18] See É. Kiss' (1994a, 2002) observations and examples above, for instance.

[19] See the previous footnote.

that in the next section (3.1.2) I give a detailed description of this (LFG-compatible) lexicalist approach developed in Ackerman (1987, 2003), Ackerman & Webelhuth (1993, 1998), Ackerman & Lesourd (1997), Ackerman et al. (2011), among others, and I point out the Hegedűs' main criticism no longer holds. The new, additional aspect of this approach, in a general inferential-realizational (= paradigmatic) morphological framework, is the concept of the analytic word as a possible lexical item. This is used in an appropriately explicit and formal system of lexical representation, which admits (analytic) lexical forms (morphological objects) consisting of (a combination of) more than one syntactic atom.[20] For details and examples, see Section 3.1.2.3.

(B) Hegedűs' other major objection to the lexicalist approach is the "immense productivity" of VM + V combinations. She writes:

> It is not only the case that they are productive, they are generally semantically transparent, too. It is indeed hard to imagine that all these elements form separate lexical entries, and even if idiomatic ones do, it does not necessarily imply that the structures are not formed in the syntax, since even the idiomatic ones have transparent syntactic structures (2013: 19).

Let me make three remarks on these often made claims in this context.

(a) Naturally, it is highly theory (i.e. theoretical persuasion) dependent how an approach envisages and formalizes the division of labour among various components of grammar in general, and among the lexicon, syntax and morphology in particular.[21]

(b) As I pointed out in Sections 1.2.2 and 1.2.7 in Chapter 1, LFG has always subscribed to the Strong Lexicalist Hypothesis, which means that it even handles all inflectional morphological phenomena in its lexical component (in addition to derivation). However, this does not mean that all (regular) inflected morphological forms of words have "separate lexical entries" in Hegedűs' sense. Instead, LFG uses lexical redundancy rules to capture productive morphological processes, whether they are inflectional (for instance the marking of tense and agreement on verbs) or derivational, see LFG's passive (derivational) lexical redundancy rule in Section 1.2.1 in Chapter 1.[22] Thus, LFG has a well-developed, coherent theory and practice of treating (absolutely) productive (morphological) phenomena lexically, which can be taken to be a feasible alternative to the syntactic approach Hegedűs subscribes to.

(c) As regards the treatment of nonproductive, noncompositional VM + V combinations, Hegedűs' (repeated) point is valid. These do need some sort of lexical specification or encoding of their idiomatic aspects (possibly in a separate lexical entry), but this should not mean that their pieces should not be combined in the syntax (the classic comparative reference to the treatment of ordinary idiomatic expressions is also valid). Thus, Hegedűs rightly argues against fully lexically combining VMs and their verbs,

[20] In Sections 3.1.4 and 3.1.5, I will show that our LFG-XLE approach to the noncompositional cases (at least), which is also lexicalist fundamentally, employs a considerably different formal mechanism to achieve the same goal: the VM and the V have distinct lexical entries; however, their semantic unity and syntactic separability are captured by dint of an appropriate checking and cross-referencing mechanism, see Forst et al. (2010), Laczkó & Rákosi (2011), Rákosi & Laczkó (2011), Laczkó & Rákosi (2013), and Laczkó (2013).

[21] As is well-known, the major models of the Chomskyan mainstream themselves also show considerable variation in this respect.

[22] The operation of lexical redundancy rules of LFG is excellently modelled formally in its XLE implementation, see the discussion of generalized sublexical rules in Section 1.3 in Chapter 1.

see Ackerman's (1987) early, pioneering proposal.[23] However, as I pointed out above, this approach has been successfully developed further, and the principled introduction of the notion of an analytic lexical word solves this problem in a plausible way.[24] In Sections 3.1.4 and 3.1.5 I will present alternative lexicalist solutions for the analysis of PVCs in an LFG-XLE framework, and in Section 3.2 I will develop a generalized approach (in this vein) to all major types of VM + V combinations.

(C) Hegedűs' next argument against the lexicalist treatment is that there are VM + V combinations (other than PVCs) that are not likely to be lexical, because the VM in them has a phrasal status: it is (can be) modified. Consider her examples (2013: 20).

(15) a. Mari teljesen őrült-nek tartja János-t.
Mari completely crazy-DAT considers János-ACC
'Mary considers John completely crazy.'

b. Anna millió darab-ra törte a vázá-t.
Anna million piece-SUB broke.3SG the vase-ACC
'Anna broke the vase to a million pieces.'

She writes this.

> The pre-modifiers are obviously related to the secondary predicates and not to the whole VP, which also suggests that the elements in the preverbal position are (possibly complex) phrases, which is not reconcilable with the proposal that the predicate and the verb come out of the lexicon as a syntactically simplex unit (2013: 20).

I have three remarks on this argument.

(a) In general, Ackerman & Lesourd (1997), Ackerman (2003), and Ackerman et al. (2011) are rather programmatic as regards the treatment PVC-type phenomena in their inferential-realizational framework. In particular, they do not address the issues of the treatment of nonPVC types of VMs. As far as I can see, the types Hegedűs exemplifies in (15) would pose serious problems not only for a classical lexicalist approach like Ackerman (1987), which Hegedűs argues against,[25] but also for the more recent, inferentially-realizationally augmented model. The main reason for this is that intuitively it would really not be feasible to assume that a verb like *tör* 'break' and the noun *darabra* 'to pieces'[26] in (15b) make up any kind of (analytic-paradigmatic) lexical word, forming a kind of a complex predicate similar to a PVC. First of all, the verb and the noun have a well-established predicate-argument relationsip: the noun is an ordinary (resultative secondary predicate) argument of the verb.[27] It would be most unusual to assume that all the words in this particular predicate-argument relation make up an analytical lexical word. Given the clearly phrasal status of the argument, an analysis along the "incorporation" lines, would also seem untenable (especially in the light of the systematic syntactic independence of the

[23] Let me note in passing that, as far as I can see, researchers in the GB/MP tradition have paid much less attention to formally capturing the behaviour of nonproductive, noncompositional VM + V combinations. Below I will elaborate on this point.

[24] See Ackerman (2003) and Ackerman et al. (2011), for instance.

[25] In her book she does not at all reflect on this inferential-realizational (paradigmatic) lexicalist approach.

[26] Even if its syntactic modifiability can be handled by the system.

[27] In LFG it is standardly analyzed as a constituent having the XCOMP grammatical function.

two elements).[28] The type illustrated in (15a) poses the same problem: the verb *tart* 'consider' selects *őrültnek* 'crazy.DAT' as its predicative argument.[29] Thus, I also think that this VM + V type cannot be feasibly analyzed in a lexical inferential-realizational fashion. My suspicion is that the advocates of inferential-realizational model themselves would not analyze such VMs along their lexical-paradigmatic lines.[30]

(b) My LFG-XLE alternative will be an analysis in which the predicates and their secondary predicate arguments in (15) get exactly the same treatment as other predicates and their similar arguments, except for one important difference. The predicate will have the same type of argument structure, its argument will receive its customary grammatical function: XCOMP. However, a predicate like those in (15) will have an additional specification in its lexical form: it will require its XCOMP argument to occupy the Spec,VP position in neutral sentences. This is how I will capture the VM status of these constituents.[31] This will be the only lexical aspect of the analysis of this VM type (and some similar types).

(c) In this connection, in Section 3.2 I will argue against the rather widely-accepted GB/MP assumption that VMs, as a rule, make up complex predicates with their verbs (and this triggers VM movement into the preverbal position in general). I will claim that only certain VM + V types should be analyzed as complex predicates in an appropriately defined sense of the term.

(D) Finally, Hegedűs points out that the case-marking of the VM in certain types also poses problems for a lexicalist approach. "The fact that Hungarian secondary predicates bear inherent case makes a lexical analysis even less feasible, because case-marking is not possible within compounds" (2013: 20).[32]

(a) Obviously, this argument by Hegedűs is a relatively strong one against the early, classical lexicalist approach along the lines of Ackerman (1987), which she argues against in general.

(b) I do not think this argument by itself would have a real weight against the inferential-realizational version, given that in this model two syntactic atoms make up a single analytic lexical word.

(c) As should be straightforward from (Cb) above, these case-marking facts are not at all problematic for my approach to be developed in Section 3.2, because my analysis of the relevant VM types is "syntactic" fundamentally, and the only lexical aspect is the constraint that the VM argument must precede the verb in neutral sentences. Not only is it the case that the presence of case marking in these types is not problematic for my approach but it is fully compatible with it (or, in a sense, follows from it).

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[28] The feasibility of the classical lexical-incorporational treatment is further weakened by the fact that these secondary predicate VMs are case-marked, see point (D) below.

[29] This case is even more complex, because in addition to the adjectival phrase (*teljesen őrültnek*) being the XCOMP argument of the verb (*tart*), the accusative noun phrase, *Jánost* 'John.ACC', is a nonthematic OBJ of the verb. For the classical LFG treatment of "raising" and "equi" predicates in English, see Bresnan (1982).

[30] Recall that Ackerman (1987) proposed a uniform (strictly) lexical analysis of all major VM types, just like the overwhelming majority of GB/MP approaches, including Hegedűs (2013), treat these phenomena (strictly) syntactically. In my LFG-XLE analysis to be presented in Section 3.2 I capture all the crucial aspects of VMs by lexical means; however, the "degree of lexicality" in the encoding of the relevant features varies considerably across VM types.

[31] For further details, see Section 3.2.

[32] See the forms of the secondary predicates in (15) above: *őrült-nek* 'crazy-DAT' and *darab-ra* 'piece-SUB'.

(E) Hegedűs mentions that Broekhuis & Hegedűs (2009) developed an alternative analysis of predicative movement. It capitalized on Broekhuis' (2008) analysis of locative inversion in the frame of movement of Small Clause predicates (actually remnant SCs) on the basis of Moro (1997). The essence of Broekhuis' (2008) proposal is that the subject and the predicate within a SC are in an agreement relationship, and the movement of either of them can be triggered by a probe that attracts ϕ-features, cf.

(16) a. The baby carriage rolled down the hill.
b. Down the hill rolled the baby carriage.

"When a verb takes a SC complement, either the subject or the predicate of the SC can undergo movement to check ϕ-features; locative inversion is an example when the predicate of the SC (more precisely, the remnant SC, which does not contain the subject) moves into the subject position, because here the subject is the focus of the clause in such sentences it has to remain in situ, because in English foci are to be aligned to the right edge of the clause in order to be stressed (cf. also Szendrői 2001)" (Hegedűs 2013: 25). Broekhuis & Hegedűs (2009) assume that predicate movement in Hungarian is triggered by the verb's ϕ-features; thus, the landing site of this movement is Spec,VP, and the goal is to establish object-agreement. Hegedűs emphasizes the fact that this agreement could also be established at a distance; however, they also postulate that there is an OT-style requirement (constraint) to the effect that the finite verb should be unstressed. This constraint triggers movement to Spec,VP and it overrules the long-distance agree option. Hegedűs (2013) takes over the following components of this analysis:

- SC-predicates (or, possibly, remnant SCs) are moved;
- the landing site is Spec,VP;
- the agreement relation within the SC makes the movement possible, but it is made obligatory by a different property.[33]

Hegedűs points out that subject-predicate relationships have fundamental semantic and syntactic aspects to them, and Svenonius (1994), Moro (1997), Dikken (2006) provide useful overviews of traditional logical and linguistic theories in this domain. The notion of a small clause (SC) has been a pivot in generative linguistic investigations pertaining to subject-predicate relations. Given that in her analysis SCs have a central role, Hegedűs highlights several crucial stages and factors in the history SCs.[34] Here I only briefly discuss what is relevant from the perspective of this dissertation.

Stowell (1981, 1983) proposed that the maximal projection of every lexical category can contain a subject in its specifier position, in other words, all the maximal projections of lexical categories are potential SCs.[35] By contrast, Williams (1980) rejects the notion of SC in the Stowellian sense, and represents subject-predicate relations at a post-surface-structural level that he calls Predicate Structure. For him subjects are external arguments.

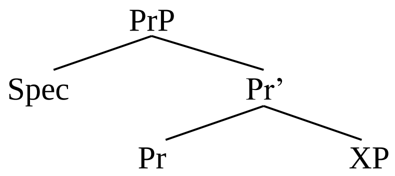
Bowers (1993) reconciles Stowell's (1981, 1983) Small Clause Theory and Williams' (1980) Predication Theory conflict. He proposes a special functional projection: Predicative Phrase (PrP), see (17), and claims that by the help of this functional layer all predicative relations can be represented in a unified fashion (whether they come from main clauses or SCs).

[33] She admits that stress avoidance is an important factor, but in her new analysis the need for complex predicate formation is even more crucial.

[34] See Hegedűs (2013: 27-39).

[35] This idea, with some modifications, was adopted by Chomsky (1981).

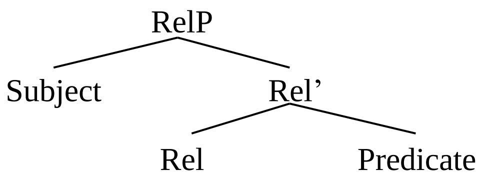
(17)



The Spec,PrP is the subject (external argument) position, and the complement is the predicate. This representation satisfies Williams' (1980) condition that the subject should c-command the predicate, and, at the same time, Stowell's (1981, 1983) SC-constituency is also preserved. The predicative XP can belong to any lexical category.

Dikken (2006) postulates a structural relation between subject and predicate similar to that in Bowers (1993), see (18). He assumes that predication is asymmetrical and it is mediated by a functional head called Relator. However, there is also a major difference between the two approaches. In Bowers' theory Pr is a new functional head. By contrast, Dikken's Relator is more abstract, and the function of a "relator" can be instantiated by a variety of heads that connect predicates and their subjects.

(18)

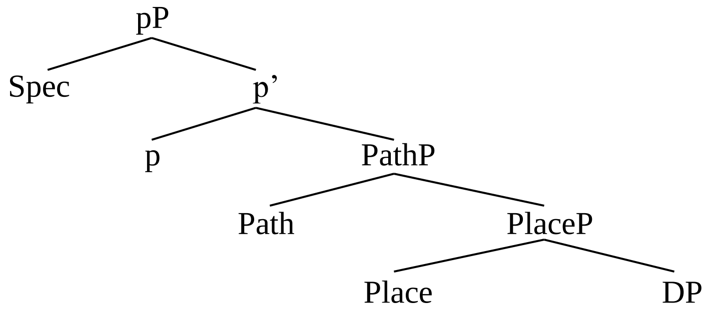


Stowell (1991b) proposes a radically different ("upside-down") approach to complex predicate formation. He assumes that SC-structure is the underlying one, and complex predicates are derived by restructuring. Complement SCs are restructured and their predicate forms a complex predicate with the verb during the derivation. There is some LF requirement that makes restructuring necessary, and there is also a parametric difference: in some languages restructuring takes place at LF, while in others, like in Italian, it takes place at Surface Structure. Hegedűs subscribes to this approach, and she proposes that "Hungarian also belongs to the Italian-type languages in this respect, and predicate movement to the preverbal position is the instantiation of Small Clause restructuring and complex predicate formation" (2013: 38-39).

(F) Hegedűs subscribes to Dikken's (2006) RelP theory. The RelP projection in the analysis of the relevant Hungarian phenomena can be nominal, adjectival or adpositional in nature. Her motivations for the SC approach are as follows. "The conceptual argument for assuming SCs is that it provides a means to represent subject–predicate relations in a uniform manner, and can be translated into LF straightforwardly. Empirically, their constituency is not easy to test in many cases […]. Conceptually, complex predicate formation makes a "reanalysis" possible in the sense that the argument structures of the matrix predicate and the SC predicate are united. The empirical argument for complex predicates is that the participating predicates behave as constituents under some tests (especially movement tests)" (2013: 42).

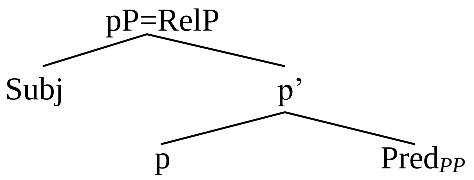
The most crucial aspects of Hegedűs' (2013) analysis of PVCs are as follows. She assumes that the particle is base-generated as part of the PP postverbally: particles belong to the extended projection of PPs: pP. Its generalized structure is as follows.

(19)



This is a "prepositional relator phrase" in the sense of Dikken (2006).

(20)



In the case of the relevant construction types, part of this pP is moved to the Spec,VP position in neutral sentences, which are all instantiations of Hegedűs' syntactic complex predicate formation rule. She aims at a uniform analysis, so she assumes that even the movement of the particle is of the phrasal movement type. This is what she writes.

> A consequence of having a phrasal movement analysis of particle movement is that it is handled in the same fashion as other types of predicate movement. All predicative PPs are predicted to behave in the same way as particles do (and vice versa). This results in a unified analysis of predicate movement. Verbs expressing motion (directed motion verbs and manner of motion verbs) also take small clauses with PP-predicates. Depending on their semantics, they either require a particle, or they 'just' need any directional PP. If there is no particle in the clause, the PP will appear preverbally in neutral clauses, as expected under the unified analysis of predicate movement (2013: 120).

In her approach Hegedűs analyzes the examples in (21) in the following way.

(21)	a.	Az	egér	be-szaladt	az	ágy	alá.
		the	mouse	into-ran	the	bed	under.to

'The mouse ran under the bed.'

b.	Az	egér	az	ágy	alá	szaladt.
	the	mouse	the	bed	under.to	ran

'The mouse ran under the bed.'

In both cases, at the beginning of the derivation there is a pP postverbally. The difference between (21a) and (21b) is that in the former there is an overt p head (*be* 'in'), which takes a(n optional) PP complement, see (22), while in the latter this head is empty. In the first case, the pP is "vacated", that is, its PP complement is postposed and the remnant pP (only containing the p head) moves to Spec,VP. In the second case, the entire (empty-headed) pP undergoes this movement.

(22)	[$_{pP}$	be	[$_{PP}$	az	ágy	alá]]
		in		the	bed	under.to

(G) For her unified analysis to work, Hegedűs has to prove that the movement of the particle (a word-like element) to Spec,VP is also an instance of phrasal movement.[36] Her argumentation runs as follows.

(i) In the examples in (23) the modifiers *egyenesen* 'straight' and *teljesen* 'completely' must precede the particle in preverbal position; therefore, they must have been pied-piped by the particle.

(23)	a.	Az	egér	egyenesen	be-szaladt	az	ágy	alá.
		the	mouse	straight	into-ran	the	bed	under.to
		'The mouse ran straight under the bed.'						
	b.	Az	autó	egyenesen	neki-hajtott	a	kerítés-nek.	
		the	car	straight	to-drove	the	fence-ALL	
		'The car drove straight into the fence.'						
	c.	Mari	teljesen	be-verte	a	szöget	a	fal-ba.
		Mari	completely	into-hit	the	nail.ACC	the	wall-ILL
		'Mary hammered the nail completely into the wall.'						

I do not find this argument very convincing on the basis of these examples.[37] My interpretation of all the three of them is that the two adverbs modify the VP (or at least the V + M complex) rather than just the particle. Consider the following example.

(24)	Én	nem	nem	kedvel-em	Kati-t,
	I	not	not	like-PRES.1SG.DEF	Kate-ACC

hanem	teljesen/egyenesen	utál-om	/	meg vet-em	őt.
but	completely/straight	hate-PRES.1SG.DEF		PERF throw- PRES.1SG.DEF	her

'It is not the case that I don't like Kate, but I completely/definitely hate / despise her.'

I think the most natural interpretation of this example is that the adverbs *teljesen* 'completely' and *egyenesen* 'straight' modify the VP (in a VP-adjoined position). In the case of *utál* 'hate' there is no particle to begin with, while *meg-vet* PERF-throw 'despise' is an absolutely noncompositional PVC: the particle *meg* which solely has a perfectivizing role in present day Hungarian does not even make the verb (or the resulting PVC) perfective; thus, we can safely conclude that the adverbs do not modify this *meg* only.[38]

(ii) Hegedűs writes:

> … when the particle is of the purely resultative type in the sense that there is no related PP in the clause, its modifier must be preverbal. In this respect particles behave exactly like other resultative phrases […] note that the preverbal particle in (25a) and the resultative phrase in (25b) exhibit the same properties.

[36] As I point out several times in this dissertation, the categorial specification and its phrasal/nonphrasal nature has always been one of the crucial issues to be addressed in all kinds of generative frameworks. For instance, see my foregoing discussion of É. Kiss' (2002) arguments for the phrasal status in this section.

[37] It is interesting to note that although É. Kiss (1994a) strongly argues for the phrasal status (behaviour) of particles, her generalization is that they are AdvPs which only consist of a head (that is, she assumes that they cannot be modified).

[38] Thus, *meg-vet* PERF-throw 'despise' is an even better example of a noncompositional PVC than the most often used example, also cited by É. Kiss (1994a) above: *be-rúg* 'get drunk' (lit. 'in-kick'): in this latter case, the noncompositionally used particle, *be* 'in', at least has a perfectivizing role.

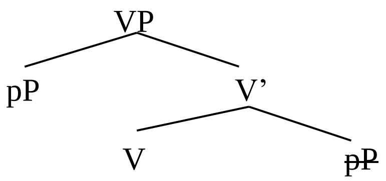
(25) a. A gyerekek teljesen szét-szedték a játékot.
the children completely apart-took the toy.ACC
'The children took the toy completely apart.'

b. A kovács teljesen lapos-ra kalapálta a vasat.
the smith completely flat-SUB hammered the iron.ACC
'The smith hammered the iron completely flat.'

> This means that particle movement does not involve head movement of p out of the SC, but movement of the whole pP, where the complement PathP or PlaceP are stranded, just like the complement of adjectival predicates is stranded in copula clauses (2013: 119).

See her schematized representation in (26).

(26)



In my opinion this argument, which is similar in nature to the previous one, is not very strong, either. The claim here, too, is that although the p head *szét* 'apart' has no complement, it can take a modifier; thus, this combination is a phrase (a pP), and this is moved to Spec,VP. First of all, my intuition is the same as in the case of the previous examples in (23) and (24): in my interpretation, *teljesen* 'completely' in (25a) modifies the entire VP, which contains *szét* 'apart'. However, my reading of (25b) is that the same adverb really modifies the adjective laposra 'flat.SUB', and we are dealing with an AP. I think this contrast between (25a) and (25b) is supported by the following pair of examples.

(27) A: A gyerekek szét-szedték a játékot?
the children apart-took the toy.ACC
'Did the children take the toy apart?'

B: (??Teljesen) Szét.
completely apart

(28) A: A kovács lapos-ra kalapálta a vasat?
the smith flat-SUB hammered the iron.ACC
'Did the smith hammer the iron flat?'

B: (Teljesen) Lapos-ra.
completely flat-SUB

I think that if the two "resultative types" were really fully parallel, as Hegedűs claims, then we would expect (27B) to be as acceptable as (28B). This does not seem to be the case, and in my opinion this can be explained by assuming that *teljesen* 'completely' does not modify *szét* 'apart'.

Despite my remarks above I do not question the plausibility of assuming that particles exhibit phrasal behaviour.[39] My main claim is that I do not find Hegedűs' modifiability

[39] See É. Kiss' (2002) argumentation above, for instance.

arguments convincing.[40] In Section 3.1.4, I will discuss the categorial and phrasal issues of the treatment of Hungarian particles in an LFG-XLE framework, with special attention to Toivonen's (2001) theory of nonprojecting words.

(H) Hegedűs has a separate section on "variation and the 'duplication' pattern".[41] Consider one of her examples in (29).

(29)	Valaki	rá-lépett	a	lábam-ra.
	someone	onto-stepped.3SG	the	foot.1SG-SUB
	'Someone stepped on my foot.'			

The crucial property of this pP type is that the spatial (directional) p head is a morphological cognate of the suffixal postposition in the PP complement (cf. *rá-* and *-ra* in (29)).

First, Hegedűs briefly mentions two lexical treatments. "Under one analysis, the particle forms a lexical unit with the verb, and it is the complex that takes an oblique case marked DP (cf. Kálmán & Trón 2000 and Laczkó & Rákosi 2013), who deal with this type of data). Since I have been advocating a movement based approach to particle-verb units in the previous section (based on the fact that particles can form complex pPs with the postverbal PPs), I will try to incorporate these pieces of data under a syntactic approach as well" (2013: 120).

Then she offers a short critical overview of some previous MP analyses along the following lines.

(A) É. Kiss (2002) proposes that there are two coindexed PPs in this PVC type. The particle is an argument PP and the other PP is a coindexed adjunct. This coindexing is a kind of an agreement relationship, which is an explanation for the almost identical morphological forms.

(B) In Ürögdi's (2003) copy theory approach the preverbal particle is taken to be the spellout of the formal features of the PP, and, consequently, it has no lexical content in its own right. The morphological (near-)identity of the particle and the suffix in the PP is due to the fact that they spell out the same features.

(C) In Surányi's (2009a,b,c) alternative copy-theory-based analysis the preverbal and the postverbal elements are members of a movement chain, and they spell out different parts of the same phrase after chain reduction has taken place.

Hegedűs' "joint" criticism of these three approaches is that all of them face empirical problems, which have mostly to do with variation: the optionality/obligatoriness of the particle. She makes the following concluding remarks. "The alternation patterns that we observed here can be explained by the function of the particle in the clause. Complex predicate formation can be obtained by moving the particle, or, when the particle is morphologically unexpressed, the PP into the preverbal position. In both cases, however, we are dealing with movement of a predicative pP. When exactly the particle can remain unexpressed is subject to future research but it seems to be determined by the selecting verb and its lexical properties" (2013: 122-123).

Let me make three comments on all this.

1. Hegedűs criticizes the previous MP (i.e. syntactic) approaches by claiming that they have problems with capturing the optionality/obligatoriness of the particle in these constructions. However, she herself does not present any details of an alternative analysis that could be taken to show that her approach fares any better in this respect. She leaves this to future research.

[40] As is well-known, English particles *can* be modified when they follow (and not precede) the object. Compare Jackendoff's (2002: 71) examples.
(i) I'll look (*right) up the answer. – I'll look the answer (right) up.

[41] Section 4.4.2 (2013: 120-123).

2. She only points out that this variation is likely to be capturable in terms of the nature of the verb and its "lexical properties".
3. When she refers to our lexicalist approach in Laczkó & Rákosi (2013), her only comment is that her framework is syntactically oriented and she sets out to develop an analysis in this component of the grammar. Needless to say, I believe that our lexicalist approach does not suffer from what Hegedűs claims to be a shared shortcoming of the alternative syntactic approaches.[42] Moreover, point 2 seems to me to imply that indirectly Hegedűs herself assumes that the relevant aspects of these phenomena call for an (at least partially) lexical treatment, which is exactly the main trait of our approach.

3.1.2. Lexicalist treatments of PVCs

In this section, I offer a brief overview of three salient lexical approaches to PVC phenomena outside the LFG framework: GASG in Section 3.1.2.1, HPSG in Section 3.1.2.2, and Realization-Based Lexicalism (RBL), subscribing to the inferential-realizational view of morphology, in Section 3.1.2.3. My two general comments on each of them will be that, as far as I am aware of existing analyses of the phenomena under investigation in these frameworks, (i) they are all rather programmatic; but (ii) all of them seem to have the potential (i.e. appropriate lexicalist architecture, principles and formal devices) for the development of detailed and coherent analyses of the relevant phenomena.

3.1.2.1. GASG

In Section 1.2.5 in Chapter 1, I offered a detailed discussion and exemplification of GASG's general view and treatment of VMs and foci in Hungarian and their interaction, based on Szilágyi (2008). Here I only repeat the main points, and for further details see Section 1.2.5 again.

A) Aspect must be expressed immediately preverbally by an appropriate argument, typically by a preverb: (30a) or by a bare noun phrase: (30b). Sometimes the verb itself can perform this function: (30c). The following footnote remark is also very important from the perspective of this dissertation. "Preverbs in Hungarian are considered as complements (as well as in other theories),[43] because they are separate words. It is a matter of orthography that if the preverb precedes the verb immediately they should be joint" (Szilágyi 2008: 179, Footnote 2).

(30)	a.	Péter	megírta	a	leckét.	
		Peter-NOM	Perf+write-Past3Sg	the	homework-ACC	
		'Peter has written the homework.'				
	b.	Már	három	hete	újságot	árulok.
		already	three	week	newspaper-ACC	sell-1Sg
		'I have been selling newspapers for three weeks already.'				

[42] Ironically, this seems to include her own approach at this stage of development.

[43] In Sections 3.1.4 and 3.1.5, I will challenge this broad generalization in this approach (and other theories) if by "complement" one means "argument" (and nothing indicates otherwise here). Also note that the reasoning for assuming the complementhood of preverbs above is strange in this context ("complement, because, despite appearances, it is a separate word"), i.e. it is alien to the morpheme based approach advocated by GASG, which assumes that bound morphemes have exactly the same status as free morphemes (= words).

c. Péter csalódik Mariban.
Peter-NOM get-disappointed-3Sg Mary-INESS
'Peter gets disappointed in Mary.'

B) Preverbs have two recessive rank parameters.[44] In (31a), which is a neutral sentence, the preverb *el* 'away', because it has a strong (*r2b*) parameter, has to precede the verb *indul* 'get started'. Only the preverb receives stress and it makes up a phonological word with the stressless verb. In (31b') and (31b''), by contrast, the preverb follows the verb, due to a weaker rank parameter: (*r3a*).

(31) a. Péter elindul horgászni.
Peter-NOM away+go3Sg fish-INF
'Peter goes fishing.'

b'. Péter 'horgászni indul el.
Peter-NOM fish-INF go-3Sg away
'Why Peter goes away is that he will fish.'

b''. 'Péter indul el horgászni.
Peter-NOM go-3Sg away fish-INF
'It is Peter who goes fishing.'

C) In the case of certain predicates a designated preverbal argument encodes aspect. For instance, in the neutral sentence in (32a) the second ('place') argument of *lakik* 'live' occupies this "aspect-marking" position, thanks to its strong (*r2b*) rank. (32b') is ungrammatical, because the subject, *Péter* 'Peter', is not focused, i.e. this is also a neutral sentence; therefore, the designated 'place' argument should precede the verb. By contrast, in (32b'') the subject is focused; therefore, the designated argument can (or, rather, must) follow the verb, due to a weaker (*ra3*) rank.[45]

(32) a. Péter Budapesten lakik.
Peter-NOM Budapest-SUPERESS live-3Sg
'Peter lives in Budapest.'

b'. *Péter lakik Budapesten.
Peter-NOM live-3Sg Budapest-SUPERESS
'Peter lives in Budapest.'

b''. 'Péter lakik Budapesten.
Peter-NOM live-3Sg Budapest-SUPERESS
'It is Peter who lives in Budapest.'

---

[44] In my LFG analysis in Section 3.2, I also lexically encode the fact that the preverb of particle verb constructions must immediately precede the verb in neutral sentences (in my system, it must occupy the Spec,VP position), and in a nonneutral, focused sentence this position is not available to it, because it is occupied by the focused constituent. I encode this complementary distribution information by dint of appropriate functional annotations in the lexical form of the preverb, on the one hand, and disjunctive functional annotations associated with the Spec,VP position, on the other hand.

[45] For my LFG analysis of various types of verbal modifiers (other than preverbs) targeting the Spec,VP position in neutral sentences, see Section 3.2.

D) It can also happen that, although there is a preverb in a neutral sentence, the aspect marker in the preverbal position is a designated argument of the verb, see (33a).

(33) a. Péter Budapesten szállt meg.
Peter-NOM Budapest-SUPERESS stay-Past3Sg Perf
'Peter stayed in Budapest.'

b'. *Péter megszállt Budapesten.
Peter-NOM Perf+stay-Past3Sg Budapest-SUPERESS
'Peter stayed in Budapest.'

b''. Péter 'megszállt Budapesten.
Peter-NOM Perf+stay-Past3Sg Budapest-SUPERESS
'What Peter did in Budapest was that he stayed there.'

(33b') is unacceptable as a neutral sentence, given that the correct neutral sentence variant in the case of this predicate is (33a). By contrast, (33b'') is grammatical, because here the preverb (or the preverb+verb complex) is focused, see the heavy stress symbol, and the presence of focus forces the designated argument into a postverbal position (by "deranking" in several senses of the word in this context).

The following quote is especially important when one makes a comparison between the GASG approach and my LFG analysis. "The aspect-giving argument has to be stored with two rank parameters in every case" Szilágyi (2008: 180). As I will spell out in Sections 3.1.4, 3.1.5 and 3.2, this is exactly what I also do in my LFG approach: the occurrence of VMs in neutral and nonneutral sentences is captured by appropriate disjunctive lexical specifications, also see Footnote 44.

Let me make the following concluding remarks at the end of this section.

- The GASG approach to VMs is rather programmatic at this stage (as far as I am aware of the relevant existing analyses in this framework).
- It has a fully suitable theoretical and detailed formal apparatus that can serve as an efficient framework for accommodating the analysis of all major VM types in Hungarian.
- As a lexicalist theory, it is very close in spirit to LFG;[46] therefore, the solutions the two frameworks make available are very similar in nature.
- I find the sweeping generalization in the current analytical state of affairs in GASG that particles are, as rule, also complements of the verb (just like all other VM types) inappropriate. In Sections 3.1.4 and 3.1.5, I will present (versions of) an LFG-XLE approach in which it is assumed that particles and verbs in PVCs make up complex predicates in the true and strict sense of the term, and this holds not only for noncompositional PVCs (in the case of which the postulation of a predicate-complement relationship is highly implausible) but also for productive, compositional PVCs. At the same time, I believe that the inventory of GASG's formal devices makes the development of an alternative approach along these complex predicate formation lines available in principle.

[46] As I pointed out in Section 1.2.7 in Chapter 1, it is even more lexical than LFG.

3.1.2.2. HPSG

In Section 2.1.3 in Chapter 2, I offered an overview of the essential aspects, from the perspective of this dissertation, of Szécsényi's (2009, 2011, 2013) HPSG analysis of Hungarian finite and nonfinite sentences. For convenience, here I repeat that part of the discussion in that section which is directly relevant to a possible treatment of Hungarian VMs in HPSG.

Szécsényi postulates the structure shown in Figure 2 for Hungarian finite sentences.

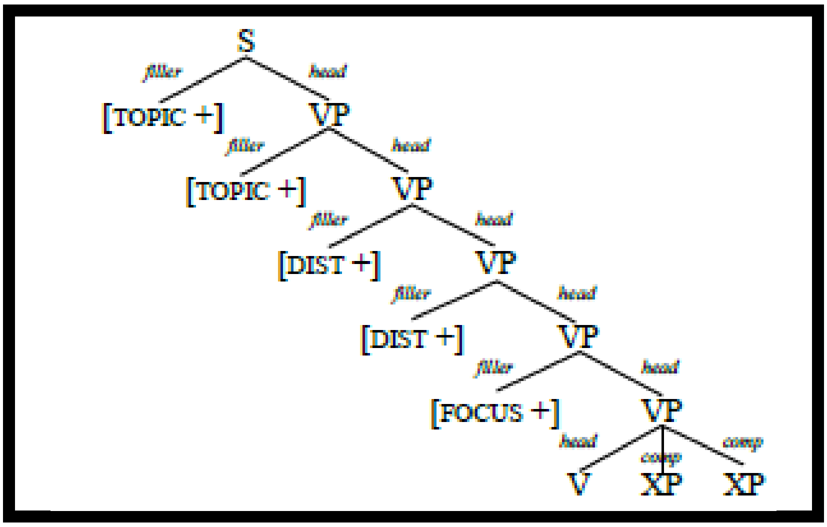


Figure 2. Szécsényi's (2013: 208) HPSG structure for Hungarian finite sentences

Following the MP tradition in this respect, he assumes that a VM, which is a complement of the verb, makes up a complex predicate with that verb. In his analysis, a VM occupies a special, designated VP-initial position, immediately preceding the verbs. Not only a verbal particle, but other (designated) complements of the verb can have this VM status; for obvious reasons, in each individual case only a single element can function as a VM. Szécsényi identifies this designated element by a special feature CAR (standing for "verb-carrier", a term borrowed from Kálmán & Rádai 1998), and assumes that this element must occupy the VP initial position in neutral sentences. Szécsényi treats focusing as a lexical process. Its essence is that the verb gives the focus feature (F-GIVE) to one of its complements or adjuncts. At the same time, the CAR feature must be (or must become) empty. See Szécsényi's (2011) schematized Focus Selecting Lexical Rule in Figure 3.

$$
\begin{bmatrix}
\text{COMPS} & \langle \ldots, \boxed{1}[\text{FOCUS} -], \ldots \rangle \\
\text{F-GIVE} & \boxed{2} \\
\text{CONTENT} & \alpha
\end{bmatrix}
$$

$$\Downarrow$$

$$
\begin{bmatrix}
\text{COMPS} & \langle \ldots, \boxed{1}[\text{FOCUS} +], \ldots \rangle \\
\text{CAR} & \textit{none} \\
\text{F-GIVE} & \boxed{2} \oplus \langle \boxed{1} \rangle \\
\text{CONTENT} & \beta
\end{bmatrix}
$$

Figure 3. Szécsényi's (2011: 114) Focus Selecting Lexical Rule

Notice that in this approach the focus and the VM occupy two distinct syntactic positions: the former is VP-adjoined and the latter is VP-initial. Their complementarity is encoded (or, rather, constrained or stipulated) by the rule in Figure 3.

Let me make the following concluding remarks at the end of this section.

- Szécsényi's HPSG approach to VMs is very programmatic at this stage (as far as I am aware of his relevant analyses).[47]
- It has a fully suitable theoretical and detailed formal apparatus that can serve as an efficient framework for accommodating the analysis of all major VM types in Hungarian.
- As a lexicalist theory, it is very close in spirit to LFG;[48] therefore, the (potential) solutions the two frameworks make available are very similar in nature.
- I find Szécsényi's sweeping generalization that particles are, as rule, also complements of the verb (just like all other VM types) inappropriate. In Sections 3.1.4 and 3.1.5, I will present (versions of) an LFG-XLE approach in which it is assumed that particles and verbs in PVCs make up complex predicates in the true and strict sense of the term, and this holds not only for noncompositional PVCs (in the case of which the postulation of a predicate-complement relationship is highly implausible) but also for productive, compositional PVCs. At the same time, I believe that the inventory of HPSG's formal devices makes the development of an alternative approach along these complex predicate formation lines available in principle.
- I think that in his HPSG framework Szécsényi would not be forced to assume that VMs and foci occupy distinct syntactic positions (in the spirit of the mainstream MP view), and he could capture their complementarity (intuitively) more straightforwardly by assuming a single position for which the two elements compete.[49]
- For a detailed HPSG analysis of PVCs in German, see Müller (2002).

3.1.2.3. RBL

In Laczkó & Rákosi (2013) we discuss the most important aspects of our LFG-XLE treatment of PVCs in Laczkó & Rákosi (2011) and Rákosi & Laczkó (2011) both from a cross-theoretical and from an LFG-theoretical perspective. We compare the nature of our analysis with alternative treatments of complex predicates in the LFG tradition, and crucially we concentrate on Ackerman & Lesourd (1997), which argues very strongly for a strict and uniform lexicalist approach to all kinds of complex predicate formation that result in argument structure alterations, irrespective of the number and nature of possible syntactic properties certain complex predicate types in certain languages may have. This lexicalist approach is fully in the spirit of RBL; therefore, at the beginning of this section I quote the relevant part of the discussion in Laczkó & Rákosi (2013).

> It is unquestionable that PVC formation is a derivational process: typically a new argument structure is brought about, either compositionally or noncompositionally. The first general issue then is the architecture of the theory with respect to the syntax vs. lexicon contrast in the treatment of derivational (and inflectional) processes. Three main

[47] Kálmán & Trón (2000) informally outline the basic ingredients of an HPSG style analysis of "agreeing PVCs", i.e. PVCs whose particle is formally (morphologically) identical, or very similar, to the case suffix of an oblique argument of the PVC. The particles in this PVC type are also called "reduplicating particles", see Section 3.1.4.

[48] As I pointed out in Section 1.2.7 in Chapter 1, it is even more lexical than LFG.

[49] See the GASG solution in Section 3.1.2.1 and my LFG analysis in Section 2.4.2 in Chapter 2 and in Sections 3.1.4, 3.1.5 and 3.2 in this chapter.

approaches are standardly distinguished:

- the Strong Lexicalist Hypothesis (SLH), which holds that all morphological processes (both derivation and inflection) have to be treated in the lexical component of the grammar;
- the Weak Lexicalist Hypothesis (WLH), which assumes that derivation is lexical and inflection is syntactic;
- the NonLexicalist Hypothesis (NLH), which treats both major types of morphological processes in the syntactic component.

As is well-known, in the mainstream Chomskyan tradition, at different stages and in various models, we can find fully-fledged, formally satisfactorily developed instances of all the three approaches.[50] The classical design of LFG subscribes to SLH, and this approach is still widely accepted in the LFG community. There are, however, alternative LFG models as well which do accommodate syntactic complex predicate formation affecting argument structure under clearly definable circumstances, and they develop the necessary technical apparatus in a principled manner. For an interesting debate on the locus of handling complex predicates based on several independent phenomena from various languages, see several papers in Alsina et al. (1997). Two papers in this volume are highly relevant from our present perspective: Alsina (1997) and Ackerman & Lesourd (1997).

Alsina (1997) assumes that complex predicate formation can take place either in the lexicon or in the syntax, and he claims that this difference exercises no effect on the argument structure of the complex predicate, but only on its wordhood. He compares causative constructions in Chicheŵa (a Bantu language) and Catalan (a Romance language), and in his analysis these constructions are fundamentally identical as regards their argument structures, but they are different in that the causative predicate is expressed by one single word in Chicheŵa, and by two distinct words in Catalan. He shows that this difference is manifested by the contrasting behaviour of causative complex predicates in these languages as far as phenomena relevant to distinguishing morphological structures from syntactic structures are concerned. Alsina takes this to corroborate the claim that predicatehood does not necessarily coincide with morphological integrity, contrary to the basic assumptions of lexicalist theories like LFG. He proposes that, for this reason, such a theory should be modified by enabling it to accommodate complex predicate (and, ultimately, argument structure) formation either in the lexicon or in the syntax. He develops an LFG account of the relevant phenomena along these lines.[51]

Ackerman & Lesourd (1997), discussing certain Hungarian PVCs, argue for a strictly lexicalist treatment of complex predicates even in cases when the pieces of certain predicate types are clearly and predictably separable in the syntax. Ackerman and Lesourd claim that such a complex predicate poses a fundamental theoretical conflict between the following two widely accepted assumptions: (i) the lexicalist approach to derivation: only lexical rules may have an effect on lexical semantics, polyadicity, case government, etc. (ii) the lexical integrity hypothesis: parts of a (morphological) word are not separable syntactically. They propose a solution in which (i) is nonviolable and (ii) is radically weakened: although it is the default scenario, their system allows a morphological word to consist of more than one syntactic atom as a marked option.[52] On

50 For a brief discussion, see Laczkó (2009: 25).

51 Butt (1997), in the same volume, analyzes Urdu permissive constructions in a similar syntactic complex predicate formation vein.

52 É. Kiss (1987) offers a GB account that can also be taken to be lexical in nature. Its essence is that the particle+verb combination is a V^0 element in the lexicon and its peculiarity is that it is exempt from the otherwise obligatory morphological process called bracket erasure. In É. Kiss's notation, it has the following lexical representation: $[[\text{Prev}]\,[V^0]]_V{}^0$. This is roughly comparable to Ackerman & Lesourd's (1997) notion of an analytic lexical form. By contrast,

the basis of these assumptions, they demonstrate their cross-linguistic, typological view of handling complex predicates in the following way (Ackerman & Lesourd 1997: 100) by also reflecting on, and taking issue with, Alsina's (1997) analysis of Chicheŵa and Catalan causative complex predicates.

	Chicheŵa	**Hungarian**	**Catalan**
lexical information	sem-structure a-structure gf-structure	sem-structure a-structure gf-structure	sem-structure a-structure gf-structure
morphological form	synthetic morphological object: $[X\ Y]_V$	analytic morphological object: $[X]_{Prt}$, $[Y]_V$	non morphological object: $[X]_V$, $[Y]_V$
syntactic expression	single syntactic atom: $[X\ Y]_V$	two syntactic atoms: $[X]_{Prt}$, $[Y]_V$	two syntactic atoms: $[X]_V$, $[Y]_V$

Table 1. A typology of complex predicates

The most important aspects of this approach are as follows.

(i) Hungarian PVC complex predicate formation and causative complex predicate formation both in Chicheŵa and in Catalan are strictly lexical processes, because they affect the semantics and argument structure of the derived complex predicate (and grammatical function distribution is also affected), see the *lexical information row* in Table 1.

(ii) Among the predicate types at hand, the Chicheŵa causative predicate manifests the unmarked (default) scenario, which would not pose any problems for an ordinary generative framework: this predicate is a one word verb (a morphologically complex word) and it is one syntactic object (the stem and the affix never get separated in the syntax).[53]

(iii) The Hungarian PVC complex predicate exhibits the special, marked case: it is one morphological word consisting of two syntactic atoms (words).

(iv) The Catalan causative complex predicate represents the other extreme: the two elements of the predicate are distinct words both morphologically and syntactically. However, given that their combination results in a new argument structure, they need to be represented in the same lexical entry (Laczkó & Rákosi 2013: 163-165).

Ackerman et al. (2011: 332) offer the following tabular taxonomic overview of how a variety of lexicalist frameworks handle complex predicates with mixed lexical and syntactic properties.[54]

Alsina (1997) and Butt (1997) […] solve this dilemma in the opposite way: they maintain (ii) and they weaken (i). In this connection the crucial general point from our present perspective is that tenable analyses of PVCs may differ considerably, because some aspects of the designs of their respective frameworks are different, cf. our brief discussion of SLH, WLH and NLH, and (even more importantly) in the case of conflicts between certain basic assumptions, the fundamental properties of competing accounts may hinge on the directionality of their conflict resolution.

[53] Although this is not mentioned by Ackerman & Lesourd (1997), the Hungarian causative predicate (created by a causative suffix attached to the verb stem) has the same syntactic separability traits when combined with a particle.

[54] See Ackerman et al. (2011) for the details of their discussion of the approaches referred to in Table 2.

Approach	(1) Morphological integrity	(2) Lexical modification	(3) Morpholexical inflection	(4) Unary expression
Classical LFG and HPSG (Bresnan 1982b; Pollard & Sag 1987)	Yes	Yes	Yes	Yes
Some recent views in LFG and HPSG (Hinrichs & Nakazawa 1989, 1994); (Alsina 1992, 1997; Butt 2003; Müller 2006)	Yes	No	Yes/ No	Yes
Realization-based lexicalism	Yes	Yes	Yes	No

Table 2. Taxonomy of lexicalist approaches

The definitions of the four criteria in Table 2 are as follows (Ackerman et al. 2011: 326).[55]

(1)	***Principle of morphological integrity:*** Syntactic mechanisms neither make reference to a word form's proper subparts nor are able to create new word forms in constituent structure.
(2)	***Principle of lexical modification:*** The lexical properties (meaning, argument structure, grammatical function inventories, and case government patterns) associated with a lexeme are fully determined by lexical stipulation together with rules of lexeme derivation and cannot be altered by items of the syntactic context in which a realization of that lexeme appears.
(3)	***Principle of morpholexical inflection:*** The morphosyntactic content associated with a lexeme's realization is fully determined by lexical stipulation together with rules of inflectional morphology and cannot be altered by items of the syntactic context in which a realization appears.
(4)	***Principle of unary expression:*** In syntax, a lexeme is uniformly expressed as a single morphophonologically integrated and syntactically atomic word form.

Table 3. Definitions of criteria (1)-(4) in Table 2

Let me make the following comments on Table 2.

(a) In this dissertation I do not deal with challenges posed by inflectional phenomena, so column (3) is not directly relevant for my dissertation. However, it is important to point out that my view and my treatment of periphrastic inflectional phenomena in Hungarian are essentially the same as my view and my treatment of periphrastic PVCs in Hungarian to be presented in Section 3.1.5.[56]

[55] Note that the combination of (2) and (3) characterizes the morphological approach referred to as the Strong Lexicalist Hypothesis (cf. classical LFG and HPSG). (2) alone characterizes the Weak Lexicalist Hypothesis (cf. GB). If neither (2) nor (3) is observed, the approach is nonlexicalist (cf. MP).

[56] In Laczkó (2015b) I developed an inferential-realizational LFG-XLE analysis of the periphrastic Hungarian irrealis mood exemplified in (i).

(i)	János	**sétál-t**	**vol-na**	a	park-ban.
	John.NOM	walk-PAST.3SG.INDEF	be-COND	the	park-in

'John would have walked in the park.'

(b) As should also be clear from the foregoing discussion, the crucial challenge for lexicalist frameworks is to choose between allowing derivation to take place in the syntax as a marked option (*No* in (2)) and admitting analytic (periphrastic) lexical (morphological) objects as a marked option (*No* in (4)). The inferential-realizational approach subscribes to the latter option.

(c) I will point out in Sections 3.1.4 and 3.1.5 that Forst et al. (2010), Laczkó & Rákosi (2011), Rákosi & Laczkó (2011) and Laczkó & Rákosi (2013) develop LFG-XLE analyses in which productive, compositional PVCs are handled syntactically (*No* in (2)), and they have a special lexical treatment of nonproductive, noncompositional PVCs. By contrast, in Laczkó (2013) I argue for a uniform lexical treatment of both major PVC types (*Yes* in (2)).

(d) The speciality of those LFG-XLE analyses mentioned in the previous bullet that do not assume syntactic complex predicate formation (*Yes* in (2)) is that they do not employ analytic (periphrastic) lexical entries; instead they apply cross-referencing devices that "connect" (or "unify") a particle and a verb in the given PVC combination (with respect to meaning, argument structure and all the other properties of this complex predicate, including the forms and functions of its arguments). Thus, in the strict sense of the term they have *Yes* in (4), too.

In their realization-based lexicalist approach, Ackerman (2003) and Ackerman et al. (2011) adopt the notion of Ackerman & Webelhuth's (1998) *Morphological Expression* (for a discussion, see Ackerman 2003: 15).

(34) a. *Synthetic realization principle*
Where the realization *w* of <L,δ> is a synthetic member of category X, *w* may be inserted as the head of XP.

b. *Periphrastic realization principle*
Where the realization w_1w_2 of <L,δ> is periphrastic and w_1 and w_2 belong to the respective categories X and Y, w_1 and w_2 may be inserted as the heads of the respective nodes X(P) and Y(P).
[δ = either morphosyntactic or derivational properties]

Crucially, in this approach both inflectional processes and derivational processes are treated in a paradigmatic-realizational fashion, see the interpretation of δ in square brackets in (34b). In particular, PVC-formation, a derivational process, whether compositional or noncompositional, can be analyzed in a uniform and coherent manner in this system. Also notice that in the case of PVCs this principle makes the treatment of the particle as a phrasal projection available in principle.[57]

Furthermore, this system allows both the synthetic (= concatenational) and the analytic (= juxtapositional) realization of predicates with certain featural compositions. In the analysis of PVCs, for instance, the preverb and the verb can be realized as either one (morphologically complex) syntactic atom (Concat) or two distinct syntactic atoms (Juxtap). Consider their table (Ackerman et al. 2011: 350).

The paradigm of this mood in Hungarian consists of two syntactic atoms: a lexical verb in the past tense, inflected for person, number and (in)definiteness, and an invariant form of the copula marked for conditional mood.

[57] The X^0 vs. XP status of the preverb is one of the central issues in the analysis of PVCs across theories. For my view, see Section 3.1.5.

Lexeme	Root	Sample Content Cell	Realization of SCC
OLVAS ‘read’	*olvas*	<OLVAS, {1sg pres def}>	*olvas-om*
<FEL,OLVAS> ‘read aloud’	Concat (*fel, olvas*) (= *felolvas*) Juxtap (*fel, olvas*) (= [*fel olvas*])	<<FEL, OLVAS>, {1sg pres def}>	Concat (*fel, olvas-om*) (= *felolvasom*) Juxtap (*fel, olvas-om*) (= [*fel olvasom*])
<OLVAS, caus> ‘cause to read’	*olvas-tat*	<<OLVAS, caus> {1sg pres def}>	*olvas-tat-om*
<<FEL,OLVAS>, caus> ‘cause to read aloud’	Concat (*fel, olvas-tat*) (=*felolvas-at*) Juxtap (*fel, olvas-tat*) (= [*fel olvastat*])	<<<FEL, OLVAS>, caus> {1sg pres def}>	Concat (*fel, olvas-tat-om*) (= *felolvastatom*) Juxtap (*fel, olvas-tat-om*) (= [*fel olvastatom*])

Table 4. The treatment of PVCs in Ackerman et al. (2011)

I think that assuming that finite PVCs like *fel#olvasom* ‘I read out’ can (also) have a synthetic (concatenational) realization is not feasible for the following reason. It allows, or rather requires, the insertion of this synthetic form under V^0. From this it follows that this form could be preceded by a (preverbal) focused constituent, contrary to fact. Compare (35a) and (35b).

(35) a. A VERS-ET olvas-om fel.
the poem-ACC read-PRES.3SG up
‘I read out THE POEM.’

b. *A VERS-ET fel-olvas-om.
the poem-ACC up-read-PRES.3SG
‘I read out THE POEM.’

The juxtapositional analysis of *fel#olvasom* ‘I read out’ naturally captures the fact that a preverbal focused constituent forces the particle to occur postverbally, as in (35a).[58] By contrast, the concatenational analysis of should also admit (35b) as a grammatical sentence, which it is not. Of course, there may be a way of excluding (35b) in this RBL approach as well,[59] but this issue is not at all addressed in these works. Irrespective of what the actual solution could be, I think it would be a simpler and more straightforward solution to prevent finite PVCs (and VMs in general) from having synthetic (concatenational) lexical forms. At

[58] As I point out several times in this dissertation, all the works in the RBL paradigm that I am aware of, and which discuss Hungarian PVCs in particular and VMs in general, are programmatic, and they concentrate on arguing for the formal lexical (lexemic) treatment of analytic morphological objects. For instance, they do not spell out how they can capture the preverbal complementarity of VMs and foci.

[59] Farrell Ackerman (p.c., 2016.04.15.) made the following comment on this issue. “Even if concatenated variants were placed under V^0s, there is no reason why the obvious systemic generalization that there can only be a single VM per V would not outlaw the relevant examples here.” As I emphasize above, I readily admit that there may be a solution in this approach, too, however, this inevitably and (in my view) unnecessarily complicates the analysis.

the same time, I want to emphasize the fact that I also think that alternative concatenational forms of nonfinite PVCs also need to be postulated. In this dissertation I do not deal with nominalization phenomena or nonfinite (participial or infinitival) constructions. I leave exploring these areas in my current framework to future research. Here I confine myself to illustrating some crucial facts and (informally) outlining a possible treatment. Compare the following examples with one another and with the examples in (35).

(36) a. Elkerülhetetlen volt A VERS-ET olvas-ni fel.
unavoidable was the poem-ACC read-INF up
'It was unavoidable to read out THE POEM.'

b. Elkerülhetetlen volt A VERS-ET fel-olvas-ni.
unavoidable was the poem-ACC up-read-INF
'It was unavoidable to read out THE POEM.'

(37) a. *Elkerülhetetlen volt A VERS olvas-ás-a fel.
unavoidable was the poem.NOM read-DEV-POSS.3SG up
'The reading out of THE POEM was unavoidable.'

b. Elkerülhetetlen volt A VERS fel- olvas-ás-a.
unavoidable was the poem.NOM up-read-DEV-POSS.3SG
'The reading out of THE POEM was unavoidable.'

The following generalizations suggest themselves on the basis of the examples in (35), (36) and (37).

- The root lexemes of PVCs have both concatenational and juxtapositional realizations.
- When they undergo morphological processes, it depends on the type of the suffix whether both realizations can serve as input to the relevant process, or just one of them. In the latter case, it depends on the type of the suffix whether it accepts the concatenational or the juxtapositional form.
- Finite inflectional morphology takes the juxtapositional version, see (35).
- The infinitival suffix, *-ni*, glossed as INF, accepts either realization, see (36).[60]
- The (complex) event nominalizer, *-Ás*, glossed as DEV, takes the concatenational variant, see (37).[61]

All this can be represented in the formalism of Table 4 in the following way.

[60] The "adverbial" participial suffix *-vA* behaves similarly.
[61] The "adjectival" participial sufixes *-Ó, -(V)(t)t* and *-AndÓ* behave similarly.

Lexeme	Root	Sample Content Cell	Realization of SCC
<FEL,OLVAS> 'read aloud'	Concat (*fel, olvas*) (= *felolvas*) Juxtap (*fel, olvas*) (= [*fel olvas*])	<<FEL, OLVAS>, {1sg pres def}>	Juxtap (*fel, olvas-om*) (= [*fel olvasom*])
<FEL,OLVAS> 'read aloud'	Concat (*fel, olvas*) (= *felolvas*) Juxtap (*fel, olvas*) (= [*fel olvas*])	<<FEL, OLVAS>, {INF}>	Concat (*fel, olvas-ni*) (= *felolvasni*) Juxtap (*fel, olvas-ni*) (= [*fel olvasni*])
<FEL,OLVAS> 'read aloud'	Concat (*fel, olvas*) (= *felolvas*) Juxtap (*fel, olvas*) (= [*fel olvas*])	<<FEL, OLVAS>, {DEV}>	Concat (*fel, olvas-ás*) (= *felolvasás*)

Table 5. PVCs, morphological processes, and juxtaposition and/or concatenation

Notice that both in this (modified) RBL approach and in my LFG-XLE analysis to be developed in future work, the variation in the relevant set of phenomena exemplified in (35), (36) and (37) can be captured by dint of a very simple lexical solution along the lines of Table 5. By contrast, a mainstream MP approach needs to employ a rather complex syntactic apparatus to capture the same linguistic facts.[62]

At the end of this section, let me make the following general remarks on the relevant aspects of RBL from the perspective of the treatment of Hungarian PVCs on the basis of Ackerman (2003) and Ackerman et al. (2011).

- Both papers are rather programmatic (especially the latter), and they concentrate on what general arguments PVCs provide for their strictly lexicalist, realization-based, paradigmatic approach. Neither develops an analysis of Hungarian PVCs.
- As a crucially lexicalist theory in the relevant respects, RBL is very close in spirit to (the classical version of) LFG; therefore, the (potential) solutions the two frameworks make available are very similar in nature. In Section 3.1.5 I will point out that this similarity is the fullest in the case of my new LFG-XLE approach.
- In Section 3.1.5 I present my new analysis of Hungarian PVCs and I compare it with some relevant aspects of Ackerman's (2003) approach to PVCs and VMs, so I defer the discussion of the details of his analysis to that section. Let me only anticipate two crucial issues of this comparison.
    - One of the key differences between these two lexical approaches is that, following the LFG-XLE line of Forst et al. (2010), Laczkó & Rákosi (2011), Rákosi & Laczkó (2011) and Laczkó & Rákosi (2013), I do not employ analytic (periphrastic) lexical entries. Instead, the particle and the lexical verb have their respective lexical forms and they are "unified" by special LFG-XLE devices, see comment (d) below Table 3.
    - Just like many other lexical and syntactic approaches, in a programmatic fashion, Ackerman (2003) appears to aim at a uniform analytic lexemic

[62] I keep emphasizing this syntax vs. lexicon discrepancy between MP and alternative lexicalist analyses throughout this dissertation, by always admitting that both approaches have the (attested) potential for capturing the relevant generalizations in explicit and coherent ways, and the fundamental difference between them is due to dissimilar architectural assumptions.

treatment of all VM types in Hungarian. In Sections 3.1.5 and 3.2, I will strongly argue against such a view. In Section 3.2, I will spell out my LFG-XLE analysis of the major VM types. The crucial aspect of this analysis is that various VM types exhibit varying degrees of lexicality; and I claim that my formal analysis feasibly and appropriately captures the relevant facts.

3.1.3. On some LFG(-compatible) views of PVCs

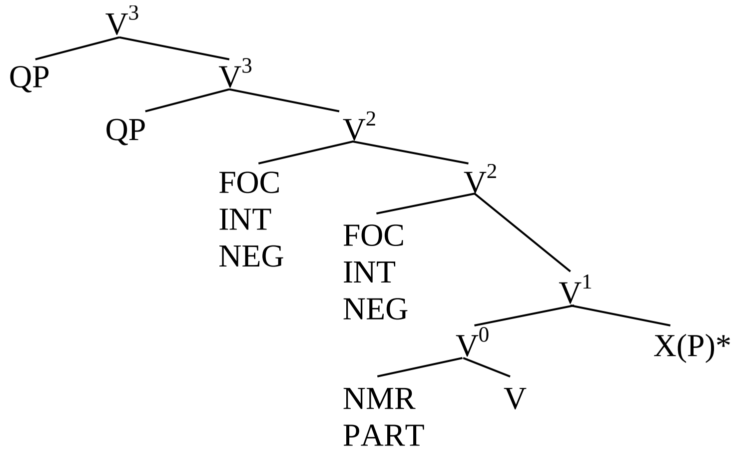
In this section I briefly point out how researchers dealing with Hungarian in an LFG or LFG-compatible, i.e. Optimality Theoretic (OT), framework view PVCs and VMs in general. For the most part, these views are rather sketchy and programmatic.[63]

2 On some previous LFG(-compatible) analyses

(A) In their Optimality Theoretic framework, Payne and Chisarik (2000) outline an analysis of Hungarian preverbal syntactic phenomena: the complementarity of constituent question expressions, focused constituents, the negative particle and verbal modifiers. Here I concentrate on those aspects of their approach which are related to VMs and focus. I will discuss further details, mostly pertaining to their handling negation, in Chapter 5.

They assume the overall structure in (38) for the relevant portion of a Hungarian sentence.[64]

(38)



[63] Two remarks are in order here.

(A) I discussed the RBL approach at great length in Section 3.1.2.3 for the following reasons. This approach addresses the challenges posed by PVCs for formal theoretical analysis from the perspective lexicalist theories in general and LFG in particular. It proposes a truly lexical solution in the spirit of classical LFG, and rejects a major alternative solution: weakening LFG's morphological commitment to the Strong Lexicalist Hypothesis (SLH) and (exceptionally) allowing derivation to take place in the syntax.

(B) I will discuss previous detailed LFG-XLE analyses in Section 3.1.4. I will point out that they also subscribe to weakening SLH. By contrast, my new proposal to be presented in Section 3.1.5 is very close in spirit to the RBL approach in this respect. Practically, it is an alternative way of theoretically and implementationally formalizing a strictly lexicalist approach in the SLH vein.

[64] They use the following abbreviations: FOC = positive or negative focused phrase, INT = interrogative phrase, NEG = negative phrase, NMR = negative marker, PART = (aspectual) particle (representing the entire class generally referred to as verbal modifiers (VMs)). NEG subsumes the following four types: INQ = inherently negative quantifier (e.g. *kevés* 'few'), INA = inherently negative adverb (e.g. *ritkán* 'seldom'), NUQ = negated universal quantifier (e.g. *nem mindenki* 'not everyone'), NCI = negative concord item (e.g. *senki* 'nobody/anybody'). Note that NCIs are also frequently called n-words.

They assume that both NMR and VMs are morphologically incorporated into the verb when they precede it. The authors take preverbs (particles) to be the prototypical representatives of this categorially heterogeneous class,[65] and they use the PART label for them. NMR and PART are also in complementary distribution in a position dominated by V^0, see (38), and the former is stronger in the OT competition.

In Laczkó (2014c) I make the following critical remarks on their treatment of verbal particles and VMs in general.[66]

4. I think one of the most serious problems with Payne & Chisarik's (2000) analysis is their treatment of VMs (and, to a smaller extent, the treatment of NMR) for the following reasons.
   e) Referring to É. Kiss (1994a), they assume that both VMs and NMR are morphologically incorporated into the verb optionally.[67] First of all, É. Kiss (1994a) only assumes semantic incorporation of VMs even when they are preverbal, and she claims that even preverbally they are syntactically separate elements (occupying the Spec,VP position in her system). Secondly, É. Kiss (1994a) does not incorporate the negative marker morphologically, either. Instead, she adjoins it to the verbal head.[68]
   f) Of course, morphological incorporation could be an alternative solution, but this would require argumentation and supporting evidence. In Laczkó (2014b) and in Section 3.2.2 in this chapter, I argue in a detailed fashion against the incorporation analysis of VMs in general.[69]
   g) Even if we accept the morphological incorporation treatment, it raises a conceptual problem: Payne & Chisarik's (2000) alignment rules mix two dimensions, a syntactic level and a morphological level. This is a rather marked solution the nature of which would call for some independent support, on the one hand, and it would be an appealing alternative if no other (less marked) solution was available. And this latter requirement does not seem to be satisfied, see the next point.
   h) Even if we disregard the syntax-morphology-mix issue and accept the analysis, it is important to see that Payne & Chisarik (2000) do assume two distinct positions for VMs and FOC et al. From this it follows that there is no radical conceptual difference between their idea and the (un)articulated GB/MP style FP analyses they criticize. They explicitly state that their alignment hierarchy has been designed to capture the preverbal complementarity of INT, FOC, NEG ***and*** VMs in such a way that VMs are the weakest candidates. Then it is rather questionable why VMs are assumed to occupy a different position at a distinct level of representation.
5. Payne & Chisarik (2000) subscribe to a popular view of the distribution (and complementarity) of focused constituents and question expressions, on the one hand, and VMs, on the other hand. They assume that *(i)* the two types occupy two distinct preverbal syntactic positions and *(ii)* VMs are head-adjoined to the simplex verb and incorporation takes place, and, as a consequence *(iii)* the complementarity of the two types has to be captured by special means. As I will argue in a detailed fashion in Chapter 4, the treatment of all types of VMs along the head-adjunction and incorporation lines is counterintuitive

[65] On the basis of É. Kiss (1994a), they mention the following additional VM types: postpositions, bare nonreferential nouns, bare resultative adjectives and bare infinitives.

[66] I import these points (with some insignificant textual modifications serving the accommodation of some references in the context of this dissertation) from Laczkó (2014c: 312-313), and also see Section 2.3 in Chapter 2.

[67] When they are left-adjacent to the verb, they are incorporated, and elsewhere they are independent syntactic elements.

[68] By contrast, É. Kiss (1992) left-adjoins her NEG to V'. Obviously, É. Kiss' (1994a) solution is an instance of head-adjunction, and É. Kiss' (1992) treatment is phrasal adjunction. For more on this, see Chapter 5.

[69] Of course, one of the main arguments is that some VM types are unquestionably maximal projections (XPs). Also see point 2 below.

and untenable, because *(a)* some types are clearly maximal projections (so the postulation of head-adjunction is unavailable) and *(b)* some types clearly defy the assumption of any notion of incorporation. This is a general problem for any approach along these lines. However, as far as I can see, OT, Payne & Chisarik's (2000) chosen framework, would naturally provide the appropriate principles and devices to capture this famous complementarity in an intuitively more plausible way. It would be worth considering developing an OT analysis by postulating a single designated preverbal position and assuming that all the relevant constituents compete for this position and various violable constraints regulate their complementarity in that position. In Laczkó (2014b) and in this chapter, I present an LFG analysis along the single designated position lines (with a system of various disjunctions of functional annotations), and it seems to me that this approach could also be translated into OT terms.

(B) Following a wide-spread view, Mycock (2006, 2010), just like Payne & Chisarik (2000), assumes that a VM and the verb make up a word both morphologically and phonologically, and they also constitute a single unit semantically.[70] She does not go into any details about VMs. Chapter 4 is based on my extensive discussion of Mycock's (2010) view of the preverbal domain of Hungarian finite sentences. In that chapter I make some additional VM-related observations.

(C) Gazdik (2012), capitalizing on Gazdik & Komlósy (2011), outlines an LFG analysis of Hungarian finite sentence structure, predominantly driven by discourse functional assumptions and considerations. In Laczkó (2014b) I discuss the most important aspects of her analysis in a detailed fashion. Here I confine myself to adopting those parts of my critical assessment of her approach that are directly relevant for the appreciation of her view of particles and VMs in general.[71]

5. She claims that Hungarian sentences do not even have a VP constituent, i.e. they are flat (except that she does admit a V' constituent in one of the two major sentence structure types she distinguishes, see points 2 and 3 below).
6. As regards the immediately preverbal position, which Gazdik calls prominent preverbal position (PPP), she writes:

> The question is now how to accommodate the PPP and the elements immediately preceding the verb into the structure. One option is to assume one PPP, which accounts for the complementary distribution of the hocus, the focus, question words and verbal modifiers. The other way is to assume two positions, the PPP for the focus, the hocus and question words, and another for verbal modifiers, which would account for the prosodic and lexical unit of verbal modifiers and the verb (for instance, verbs undergo nominalization together with verbal modifiers). In this case, the verbal modifier and the verb constitute a complex predicate under the V' node. However, this necessitates the introduction of additional rules that exclude the co-occurrence of the PPP and V' projection. In this paper I opt for the second possibility, keeping in mind, [sic!] that the first cannot be excluded, either (2012: 81-82).

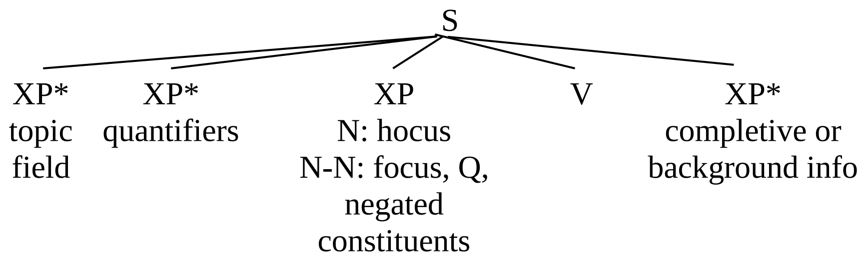
7. Relying heavily on Kálmán's (2001) descriptive characterization of word order in Hungarian sentences, and on the basis of the previous point, Gazdik distinguishes two sentence structure types, and she assumes that both structures are available to both neutral

[70] Naturally, my critical remarks on Payne & Chisarik's (2000) similar assumptions apply here, too.

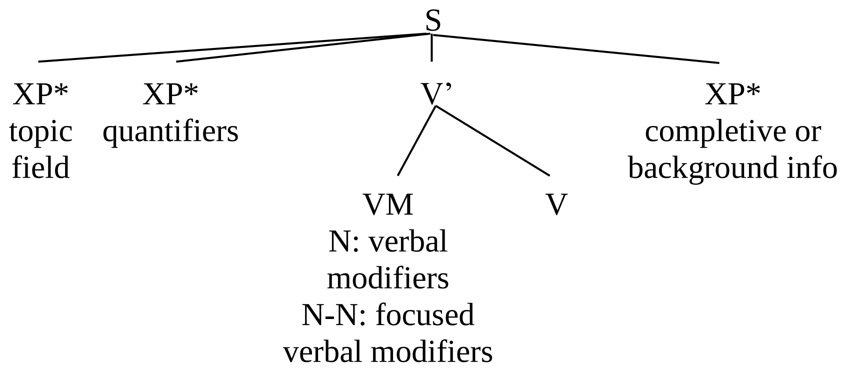
[71] I import these points (with some insignificant textual modifications serving the accommodation of some references in the context of this dissertation) from Laczkó (2014b), pp. 352-354, and also see Section 2.3 in Chapter 2.

(N) and nonneutral (NN) sentences, and N and NN sentences are distinguished by their different prosodic behaviours.

(39)



(40)



My remarks on Gazdik’s approach are as follows.

- As far as Gazdik’s rejection of the VP constituent in Hungarian sentence structure is concerned, see point 1 above, I do not share her view, and in Chapter 2 I defend the postulation of VP and I posit it in a general parametric context from an LFG perspective.
- In my opinion, points 2 and 3 pose some crucial and rather insurmountable problems for the strictly syntactic ingredients of Gazdik’s approach. While it has to be appreciated that Gazdik basically concentrates on the discourse functional dimension of Hungarian sentences (as the title of her paper also indicates) and the truly syntactic aspects are only programmatic at most, these aspects are rather problematic, and, therefore, I think they seriously weaken the overall approach.

g) Gazdik does not give any justification for choosing the PPP vs. V’ duality of structure.

h) This duality account is tantamount to subscribing to the split focus—VM view, fundamentally assuming distinct syntactic positions for these two major constituent types.

i) Gazdik herself admits that special additional rules need to be introduced for ensuring the preverbal complementarity of the two constituent types. She does not even offer a hint as to how this could be carried out in her system (and, as far as I can see, this would be far from being a trivial task, especially in the light of the next point).

j) Gazdik practically multiplies Hungarian sentence structure variants by assuming that both the PPP version and the V’ version are available in both neutral and nonneutral sentences. This gives us 4 variants altogether, which makes the entire setup somewhat suspicious, allowing for redundancy on the one hand,[72] and making the task of capturing basic instances of complementarity rather challenging, on the other hand.

[72] For instance, the preverbal PPP in a V’-less structure can be focused (as opposed to a hocus constituent sitting in that position), and a VM below V’ can also be optionally focused, which yields two distinct preverbal syntactic focus positions.

k) Following the general descriptive tradition, Gazdik uses the umbrella term VM rather loosely and vaguely. On the one hand, in an appropriate LFG (or other generative theoretical) representation, the VM symbol is more than questionable (it is not an appropriate syntactic category to begin with), and, on the other hand, the real categories it subsumes in Gazdik's rather informal presentation are so diverse that they themselves call for a careful, detailed and differential (i.e. "individualized") treatment: preverbs, (obligatorily) bare nouns and fully fledged XPs are lumped together.

l) As the quote in point 2 above testifies, Gazdik also subscribes to the widely spread, and definitely untenable, sweeping generalization that a (preverbal) VM and a verb always make up a complex predicate and form a lexical unit. On the one hand, the notion of complex predicate is typically not satisfactorily defined (if at all) in various approaches, and, on the other hand, it is more than questionable whether in Gazdik's "goal secondary predicate" example in (41) *Szegedre* 'to Szeged' and the verb are analyzable as a lexical unit in any (generative) linguistically meaningful sense.[73,74]

(41) *'János* ***'Szegedre*** *utazott.*
John Szeged.SUBL travel.PST
'John travelled to Szeged.'

3.1.4. Previous LFG-XLE treatments of Hungarian PVCs

In Section 3.1.4.1, I offer a detailed discussion of a programmatic LFG-XLE proposal for the treatment of compositional PVCs in German, English and Hungarian, Forst et al. (2010). In Section 3.1.4.2, I present the most important aspects of the analysis of four Hungarian PVC types in the spirit of this proposal, Laczkó & Rákosi (2011) and Rákosi & Laczkó (2011).[75]

3.1.4.1. Forst et al. (2010) on PVCs in English, German and Hungarian

In Forst et al. (2010) we first show how current English and German ParGram (i.e. XLE) grammars handle PVCs. In the English ParGram LFG the particle and the verb have their respective lexical entries, because they are distinct syntactic atoms. In the verb's lexical form all the relevant features of the entire PVC are encoded, and the particle, which is assumed to have the PART category, only contributes a FORM feature with its lexical entry. In the lexical form of the verb it is also constrained that it requires the presence of a particle having exactly the necessary FORM feature. Consider the analysis of the following sentence: *He gave the fight up* (Forst et al. 2010: 232).

[73] This is example (6) in Gazdik (2012: 62). I have left everything (including the apostrophes, bolding, which simply identifies the VM constituent, and the glosses) in (41) above intact. The apostrophes indicate ordinary word-initial stress. The absence of an apostrophe in front of the verb shows that *Szegedre* and *utazott* constitute a single phonological word. However, it would be highly implausible to assume that they also make up a lexical unit.

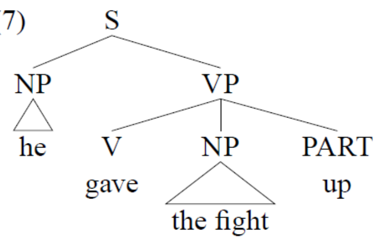
[74] In this connection, Farrell Ackerman (p.c., 2016.04.15.) made the following important remark. "All of this is contingent on operating definitions of complex predicates. What one would like to know is how best to characterize the whole disparate class of VM V constructions, possibly independently of whether they are all "complex predicates". Maybe thinking of this as a construction type with many different types of realizations would be a way to go, including "complex predicates"". I fully agree with this remark. In Laczkó (2014b), on which Section 3.2.2 of this chapter is based, I outlined a formal LFG analysis of "VMs" along exactly the same lines.

[75] I spell out my new, alternative proposal in Section 3.1.5.

(6) give V (↑ PRED) = '%NewPred<(↑ SUBJ)(↑ OBJ)>'
(↑ PRT-FORM) $=_c$ up
@(CONCAT %stem # (↑ PRT-FORM) %NewPred).

up PART (↑ PRT-FORM) = up.

(7)



$$\begin{bmatrix} \text{PRED} & \text{'}\mathbf{give\#up}\text{<SUBJ,OBJ>'} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'he'} \end{bmatrix} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{'fight'} \\ \text{SPEC} & \begin{bmatrix} \text{DET} & \begin{bmatrix} \text{PRED} & \text{'the'} \end{bmatrix} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

Figure 4. The analysis of *He gave the fight up* in the English ParGram

The details are as follows.

- The first line in (6) in Figure 4 encodes that a "new predicate" is created, and its argument structure is <(↑SUBJ)(↑OBJ)>.
- The second line constrains this to the presence (in the syntax) of a particle having the FORM value *up*.
- The third line is a special (CONCAT) template in XLE which creates the required value for the PRED feature by combining the verb (i.e. the stem) and the particle (form), connected by the hash mark (#), to indicate their syntactic independence (separability). Notice that this is a merely formal (mechanical) XLE way of specifying the value of the PRED feature of the PVC. In the case of noncompositional PVCs, as in this example, it is simply not the case that we combine ("concatenate") the meaning of *give* and that of *up*.[76] Despite this fact, it is interesting that both English and Hungarian, these two genetically unrelated languages, use exactly the same PVC setup in this particular case (the V PART orders are reversed): *give#up* – *fel#ad*.
- The fourth line contains the lexical form of the particle *up*. Let me make two remarks here.
    - The particle in this representation has no "semantics", i.e. no PRED feature. It only has a FORM feature, and its value is "up". Recall that the verb *give* requires the presence of this particular particle form in the syntax, see the second line in (6) in Figure 4: (↑ PRT-FORM) $=_c$ up. This is the standard way of treating noncompositional PVCs in the LFG-XLE tradition.
    - This treatment of PVCs is very close in spirit to the RBL style lexicalist approach discussed in Section 3.1.2.3, with one major formal difference: it does not employ analytic word forms; instead, all the relevant information is encoded in the lexical form of the verb including the constraint that it has to co-occur with a particular particle word. This special apparatus makes the crucially lexical treatment of PVCs possible in

[76] A reminder is in order here. It is one of the representational conventions of LFG that the strictly semantic part of the value of the PRED feature of a lexical form is simply indicated (i.e. represented in the true sense of the word) by repeating the morphological form of the word in (SMALL)CAPS at the beginning of the inverted commas section. (In XLE we do not use (SMALL)CAPS). For instance, *kill* would need a semantic description along the following (still relatively informal) lines: (↑ PRED) = 'X CAUSE (Y DIE) …', but instead of this we use the following shorthand notation: (↑ PRED) = 'KILL …'. In this context then the CONCAT template of XLE produces this shorthand representation of the PVC in the functional structure of the sentence it occurs in, with the hash mark indicating the syntactic independence of the two morphological pieces. See the f-structure in (7) in Figure 4. Let me also illustrate this point by dint of an often cited, absolutely noncompositional Hungarian PVC: *be#rúg* in#kick 'get drunk'. The semantically appropriate representation of the relevant part of the lexical form of this PVC would be something like this: (↑ PRED) = 'X GET DRUNK …', but we employ the following notation instead: (↑ PRED) = 'BE#RÚG …'. The notation is produced by the CONCAT template.

such a way that the use of periphrastic lexemes can be avoided. Thus, this approach has *Yes* even in column (4) in Table 2 in Section 3.1.2.3 (as opposed to RBL's *No* in that slot). The significance of this fact is that this approach can keep all the lexicalist aspects of the classical LFG view, see the second row in Table 2. Of course, to achieve this goal, a special cross-referencing apparatus is required. However, it is important to point out that this FORM constraining device has always been (independently) available in LFG; see, for instance, the (classical) treatment of idiom chunks in Bresnan (1982b).

As is well-known, German also has separable PVCs. In addition, when the (separable) particle immediately precedes the verb, they are spelt as one morphological word (= syntactic atom).[77] Consider the following examples from Forst et al. (2010: 233).

(42) a. Er lud seine Kusine ein.
he loaded his cousin in
'He invited his cousin.'

b. *Er ein#lud seine Kusine.
he in#loaded his cousin
'He invited his cousin.'

(43) Er wird seine Kusine ein#lud.
he will his cousin in#loaded
'He will invite his cousin.'

In Forst et al. (2010) we make the following comments on the current German ParGram LFG. Given the above (spelling) facts, the finite-state morphology of the German grammar analyzes PVCs like *einlud* in (43) as a single word; therefore, it has a separate lexical form:

(44) einlud ⇔ ein#laden +V .13 .Sg .Past .Ind[78]

For the analysis of sentences containing PVCs with their two parts separated in the syntax, the finite-state morphology needs two distinct lexical forms, as in (45) (Forst et al. 2010: 233).

(45) a. lud ⇔ laden +V .13 .Sg .Past .Ind

b. ein ⇔ ein +VPRE

It is thanks to the CONCAT template (in the latter case) that the f-structures of both (42a) and (43) will be the same as regards the representation of the PRED value of the sentence:[79]

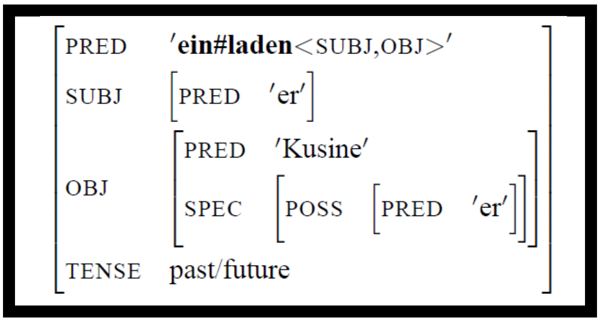


Figure 5. The f-structure of (42a)/(43)

[77] As is also well-known, the Hungarian facts are the same in this respect.

[78] The hash mark signals the (word-internal) boundary between the particle and the verb. In this way separable particles are distinguished from nonseparable verbal prefixes in German.

[79] Forst et al. (2010: 234).

In Forst et al. (2010) we argue that even when the particle immediately precedes the verb in German and Hungarian, the two morphemes should be analyzed as two words, two syntactic atoms, just like in the English XLE grammar.[80] We point out that SMOR, an alternative finite-state German morphology developed by Schmid et al. (2004), can be used for such a purpose. It yields the following morphological analysis of *einlud*.

(46) einlud ⇔ ein <VPART> laden <+V> <13> <Sg> <Past> <Ind>

By dint of such a morphological analysis the XLE grammar is capable of separating the two morphemes as two syntactic atoms making up a syntactic verbal complex. Consider the c-structures of (42a) and (43) in (15a) and (15b), respectively, in Figure 6 (Forst et al. 2010: 235).

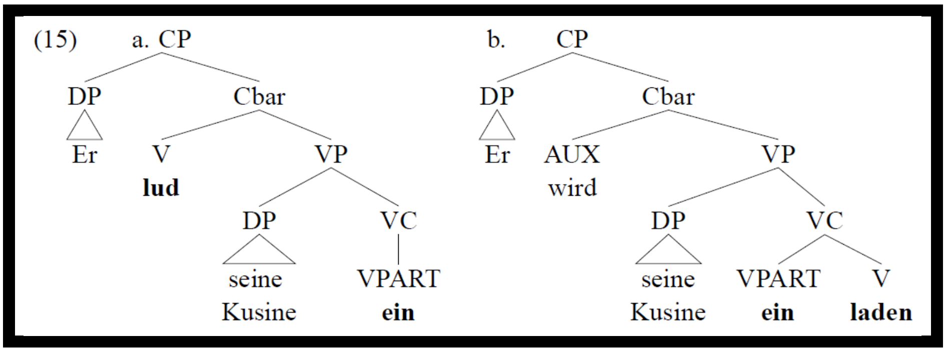


Figure 6. The c-structures of (42a) and (43)

In (15b) the particle (VPART) and the verb (V) make up a syntactic verbal complex, as opposed to the standard German ParGram LFG in which they are under V as one morphological word and one syntactic atom.

Next, in Forst et al. (2010) we show that an XLE analysis along these lines can also be applied to the similar Hungarian phenomena.[81] The main point here is that in the case of the HunGram finite-state morphological analyzer, too, it is possible to "identify" the particle as the first morpheme (to be separated syntactically). Consider my example in (47), which makes the English–Hungarian comparison straightforward (*fel#ad* up#give 'give up').

(47) felad ⇔ fel +Prefix+ ad +Verb +PresInd +Indef +Sg +3P

The important point here is that the particle *fel* is tagged in a special way: +Prefix+ (the final + symbol is its speciality),[82] which makes its identification and separation possible. Consider our c-structure and f-structure representations of (48a) and (48b) in Figures 7 and 8, respectively (Forst et al. 2010: 237).[83]

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[80] Motivated by this proposal, in our HunGram the problem of having to represent the particle#verb combination as a single word in the syntax has been avoided by adjusting a feature of our tokenizer: if it identifies a particle as the first morpheme in a verbal form, it returns two tokens, and they can be inserted in two distinct syntactic positions. This identification is made possible by the fact that particles as parts of word receive a special tag from the morphological analyzer: +Prefix+ (the final + symbol is special). Thus, in our XLE analysis the particle can live an independent syntactic life even immediately preverbally. For further details, see Rákosi et al. (2011). One of the most favourable consequences of this treatment of particles is that we can straightforwardly capture their preverbal complementarity with foci, see Section 2.4.2.1 in Chapter 2, and Section 3.1.4.2 in this chapter.

[81] Also see Footnote 77.

[82] As the example in (47) demonstrates, all the other tags only have initial + symbols.

[83] The original example numbers of these structures were (19) and (20).

(48) a. János fel ad-ta a küzdelm-et.
John.NOM up give-PAST.3SG.DEF the fight-ACC
'John gave up the fight.'

b. JÁNOS ad-ta fel a küzdelm-et.
John.NOM give-PAST.3SG.DEF up the fight-ACC
'JOHN gave up the fight.'

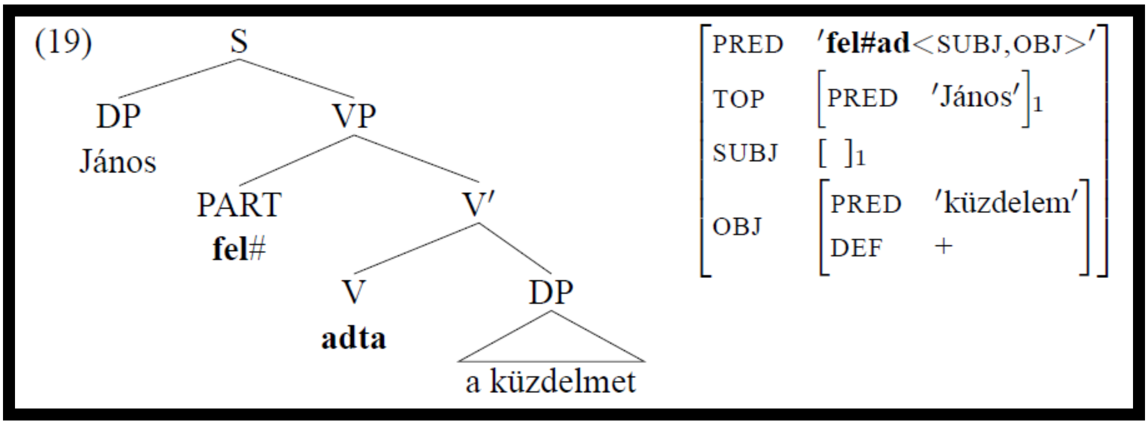

Figure 7. The c-structure and f-structure of (48a)

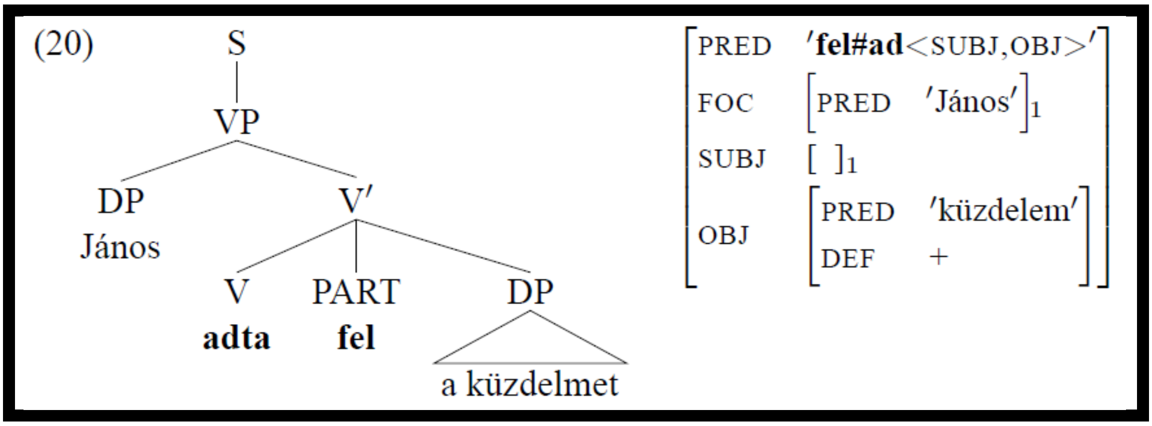

Figure 8. The c-structure and f-structure of (48b)

In Forst et al. (2010) our main claim is that noncompositional and nonproductive PVCs should be treated radically differently in LFG-XLE from compositional and productive PVCs. The former are best analyzed along the lexical lines presented above (the FORM feature of the particle and the CONCAT template are the crucial ingredients of this analysis). By contrast, the latter rather call for a syntactic treatment, with the particle having a PRED, rather than a FORM, feature (contrary to the current English and German ParGram practice, which employs a uniform lexical treatment of both major PVC types). One of the most important motivations for this sharp distinction is that productive PVCs can be analyzed ("on the fly") automatically and straightforwardly in the syntax, without previously and lexically encoding them. We distinguish five basic types of productive PVCs and show the formal details of analyzing them along these syntactic lines through German examples (for the most part). We argue that this treatment can naturally be extended to the corresponding English and Hungarian PVC phenomena in the English and the Hungarian ParGram grammars.[84] The

[84] As I will show in Section 3.1.4.2, in Laczkó & Rákosi (2011) and Rákosi & Laczkó (2011) we develop an LFG-XLE analysis of four Hungarian PVC types along these programmatic lines.

following five PVC types are distinguished and we outline the following LFG-XLE analyses for them.[85]

(A) the particle is an oblique adverbial

(49) Einer Frau, die vorbei#radelt, johlen einige hinterher.
a.DAT woman who by#cycles hoot some after
'Some hoot after a woman who is cycling by.'

(50) ***lexical entries***
a. vorbei VPART (↑ OBL-DIR PRED) = 'vorbei'
b. radeln V (↑ PRED) = 'radeln < SUBJ, OBL-DIR >'

(51) ***the VC rule***
V → (VPART) (V)
C
↑=↓ ↑=↓

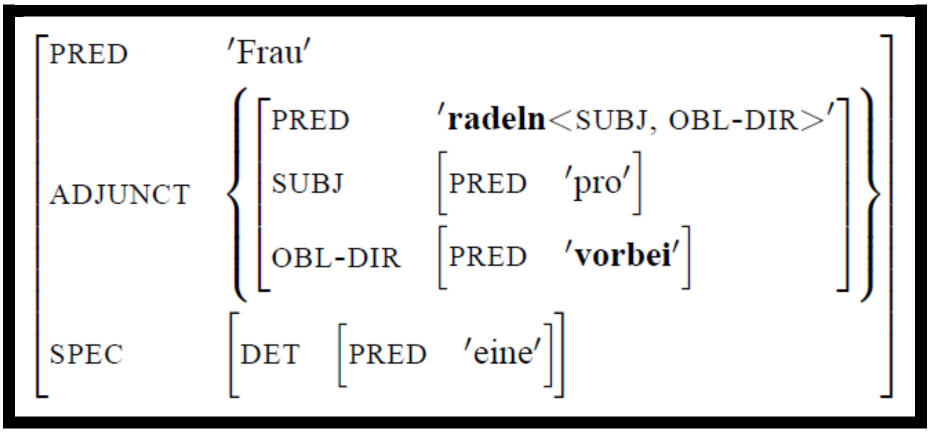

Figure 9. The f-structure of (49)

My comments are as follows.

(A)a As the VC rule in (51) shows, in this PVC type, just like in types (B)-(D), the particle and the verb are assumed to be functional co-heads.
(A)b The particle has its own lexical entry with a PRED feature, see (50a).
(A)c The verb and the particle do not "refer" to each other in their lexical forms, see (50a) and (50b). They "meet" in the syntax in a productive fashion.
(A)d The particle, given its semantics, can satisfy the OBL-DIR argument requirement of the verb, see Figure 9.
(A)e This is formally made possible by encoding the OBL-DIR grammatical function realization potential of the particle in its lexical form, see (50a).
(A)f I am not aware of any Hungarian particles that could be analyzed along these lines.

(B) the particle is an adjunct adverbial

(52) a. Wer will nach Norwegen **mit#fahren**?
who wants to Norway with#go
'Who wants to go to Norway with us?'

[85] I use the original examples and representations from Forst et al. (2010: 238-242).

b. Wer will **mit** nach Norwegen **fahren**?
who wants with to Norway go
‘Who wants to go to Norway with us?’

(53) ***lexical entries***
a. mit VPART (↑ ADJUNCT ∈ PRED) = ‘mit’
b. fahren V (↑ PRED) = ‘fahren < SUBJ, OBL-DIR >’

(54) ***the VC rule***
VC → (VPART) (V)
↑=↓ ↑=↓

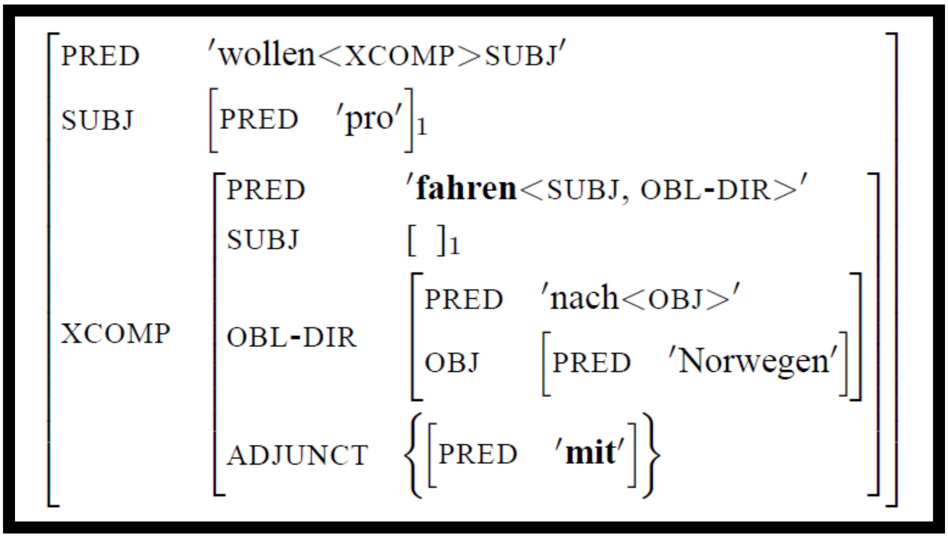

Figure 10. The f-structure of (52a) and (52b)

My comments are as follows.

(B)a The nature of the analysis of this type is fundamentally the same as that of the analysis of type (A).

(B)b The only major difference is that in this type the particle functions as an adjunct of the verbal predicate, and this is encoded in its lexical form, see (53a).

(B)c I am not aware of any Hungarian particles that could be analyzed along these lines.

(C) the particle is a resultative argument

(55) Er läßt sich die Rüsselnase **ab#operieren**.
he lets/makes himself the trunk_nose off#operate
‘He has his trunk-like nose surgically removed.’

(56) ***lexical entries***
a. ab VPART (↑ XCOMP-PRED PRED) = ‘ab < SUBJ >’
b. operieren V (↑ PRED) = ‘operieren < SUBJ, OBJ, OBJ_{Θ}, XCOMP-PRED >’

(57) ***the VC rule***
VC → (VPART) (V)
↑=↓ ↑=↓

$$
\left[\begin{array}{ll}
\text{PRED} & \text{'lassen<SUBJ, XCOMP>OBJ'} \\
\text{SUBJ} & \left[\text{PRED} \quad \text{'pro'}\right] \\
\text{OBJ} & [\text{ die Rüsselnase }]_1 \\
\text{XCOMP} & \left[\begin{array}{ll}
\text{PRED} & \text{'}\textbf{operieren}\text{<NULL, SUBJ, OBJ}_\theta\text{, XCOMP-PRED>'} \\
\text{SUBJ} & [\ ]_1 \\
\text{OBJ}_\theta & \left[\text{PRED} \quad \text{'pro'}\right] \\
\text{XCOMP-PRED} & \left[\begin{array}{ll} \text{PRED} & \text{'}\textbf{ab}\text{<SUBJ>'} \\ \text{SUBJ} & [\ ]_1 \end{array}\right] \\
\text{PASSIVE} & +
\end{array}\right]
\end{array}\right]
$$

Figure 11. The f-structure of (55)

My comments are as follows.

(C)a In Forst et al. (2010) we point out in connection with this type that it is probably most widely studied PVC type in the GB/MP paradigm, and it has motivated the small clause analysis of PVCs, with the particle being assumed to be the head of the small clause.

(C)b The LFG counterpart of a small clause treatment is the postulation of a secondary predicate (the particle in this case) bearing the propositional XCOMP-PRED grammatical function. In the f-structure of (55) in Figure 11 the value of XCOMP, the propositional argument of the "raising" predicate *lassen* 'let/make', is a sub-f-structure whose predicate is *operieren* 'operate'. For our current purposes the crucial aspect of this f-structure representation is that one of the arguments of this predicate is a secondary predicate, having the XCOMP-PRED function.[86] The value of its PRED feature is contributed by the particle, *ab* 'off', and it has a c-structurally unexpressed SUBJ argument, which is functionally identified with the c-structurally similarly unexpressed SUBJ of *operieren* 'operate', which, in turn, is functionally identified with the c-structurally realized OBJ of lassen 'let/make'.[87]

(C)c In this programmatic paper we point out that our implementational framework is compatible, in principle, with a lexical or a purely syntactic way of creating a resultative argument structure. For instance, the former could be in the spirit of Simpson's (2005) lexical redundancy rule approach, while the latter could follow the lines of Alsina's (1996) syntactic argument structure composition proposal.[88]

(C)d The Hungarian counterpart of English *off* and German *ab* 'off' is *le* 'down'. Consider the following simplified Hungarian example, which corresponds, in the relevant respect, to (55) but does not contain either a causative predicate or passivization.

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[86] The (alternative) resultative argument structure representation with the XCOMP-PRED argument is generally needed, whether that argument is realized by a particle or a full phrase. The OBJ_θ argument in the argument structure of *operieren* 'operate' encodes a dative external possessor construction, again, independently of the presence or absence of a particle.

[87] In this representation this functional identification is encoded by coindexation: [die Rüsselnase]$_i$ … [ ]$_i$ … [ ]$_i$.

[88] In this connection let me emphasize the fact that in the case of productive "argument-changing" PVCs, type (E), we strongly argue for syntactic argument structure composition in Forst et al. (2010). Thus, an Alsina (1996) style analysis of type (C) would go hand in hand with our own (syntactic) treatment of type (E).

(58) János le operál-ta Jóska orr-á-t.
John.NOM down operate-PAST.3SG.DEF Joe.NOM nose-POSS.3SG-ACC
'John surgically removed Joe's nose.'

In Laczkó & Rákosi (2011) we analyze this Hungarian PVC type. We adopt the syntactic complex predicate formation proposal of Forst et al. (2010). However, our analysis is different from their analysis of type (C) shown above. We assume that the main predicate is the particle, and syntactic argument structure composition takes place along the lines developed by Forst et al (2010) for argument-changing particles, see type (E) below. For a detailed discussion of our analysis, see Section 3.1.4.2.[89]

(D) the particle is an aspect marker

(59) She painted on (for days and days).

(60) ***lexical entries***

a. on PART (↑ TNS-ASP ASPECT) = continuous
(↑ PRT-FORM) = on

b. paint V (↑ PRED) = 'paint < SUBJ, (OBJ) >'

$$\begin{bmatrix} \text{PRED} & \text{'}\textbf{paint}\text{<SUBJ>'} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'she'} \end{bmatrix} \\ \text{TNS-ASP} & \begin{bmatrix} \text{ASPECT} & \textbf{continuous} \\ \text{PRT-FORM} & \textbf{on} \end{bmatrix} \end{bmatrix}$$

Figure 12. The f-structure of (59)

My comments are as follows.

(D)a This is the only PVC type in the case of which the proposed analysis is shown through a nonGerman example. In the introductory part of the relevant section the following German and Hungarian examples are also given.

(61) Jetzt muß in der ganzen DDR weiter#getrommelt werden.
now must in the entire GDR on#drummed be
'Now the drumming has to continue throughout the entire GDR.'

(62) János meg#ír-ta a level-et egy óra alatt.
John.NOM perf#write-PAST.3SG.DEF the letter-ACC one hour under
'John wrote the letter in one hour.'

(D)b In the English and German examples the particle encodes continuous aspect, in the Hungarian example it encodes perfective aspect.

(D)c In the proposed analysis, programmatically sketched in Forst et al. (2010), the particle only has a FORM feature (and no semantic content, i. e. no PRED feature).

[89] Let me also point out that in my new analysis I return to the lexical treatment of all noncompositional and compositional PVCs in Hungarian, see Section 3.1.5.

(D)d As one of the co-authors of Forst et al. (2010), at that time I also thought that such a purely compositional and syntactic LFG-XLE treatment of this PVC type was feasible – at least in the case (and on the basis) of examples like (62). Now my view is different for the following reasons.

i. In present-day Hungarian it is only the particle *meg* [PERF] that has a purely perfectivizing role. However, sometimes even the combination of *meg* with a particular verb can result in an (unpredictable) semantic shift with respect to the meaning of the lexical verb. For an example, see iii. below.

ii. While all the other particles do have this perfectivizing potential, even in their basic (and more or less compositional) use they most often contribute some additional semantic content to the meaning of the entire PVC.

iii. These other particles can occasionally solely encode perfective aspect, and in these cases *meg* cannot be used in this purely perfectivizing role in the intended meaning, see the following examples.

(63) a. János olvas-sa a könyv-et.
John.NOM read-PRES.3SG.DEF the book-ACC
'John is reading the book.'

b. ??János olvas-sa a pénz-t.
John.NOM read-PRES.3SG.DEF the money-ACC
'John is counting the money.'

(64) a. János el#olvas-ta a könyv-et.
John.NOM away#read-PAST.3SG.DEF the book-ACC
'John read the book.'

b. János meg#olvas-ta a pénz-t.
John.NOM PERF#read-PAST.3SG.DEF the money-ACC
'John counted the money.'

In earlier Hungarian *olvas* was commonly used in two distinct meanings: 'read' and 'count'. In the former meaning it was perfectivized by *el*, while in the latter it was perfectivized by *meg*. As the examples in (63) and (64) show, *olvas* in the 'count' meaning is no longer in use (as a random Google search on the net testifies), as opposed to its perfective PVC use in combination with *meg*, compare (63b) and (64b).
Also compare the examples in (65).

(65) a. János közelít-ett a ház-hoz.
John.NOM approach-PAST.3SG.INDEF the house-to
'John was approaching the house.'

b. *János meg#közelít-ett a ház-hoz.
John.NOM perf#approach-PAST.3SG.INDEF the house-to
'John approached the house.'

c. János meg#közelít-ette a ház-at.
John.NOM perf#approach-PAST.3SG. DEF the house-ACC
'John approached the house.'

The atelic verb *közelít* 'approach' requires an allative case marked OBL argument, but when it is telicized (perfectivized) by *meg* the presence of the particle changes this requirement to an OBJ argument.[90] These are complications that make the generalized syntactic treatment of PVCs with aspectual particles less feasible.

iv. It is also important to note that "perfectivizing" particles in Hungarian actually telicize atelic verbs. A PVC telicized by a particle only receives a perfective aspectual interpretation under certain syntactic circumstances. This is a very complex issue, and for our current purposes the following well-known, basic contrast will suffice.

(66) a.

János	(éppen)	men-t	át	az	utcá-n,	amikor…
John.NOM	just	go-PAST.3SG.INDEF	across	the	street-on	when

'John was (just) crossing the street when… (something happened).'

b.

János	(már)	át#men-t	az	utcá-n,	amikor…
John.NOM	already	across#go-PAST.3SG.INDEF	the	street-on	when

'John had (already) crossed the street when… (something happened).'

From these facts it follows that the lexical representation of a Hungarian particle along the lines shown for English *on* in (60a)[91] is untenable. It does not (invariably) encode perfective aspect in the syntax. Instead, it telicizes a predicate, which is a lexico-semantic (Aktionsart) phenomenon.

v. I think even the treatment of particles like *on* in English, as outlined in Forst et al. (2010), raises some issues at closer examination. Consider (59) again. The verb *paint* is a transitive verb that can also be used intransitively. That is why the OBJ grammatical function is parenthesized in (60b). However, it must be used intransitively when combined with *on*,[92] see Figure 12. And in general, only verbs of the appropriate semantic type admit combination with *on*.

vi. XLE grammars serve both parsing and generation purposes. I think it is obvious on the basis of the foregoing discussion of some not insignificant complications that even if this syntactic treatment can be made to work (which does not seem to be a trivial task in the case of Hungarian PVCs to begin with), it will yield a great number of undesirable parses. Furthermore, it appears to me that it will inevitably lead to massive and uncontrollable overgeneration on the generation side.

vii. Finally, my general motivation for proposing that (even) aspectual PVCs should be treated lexically is that in my new analysis I will argue for a uniform lexical treatment of all types of PVCs, whether compositional and productive or noncompositional and nonproductive. This will be my fundamental claim even in the case of type (E) PVCs, which earlier I myself analyzed syntactically with my co-authors in Forst et al. (2010), Laczkó & Rákosi (2011), and Rákosi & Laczkó (2011), for instance.

(E) the particle has an argument-changing role

(67)

Lauf	dem	Glück	nicht	länger	hinterher!
run-IMP.2SG	the.DAT	happiness	not	longer	after

'Don't run after happiness any longer.'

[90] Compare this to the invariant OBJ requirement by *approach* in English.

[91] Mutatis mutandis, because *on* is assumed to encode continuous aspect, while Hungarian particles are assumed to perfectivize.

[92] Of course, it is only syntactically intransitive. Semantically it is still a two-place predicate with an understood prototypical second argument. In LFG terms, in such syntactically intransitive cases the second argument receives the zero grammatical function in the argument structure.

(68) ***lexical entries***

a. hinterher VPART (↑ PRED) = ‘hinterher < %ARG1, (OBJ_{Θ}) >’
b. laufen V (↑ PRED) = ‘laufen < SUBJ >’

(69) ***the c-structure rules***

a. VC → (VPART) (V)
↑=↓ ↑/PRED/OBJ_{Θ} = ↓/PRED
(↑ PRED ARG1) = (↓ PRED)

b. Cbar[93] → V (VP)
↑/PRED/OBJ_{Θ} = ↓/PRED ↑=↓
(↑ PRED ARG1) = (↓ PRED)

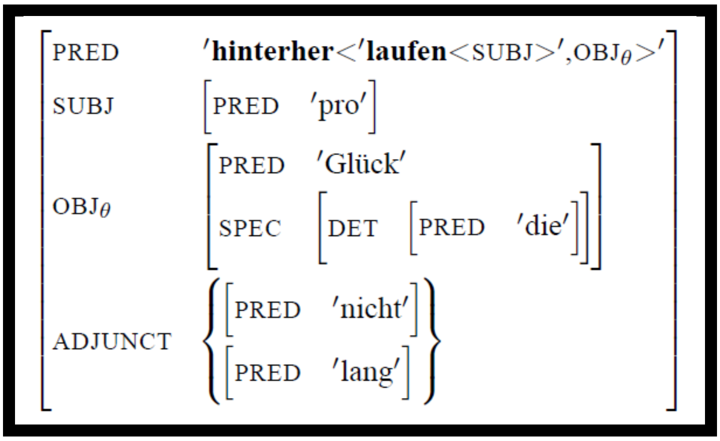

Figure 13. The f-structure of (67)

My comments are as follows.

(E)a We point out that at least in German and Hungarian particles even in their productive use are capable altering the argument structure of the lexical verb.[94]

(E)b In the German example in (67) the particle *hinterher* ‘after’ subcategorizes for a dative argument, expressed by *dem Glück* ‘the happiness’ in this sentence.[95]

(E)c Our analysis of this PVC type was motivated by Butt et al.’s (2003) and Butt & King’s (2006) XLE treatment of complex predicates and causative constructions, respectively.

(E)d The essence of the account is complex predicate composition in the syntax. The productively used particle has an argument structure in which its first argument slot is “open”, see (68a). In a sense, the %ARG1 notation in that slot prepares this particle predicate for “accommodating” the lexical verb (with its own argument structure) as the first argument.

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[93] For further structural aspects of the Cbar assumed in Forst et al. (2010), see Figure 6 above.

[94] See, for instance, Stiebels (1996) for German and Ackerman (1987, 2003) for Hungarian.

[95] The Hungarian counterpart of this German construction is one of the two major PVC types with noninflecting particles, see (i), an example from Laczkó & Rákosi (2011).

(i) *A macska át szaladt az asztal-on.*
the cat.NOM across ran.3SG the table-on
‘The cat ran across the table.’

In this PVC the particle *át* ‘across’ strictly prescribes the presence of an OBL argument with superessive case marking. In Laczkó & Rákosi (2011) we offer a detailed analysis of this type. For a discussion, see Section 3.1.4.2.

(E)e When the particle and a verb like *laufen* 'run' are inserted in the c-structure, a special combination of functional annotations will trigger complex predicate formation. This XLE operation is called ***restriction***. Given that it is assumed that the particle is the main predicate, it receives the customary functional head annotation (↑=↓). The restriction operator is the / symbol. The first annotation associated with the lexical verb, ↑/PRED/OBJ$_\Theta$ = ↓/PRED, "restricts out" the OBJ$_\Theta$ argument of the verb, but leaves its PRED feature and SUBJ argument intact. The second annotation, (↑ PRED ARG1) = (↓ PRED), makes the verb (with its remaining argument structure, i. e. with its SUBJ argument) the first argument of the main (particle) predicate. This is the crucial formal aspect of this syntactic complex predicate formation process.[96] The result of this complex predicate formation operation is represented in the PRED value in the f-structure of (67) in Figure 13: '**hinterher** < '**laufen** < SUBJ >', (OBJ$_\Theta$) >'. The first argument of *hinterher* is *laufen* with its SUBJ argument, and the second argument of *hinterher* is its own thematically restricted object argument: OBJ$_\Theta$.

(E)f Motivated by this analysis, in Laczkó & Rákosi (2011) we develop a syntactic predicate composition treatment of the compositional and productive use of the two major types of Hungarian noninflected particles, see Section 3.1.4.2. By contrast, as a result of further investigation, in my new approach, based on Laczkó (2013), to be presented in Section 3.1.5, I argue for a general lexical treatment of all PVCs, including these productive types as well.

In Forst et al. (2010) we also briefly outline how inflected "reduplicating" particles in Hungarian can be analyzed in our approach. Consider our examples.

(70) a. Mari **rá** **lép-ett** a toll-ak-ra.
Mari onto step-PAST.3SG the pen-PL-SUBL
'Mari stepped onto the pens.'

b. Mari **rá-juk** **lép-ett**.
Mari onto-3PL step-PAST.3SG
'Mari stepped onto them.'

c. *Mari **rá-juk** **lép-ett** a toll-ak-ra.
Mari onto-3PL step-PAST.3SG the pen-PL-SUBL
'Mari stepped onto them the pens.'

(71) a. *János **rá#lép-ett** rá-m.
John.NOM onto#step-PAST.3SG onto-1SG
'John stepped onto me.'

b. János **rá-m** lép-ett.
John.NOM onto-1SG step-PAST.3SG
'John stepped onto me.'

The well-know facts are as follows.

- The particle in its "neutral" form requires the presence of a 3rd person, nonpronominal OBL$_{dir}$ argument, strictly marked by sublative case,[97] see (70a). Note that there is no number agreement between the particle and the OBL$_{dir}$ constituent.

[96] Notice that the particle does not assign any grammatical function to the lexical verb: this is a deeper, semantics based operation on argument structure composition (in the syntax).

[97] The morphological forms of the particle and the case suffix basically coincide, hence the term: reduplicating particle/PVC.

- When the OBL_{dir} argument is pronominal, it is, as a rule, realized by an appropriately inflected form of the particle (as Hungarian is a pro-drop language), see (70b) containing a 3PL pronominal element and (71b) containing a 1SG pronominal element.
- In such cases the "neutral" form of the particle cannot be used, and this PVC construction cannot be combined with a pronominal argument, see (71a).
- When the agreement features of the inflected particle are 3PL, it cannot be "doubled" by a nonpronominal oblique constituent, see (70c).[98]

In Forst et al. (2010) we claim that the XLE analysis of these inflected PVCs can be made compatible with our general approach by assuming that the relevant inflected forms (as independent lexical entries) obligatorily encode the LFG style pronominal incorporation.[99] We propose the following lexical form for *rájuk* 'onto-3PL'.

(72) rájuk (↑ OBL PRED) = 'rá'
(↑ OBL OBJ PRED) = 'pro'
(↑ OBL OBJ PERS) = 3
(↑ OBL OBJ NUM) = sg

In this analysis, too, the fundamental assumption is that the particle and the verb are functional co-heads (↑=↓), and the (inflected) lexical form of particle encodes all the relevant information about the OBL argument of the verb. We show that on this account the f-structure of (70b) is as follows.

$$\left[\begin{array}{ll} \text{PRED} & \text{'}\textbf{lép}\text{<SUBJ,OBL>'} \\ \text{SUBJ} & \left[\begin{array}{ll}\text{PRED} & \text{'Mari'}\end{array}\right] \\ \text{OBL} & \left[\begin{array}{ll} \text{PRED} & \text{'}\textbf{rá}\text{<OBJ>'} \\ \text{OBJ} & \left[\begin{array}{ll} \text{PRED} & \text{'pro'} \\ \text{PERS} & 3 \\ \text{NUM} & \text{sg} \end{array}\right] \end{array}\right] \\ \text{TENSE} & \text{past} \end{array}\right]$$

Figure 14. The f-structure of (70b)

Let me point out that although in Laczkó & Rákosi (2011) we subscribe to Forst et al.'s (2010) syntactic complex predicate formation approach in the case of productive uninflected PVCs, in Rákosi & Laczkó (2011), where we analyze the two major types of inflected PVCs, we argue that these types are best analyzed lexically, along the concatenational lines. The reason for this is that in our research we found that, contrary to appearances, they are more noncompositional and nonproductive than compositional and productive, with a large degree of unpredictable, idiosyncratic behaviour.[100] For details, see the next section (3.1.4.2).

Finally, consider our concluding remarks from Forst et al. (2010).

[98] It is also to be pointed out that the form *rá* is ambiguous between the neutral (uninflected) use of the particle ('onto') and its inflected use with the 3SG agreement features ('onto.3SG'). The reason for this is that in most Hungarian inflectional paradigms, including this, the 3SG form is unmarked morphologically.

[99] In most other Hungarian inflectional paradigms (e.g. finite verbal or possessive agreement) this pronominal incorporation is optional.

[100] And in my new analysis I share this view.

We propose that compositional particle verbs be analyzed by means of a lexical entry for the particle where, rather than a PRT-FORM feature, it contributes a PRED that, in certain cases, may subcategorize for an argument it introduces. A predicate composition rule involving restriction then fills argument slots of argument-changing particles. Although we argue that compositional particle verbs are best accounted for using the analyses proposed above, the noncompositional particle verbs should be captured by an analysis similar to that outlined in Section 3.[101] Under this analysis, the verb has a lexical entry which lists the particle it co-occurs with as well as its argument structure. In addition, the predicate is formed by concatenation, i.e. prt#verb, so that a unique PRED is formed, reflecting the noncompositional nature of the particle verb combination. In this way, compositional and noncompositional particle verbs are easily distinguished both in the grammar implementation and in the resulting f-structures.[102]

(40) **Non-compositional:**

$$\left[\begin{array}{ll}\text{PRED} & \text{'prt\#verb}\langle\text{GFS}\rangle\text{'}\\ \text{GFS} & [\ ]\\ \text{PRT-FORM} & \text{prt}\end{array}\right]$$

(41) **Compositional: adv. oblique**

$$\left[\begin{array}{ll}\text{PRED} & \text{'verb}\langle\text{GFS,OBL}\rangle\text{'}\\ \text{GFS} & [\ ]\\ \text{OBL} & \left[\begin{array}{ll}\text{PRED} & \text{'prt'}\end{array}\right]\end{array}\right]$$

Compositional: adv. adjunct

$$\left[\begin{array}{ll}\text{PRED} & \text{'verb}\langle\text{GFS}\rangle\text{'}\\ \text{GFS} & [\ ]\\ \text{ADJUNCT} & \left\{\left[\begin{array}{ll}\text{PRED} & \text{'prt'}\end{array}\right]\right\}\end{array}\right]$$

Compositional: resultative

$$\left[\begin{array}{ll}\text{PRED} & \text{'verb}\langle\text{GFS,XCOMP-PRED}\rangle\text{'}\\ \text{GFS} & [\ ]\\ \text{XCOMP-PRED} & \left[\begin{array}{ll}\text{PRED} & \text{'prt}\langle\text{SUBJ}\rangle\text{'}\end{array}\right]\end{array}\right]$$

Compositional: aspectual

$$\left[\begin{array}{ll}\text{PRED} & \text{'verb}\langle\text{GFS}\rangle\text{'}\\ \text{GFS} & [\ ]\\ \text{TNS-ASP} & \left[\begin{array}{ll}\text{ASPECT} & \text{prt}\end{array}\right]\end{array}\right]$$

Compositional: predicate composition

$$\left[\begin{array}{ll}\text{PRED} & \text{'prt}\langle\text{'verb}\langle\text{GFS}\rangle\text{',PRTGF}\rangle\text{'}\\ \text{GFS} & [\ ]\\ \text{PRTGF} & [\ ]\end{array}\right]$$

Figure 15. Skeletal structures from Forst et al. (2010)

As a final point, these productive particles may still be semantically restricted so that they cannot occur with verbs with incompatible meanings (e.g. argument structure and aspectual incompatibilities) (Forst et al. 2010: 243-244).

My comments (partially reiterating, reinforcing and supplementing my earlier remarks) are as follows.

(1) As a co-author of Forst et al. (2010) and one of the developers of an XLE grammar for Hungarian at the time I fully agreed with those views, assumptions, goals and proposals, fundamentally from an implementational point of view. It is a really favourable aspect of

[101] See the discussion of (46), (47), (48), and Figures 6, 7, and 8 above.

[102] In Figure 15 I present Forst et al.'s (2010: 244) schematic representations of the proposed LFG-XLE analysis of noncompositional PVCs and the five types of compositional PVCs. Their example numbers were (40) and (41), respectively.

an implemented grammar if it can capture productive processes in the simplest, most general and most parsimonious way. And the syntactic approach we programmatically outlined was promising.

(2) As a consequence, in Laczkó & Rákosi (2011) and Rákosi & Laczkó (2011) we developed and implemented XLE analyses of several major Hungarian PVC types.

(3) However, as I continued my research along these lines, I (i.e. the model) had to face several complications and challenges, which ultimately led to my revisiting some basic issues. In this dissertation, partially based on Laczkó (2013), I argue for a uniform lexical treatment of all Hungarian PVC types, whether compositional and productive or noncompositional and nonproductive.[103]

(4) As I pointed out in passing, of the five compositional PVC types[104] shown in (41) in Figure 15, I have not really found corresponding Hungarian examples of (A) adv. oblique and (B) adv. adjunct.

(5) In Laczkó & Rákosi (2011) we analyze the Hungarian counterpart of the German (C) resultative type differently, practically along the lines of Forst et al.'s (2010) analysis of type (E), see below. Both analyses are syntactic in nature.

(6) I hypothesize now that the (D) aspectual (more appropriately: Aktionsart) type must not be treated in a way in which the particle simply, uniformly and productively contributes the perfective aspectual feature to the f-structure of the sentence in Hungarian. Its treatment must be lexical for the reasons I gave earlier.

(7) It is the (E) predicate composition type that is by far the most important in several crucial respects. It is the PVCs that we propose should be analyzed in this fashion that are the most frequent and the most productive. Therefore, from an implementational (coverage) perspective it is desirable to handle as little as possible lexically. The syntactic argument formation treatment (via restriction) excellently serves this goal. However, as I have pointed out several times, such an analysis is rather marked from the classical LFG-theoretic morphological point of view, for a detailed discussion, see Section 3.1.2.3. In addition, as the last sentence of the quote from Forst et al. (2010) admits, even the productive types "may still be restricted semantically". If this remark is taken into consideration then the feasibility of a purely syntactic treatment of even the most productive-looking type may raise some issues. As I pointed out in connection with a different (but also "syntactically treated") type, if such restrictions are not handled appropriately this will inevitably lead to a great number of undesirable parses on the parsing side of an XLE grammar, and, even more importantly and seriously, rather uncontrollable overgeneration on the generation side. Of course, these restrictions can be formally captured and encoded, but they are bound to be lexical in nature. However, this considerably undermines the initial appeal of a (purely) syntactic treatment of compositional PVCs. In addition, it has always been one of the most important assumptions of LFG that even the most productive processes can be naturally captured by lexical redundancy rules. Thus, from a general LFG viewpoint a uniformly lexical analysis of all PVCs is rather natural,[105] but, of course, different types call for different

[103] See Section 3.1.5.

[104] I think it is an additional favourable feature of the LFG-XLE approach proposed in Forst et al. (2010) from a general empirical and theory-neutral perspective that it programmatically outlines different treatments of different PVC types. It is my conviction that approaches that aim at a *formally uniform* lexical or syntactic analysis of all PVC types (or, even more suspiciously, all VM types) based on a particular lexical or syntactic assumption are far from being plausible and tenable. For more on this, see Sections 3.1.5 and 3.2.

[105] On these grounds, I no longer find our claim very convincing that our approach makes it possible to sharply distinguish the two major types of PVCs: "compositional and noncompositional particle verbs are easily distinguished both in the grammar implementation and in the resulting f-structures" (Forst et al. 2010: 243). An important additional general

lexical treatments. In this approach we can be more faithful to LFG's central morphological perspective, based on the Strong Lexicalist Hypothesis. Also see point (3) above.

3.1.4.2. A HunGram account of four Hungarian PVCs

In Laczkó & Rákosi (2011)[106] we explore the tenability and implementational applicability of the approach proposed by Forst et al. (2010). In this vein, we give a detailed analysis of both the compositional and the noncompositional uses of two Hungarian noninflecting spatial PVC types and report its successful implementation. Consider the following examples of the first type.

(73)	*A*	*rák*	*ki*	*mász-ott*	*a*	*folyó-ból.*
	the	crab.NOM	out	crawl-PAST.3SG	the	river-out.of
	'The crab crawled out of the river.'					

(74)	*Az*	*elnök*	*ki*	*fej-ez-te*	*együttérzés-é-t.*
	the	president. NOM	out	head-Vsuf-PAST.3SG	sympathy-his-ACC
	'The president expressed his sympathy.'				

The sentence in (73) is an example of the compositional use of the preverb *ki* 'out', while (74) illustrates an utterly noncompositional use (because the simplex verb form *fejezte* does not exist on its own). We assume that preverbs are nonprojecting words in the sense of Toivonen (2001), and their syntactic category is PRT (short for particle).[107] For the analysis of (73) we need the following lexical forms for the preverb and the verb (only the relevant details are indicated in these XLE style implementational representations).

(75) a. *mászik* V (↑ PRED)= 'crawl < (↑ SUBJ) (↑ OBL) >'.

b. *ki* PRT (↑ PRED) = 'out < %ARG1 (↑ OBL) >'.

The verb *mászik* 'crawl' has its regular lexical entry. It is a two-place predicate with a subject and a (goal) oblique argument. The preverb *ki* 'out' in its compositional use is also a two-place predicate: it takes a verb as its first argument and a (source) oblique second argument. In c-structure, the preverb, analyzed as the main predicate, has the customary functional head annotation, while the verb has a set of annotations containing the restriction operator encoded by the / symbol.[108] The interplay of these annotations results in syntactic complex predicate formation, represented in f-structure. The PRED feature in the f-structure of (73) has the following value:

(76) 'ki < 'mászik < [rák], NULL >, [folyó] >.

The preverb (*ki* 'out') is the main predicate, and it has a "nested" argument structure. Its first argument is the verb (*mászik* 'crawl') with its own embedded two-place argument structure.[109] The verb's first argument is the subject (*rák* 'crab'), and its second (oblique) argument[110]

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consideration against this black-and-white view is that there is a huge grey and gradient area between the black-and-white extremes of the compositionality/productivity and noncompositionality/nonproductivity scale.

[106] This discussion of Laczkó & Rákosi (2011) is an augmented version of Section 2.2 in Laczkó (2013: 380-383).

[107] In using this PRT category, we also follow the practice of the English and German implementational grammars.

[108] For further details, see Laczkó & Rákosi (2011).

[109] For more on XLE's restriction operator, see Section 5.4 in Forst et al. (2010) and Section 3.1.4.1 in this dissertation.

[110] Which is a goal argument.

receives the zero grammatical function (NULL).[111] The preverb's second argument is a source oblique (*folyó* 'river').[112] Our XLE grammar produced the following analysis.

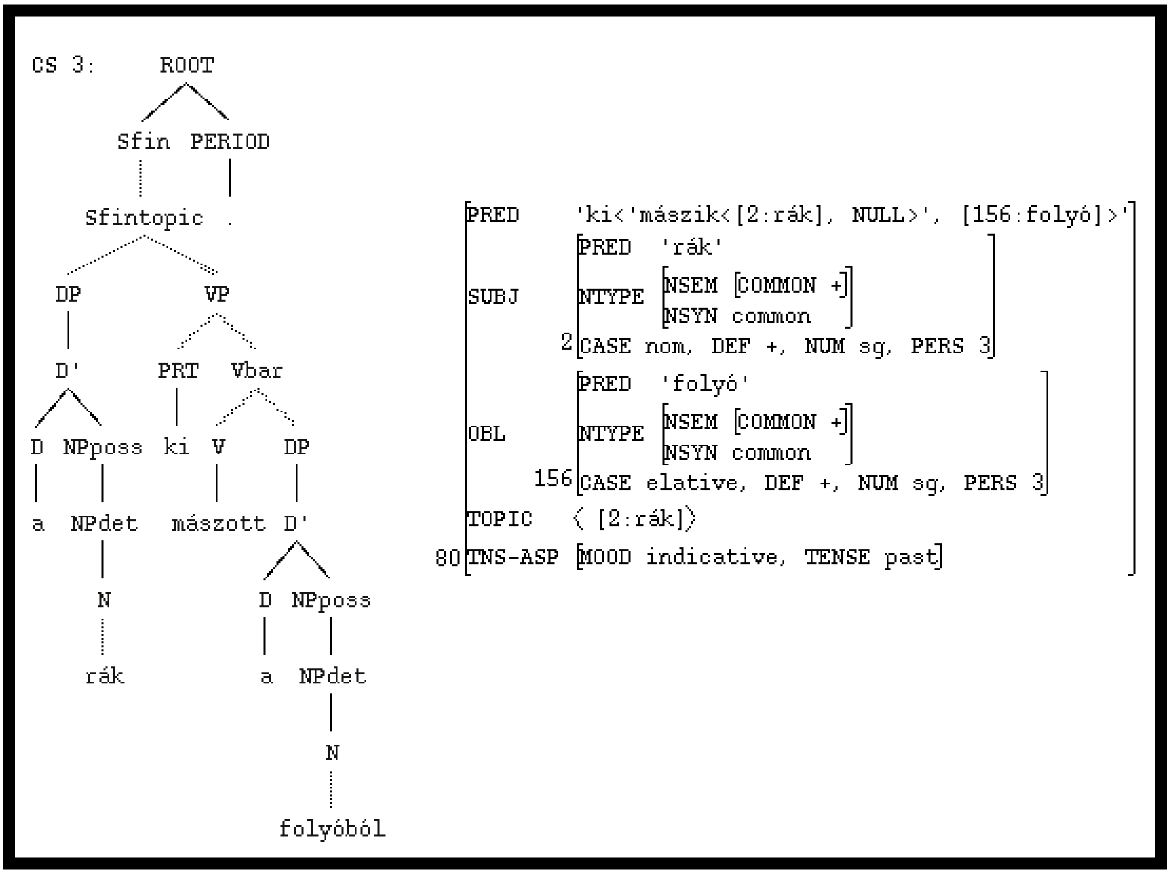


Figure 16. Laczkó & Rákosi's (2011: 312) XLE c-structure and f-structure of (73)

In analyzing noncompositional spatial PVCs, in Laczkó & Rákosi (2011) we also adopt Forst et al.'s (2010) XLE approach. For instance, in the analysis of (74) we employ the following lexical forms for the (independently nonexisting) verb and the preverb.

(77) *fejez* V (↑PRED) = '%FN < (↑ SUBJ) (↑ OBJ) >'
(↑ CHECK _PRT-VERB) = +
(↑ PRT-FORM) =c ki
@(CONCAT (↑ PRT-FORM) # stem %FN).

(78) *ki* PRT (↑ PRT-FORM) = ki
(↑ CHECK _PRT-VERB) =c +.

In the XLE notation, the %FN symbol expresses the value of the PRED feature without its argument structure, see the first line. Within angle brackets in the same line, the argument structure of this noncompositional PVC is given: it is a two-place predicate taking a subject and an object argument. The second line contains one of the two members of a CHECK feature pair. This member is defining and the other is constraining. This is an extremely useful XLE device. Its function is to regulate the obligatory co-occurrence of two elements in a particular configuration. The essence of this _PRT-VERB type CHECK feature is that it requires that the two elements involved must co-occur in a PVC configuration. The third line

[111] It has been "restricted out".

[112] The important point here is that the verb *mászik* 'crawl' is strictly incompatible with a source argument.

constrains that the form of the particle in this particular instance has to be *ki* (out). The fourth line calls XLE's concatenation (CONCAT) template. The function of this template is to formally combines (concatenates) the two elements, the preverb form and the verbal stem, in a string connected by the hash mark. This string serves as %FN, the value of the PRED feature without the argument structure.[113] So in our analysis of (74), the PRED feature has the following value representation in f-structure (where *elnök* = president, *együttérzés* = sympathy).

(79) 'ki#fejez < [elnök], [együttérzés] >'

As regards the lexical form of the preverb in (78), notice that in this use it has no PRED feature, it only has a FORM feature (whose value is *ki*), see the first line in its lexical form. The second line is the other (constraining) side of the CHECK _PRT-VERB coin.[114] In c-structure, the preverb and the verb are functional co-heads.

The other noninflecting PVC type we discuss in Laczkó & Rákosi (2011) is illustrated in (80). This is an example of the compositional use of the PVC.

(80)	*János*	*át*	*lép-ett*	*a*	*kerítés-en.*
	John.NOM	across	step-PAST.3SG	the	fence-on
	'John stepped over the fence.'				

The discussion is rather brief, because the only relevant difference between this type and the previous type, or, more precisely, the only property this type has and the other type lacks, is that here the particle, even when it is used compositionally, strictly constrains the case form of its oblique argument. Consequently, we propose the following lexical forms for the particle and the verb as used in (80).

(81)	*át*	PRT XLE	(↑PRED) = 'across < %ARG1 (↑OBL) >' (↑OBL CASE) =c superessive.
(82)	*lép*	V XLE	(↑PRED) = 'step < (↑SUBJ) (↑OBL) >'.

The example in (80) is directly comparable to that in (73). The two lexical entries in (81) and (82), again, are directly comparable to (75b) and (75a), respectively. The difference between the two PVC types is captured by the constraining equation in (81).

It is also important to note that in this PVC type, too, we find the same instances of noncompositionality as in the former PVC type. For instance, it stands to reason that (83) is straightforwardly comparable to (74). Consequently, (83) allows and requires the same sort of analysis as we propose for (74).

(83)	*János*	*át*	*lép-ett*	*a*	*problémá-n.*
	John.NOM	across	step-PAST.3SG	the	problem-on
	'John got over the problem.'				

[113] Note that this XLE concatenation process is radically different from that assumed by Ackerman et al. (2011). In their system concatenation means the creation of a synthetic form, a morphologically complex word. By contrast, the XLE device only brings about a string in the value of the PRED feature of a complex predicate in f-structure, and the elements corresponding to the two pieces of the string (flanking the hash mark) are still two free morphemes, that is, two independent syntactic atoms in c-structure.

[114] Given that XLE does not tolerate multiple entries for the same lemma in its lexicons, in our HunGram grammar we have a single lexical form for the preverb *ki* (out) and the two representations in (75b) and (78) are expressed disjunctively in a single entry, but this has no theoretical repercussions.

In Rákosi & Laczkó (2011) we develop an XLE analysis of inflected PVCs, again, fundamentally in the spirit of Forst et al. (2010). The two construction types that we concentrate on are exemplified in (84) below:

(84) a. *Rá* *ugrott-ál* *az* *asztal-ra*.
onto.3SG jumped-2SG the table-onto
'You jumped onto the table.'
b. *Mögé* *ugrott-ál* *az* *asztal-ra*.
behind.to.3SG jumped-2SG the table-DAT
'You jumped behind the table.'

(84a) contains what is often referred to as a *reduplicating particle*. Elsewhere such a particle functions as a case marker, and in the PVC, it is part of a dependency with a lexical noun phrase that bears the same case morphology as that spelled out by the particle (with some possible but irrelevant phonological differences). What we dub *possessive particles* function as postpositions elsewhere, and, when used as particles, they license an associate in dative case in the dependency, as in (84b). Here I confine myself to a brief overview of our analysis of the reduplicating type. This is the more interesting type from the perspective of the XLE treatment of PVCs.[115] For our treatment of the possessive type, see Rákosi & Laczkó (2011).[116]

In our analysis of the reduplicating PVC type, we capitalize on a relatively widely-held view in the literature,[117] and we make a distinction between the ordinary reduplicating particle use and the pronominal particle use of one and the same form. Consequently, on our account the particle *rá* is assumed to function as a phrasal pronominal element in (85a), and we treat the reduplicating particle in (85b) as a special agreement marker that became entirely bleached, losing all its semantic content. Our proposal is very close in spirit to that of Ackerman (1987, 1990, 2003).

(85) a. *Rá* *ugrott-ál.*
onto.3SG jumped-2SG
'You jumped onto it/her/him.'
b. *Rá* *ugrott-ál* *az* *asztal-ra* / *az* asztal-ok-ra.
onto.3SG jumped-2SG the table-onto the table-PL-onto
'You jumped onto the table / the tables.'

We assume the following lexical representation for the pronominal particle in (85a).

(86) rá: Pron (↑PRED)= 'pro'
(↑CASE)= sublative
(↑PERS)= 3
(↑NUM)= SG

[115] The essence of this relevance is as follows. In Forst et al. (2010) we programmatically assume that this PVC type can be used compositionally and productively, and, consequently, in such cases it should be analyzed along the syntactic complex predicate formation via restriction lines. By contrast, on the basis of our findings about the behaviour of these reduplicating PVCs, in Rákosi & Laczkó (2011) we claim that even the productive-looking cases are fraught with idiosyncrasies, and, therefore, a lexical analysis along the concatenational lines is more appropriate.

[116] We argue that this type is a rather marked (and speaker-dependent) construction, and it calls for a special lexical treatment. For the details, see Section 4 in Rákosi & Laczkó (2011).

[117] For an overview, see Section 3 in Rákosi & Laczkó (2011).

The entire lexical form is treated as a pronoun that projects a DP, rather than a PP.[118] Moreover, in this representation the case suffix itself does not have a PRED feature, but only a CASE feature, which can possibly be interpreted compositionally in semantic structure. This is the current state of affairs in our XLE-implementation, but nothing crucial hinges on this particular assumption. The essence of our argumentation and the analysis would not change if we handled these inflecting case markers as P-elements with a PRED feature, taking lexical or pronominal P-objects.

The lexical forms for the reduplicating particle and the lexical verb are given in (87a) and (87b), respectively.

(87) a. *rá*: PRT (↑PRT-FORM) = rá
(↑OBL PERS) =c 3
(↑OBL CASE) =c sublative
(↑ CHECK _PRT-VERB) =c +

b. *ugrik*: V (↑PRED)= 'rá#ugrik <(↑SUBJ) (↑OBL)>'
(↑PRT-FORM)=c rá
(↑CHECK _PRT-VERB) = +
@(CONCAT (↑ PRT-FORM) '# %stem %FN)

The particle in this use is a nonprojecting category (PRT). Given that it is compatible with either singular or plural associates, see (85b), we take it to be underspecified for the NUMBER feature (which is formally expressed here as the absence of this feature). The particle constrains two properties of the oblique associate: its PERSON and CASE features. It is in this respect that these reduplicating particles can be considered special agreement markers. As (87a) and (87b) show, the particle is specified to form a PVC with the verb (and vice versa) via the "CONCAT template, CHECK feature and PRT-FORM specification" machinery employed by Forst et al. (2010) and Laczkó & Rákosi (2011). Our implemented grammar analyzes (85a) and (85b) in the following way.

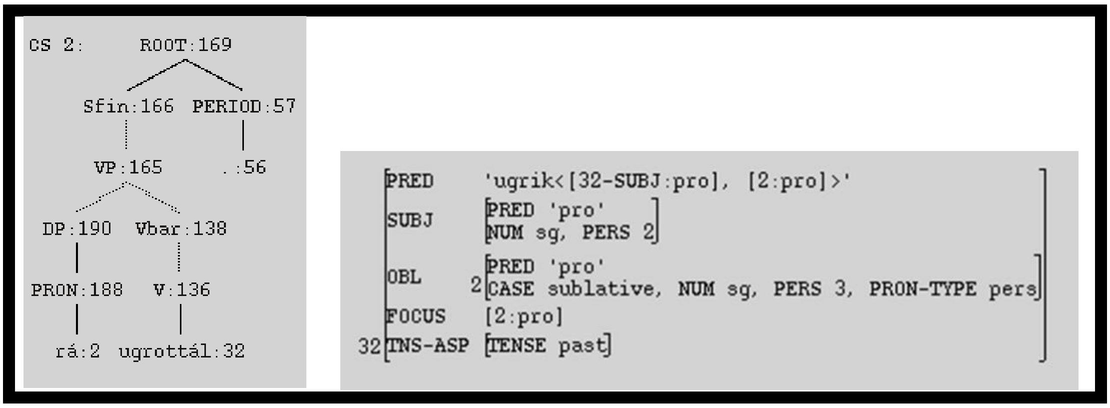


Figure 17. The c-structure and f-structure of (85a)

[118] We follow Bartos (1999), among others, when we make a categorial distinction between inflected case suffixes and inflected postpositions (which are assumed to project a PP).

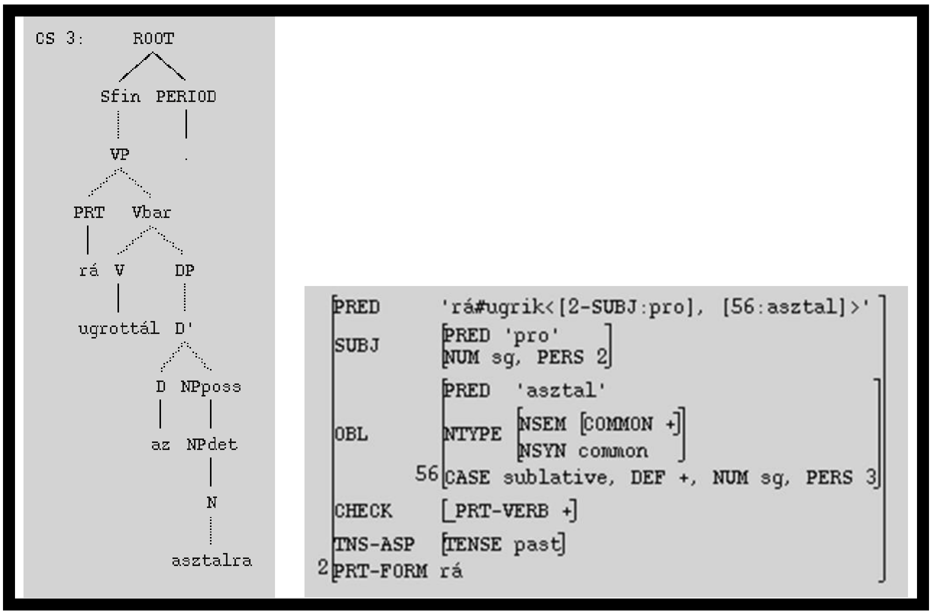


Figure 18. The c-structure and f-structure of (85b)

We give the following justification for treating even the productive-looking uses of reduplicating PVCs lexically. "The primary reason why we decided to store every attested reduplicating particle plus verb combination in the lexicon is that the majority of these combinations (both in terms of types and tokens) are in fact noncompositional. It is actually not easy to find compositional reduplicating PVCs in corpora. It should also be added that there is quite a lot of idiosyncrasy involved in whether this kind of reduplication is obligatory, possible or unavailable for any potential verbal host. As a rule of thumb, it is the inherent aspectual feature of the particle that drives the combinations. The particle *rá* 'onto', for example, has a telic nature. Thus, this particle is usually obligatory if the resulting complex is telic (88a), and it is unavailable if the intended verbal meaning is atelic (88b). However, the particle can be optional in telic complexes (89a), and it can even be obligatory in atelic ones (89b).

(88) a. *Nem jövök *(rá) a megoldás-ra.*
not come.1SG onto.3 the solution-onto
'I cannot figure out the solution.'

b. *Nem tartozik *(rá) Kati-ra.*
not belongs onto.3 Kate-onto
'It does not concern Kate.'

(89) a. *Nem rivallt-am (rá) Kati-ra.*
not yelled-1SG onto.3 Kate-onto
'I did not yell at Kate.'

b. *Nem szorul-ok (rá) Kati-ra.*
not press-1SG onto.3 Kate-onto
'I stand in no need of Kate('s help).'

We, therefore, believe that it seems justified to subject reduplicating constructions to a lexical treatment in compositional and noncompositional cases alike. In this, we follow previous accounts that treat these particles as derivational elements (see especially É. Kiss 1998a and

Ackerman 1987, 1990, 2003)" (Rákosi & Laczkó 2011: 456-457).[119] Thus, one of the key points here is that reduplicating PVCs are often fully compositional; however, they are far from being productive, which calls for a lexical approach.

At this point a brief comparison of our approach and the RBL approach, discussed in a detailed fashion in Section 3.1.2.3, is in order.

- In the case of noncompositional PVCs both approaches propose a fully lexical treatment, thereby respecting classical LFG's subscription to the Strong Lexicalist Hypothesis.
  - RBL employs the notion of analytic morphological object, as a marked option for lexical form representation.
  - Our approach, by contrast, employs an apparatus which is capable of maintaining the "one lexical item – one morphological word – one syntactic atom" correspondence in such a way that it can still capture the marked behaviour of (noncompositional) PVCs. For this purpose, it applies a system of devices: efficient cross-referencing between distinct lexical items via appropriate constraining equations and CHECK-features. The analysis has been successfully tested implementationally, which can be taken to be a rather strong indication of its feasibility.
- In the case of compositional and productive PVCs the two approaches are radically different.
  - RBL strictly maintains its lexicalist view (in actual fact, fundamentally it applies a uniform treatment of both major PVC types).
  - Our approach, by contrast, employs a syntactic complex predication formation device, thereby violating the Strong Lexicalist Hypothesis.[120]

3.1.5. My alternative LFG-XLE analysis of PVCs

The essence of the modification of the approach developed by Forst et al. (2010), Laczkó & Rákosi (2011), and Rákosi & Laczkó (2011) which I propose in this section[121] is that even productive PVCs should be lexically treated. This modification definitely has the advantage that classical LFG's subscription to the Strong Lexicalist Hypothesis can be maintained in the domain of complex predicates represented by Hungarian PVCs. In this section, first I show a possible way in which such an approach can be developed in an LFG-XLE framework (3.1.5.1). Then I explore what arguments processes involving PVCs provide for or against the lexical vs. syntactic treatment of compositional PVCs (3.1.5.2).

3.1.5.1. A possible lexical treatment of PVCs in an XLE grammar

Let us take a second look at our previous examples in (73) and (74) in Section 3.1.4.2, repeated here as (90) and (91), respectively, for convenience. The former is compositional and the latter is noncompositional.

(90)	*A*	*rák*	*ki*	*mász-ott*	*a*	*folyó-ból.*
	the	crab.NOM	out	crawl-PAST.3SG	the	river-out.of
	'The crab crawled out of the river.'					

[119] In the quote above, I have corrected a typo: Ackerman (2000) → Ackerman (2003), TL.

[120] The essence of my new proposal for the analysis of productive PVCs in the next section (3.1.5) will be that even they should be treated lexically. In this way, our XLE approach can also uniformly respect the Strong Lexicalist Hypothesis (just like RBL).

[121] This section is an augmented version of Laczkó (2013).

(91) *Az* *elnök* *ki* *fej-ez-te* *együttérzés-é-t.*
the president. NOM out head-Vsuf-PAST.3SG sympathy-his-ACC
'The president expressed his sympathy.'

Given that in Laczkó & Rákosi (2011) we analyze noncompositional PVCs lexically and compositional PVCs syntactically, if one seeks to develop an account of the latter along lexical lines then it is almost inevitable that the analyses of the two types will share important aspects. Below I show that this is really the case to a remarkable extent.

First of all, note that the true counterpart of complex predicate formation in the syntax via restriction would be complex predicate formation via restriction in the lexicon. This process would involve sublexical structures within a morphologically complex word. However, this option is not available exactly because of the syntactic separability of the verb and the preverb. This fact very strongly moves us towards some crucial ingredients of the analysis of noncompositional PVCs.

I propose the following lexical form for the preverb.

(92) *ki* PRT
(↑PRT-FORM)= ki
(↑CHECK _PRT-VERB) =c +
{ (↑ FOCUS)
| (↑CHECK _VM) =c + }
((↑ DIR) = out).

It is a "shared" lexical form for both the noncompositional and the compositional uses. Its crucial property is that even in the compositional use it has no PRED feature, it only has a FORM feature, just like in the noncompositional use, see (78) in Section 3.1.4.2. Compare this with the argument-taking predicate representation in (75b) on the syntactic account in Section 3.1.4.2. The other (by now) uniform trait of the preverb in both uses is that it is constrained to a PVC configuration, see the _PRT-VERB CHECK feature in the second line, and compare this with the representations in (78) and (75b). I have added the disjunction between the focus annotation and the _VM CHECK feature in the third and fourth lines on the basis of my treatment of the preverbal complementarity of VMs and foci in Chapter 2. It is the optional (↑ DIR) = out equation that differentiates between the compositional and noncompositional uses of the preverb. The idea is that in the compositional use, it encodes this spatial-directional feature,[122] it explicitly contributes this feature to the entire PVC, and in the noncompositional use it does not.

I assume the following lexical forms for the two relevant simplex verbs.

(93) *fejez* V
(↑PRED) = '%FN < (↑ SUBJ) (↑ OBJ) >'
(↑ CHECK _PRT-VERB) = +
(↑ PRT-FORM) =c ki
~(↑ DIR)
@(CONCAT (↑ PRT-FORM) # stem %FN).

[122] Note that on this lexical account the preverb itself cannot have a PRED feature, because in the syntax there is no restriction operation: both the preverb and the verb have the functional head annotation, i.e. they are functional co-heads. In this respect, they are treated in the same way as noncompositional PVCs, and only one of them can have a PRED feature (which is a general LFG constraint on functional co-heads).

(94) *mászik* V
(↑PRED) = 'out < 'crawl < (↑SUBJ) NULL >' (↑OBL) >'
(↑CHECK _PRT-VERB) = +
(↑PRT-FORM)=c ki
(↑ DIR) =c out.

Not surprisingly, the lexical form of the simplex verb in the noncompositional use of the PVC on this uniform account has not changed much, compare (77) in Section 3.1.4.2 and (93). The only difference is that in (93) I have added a negative existential constraint: the preverb does not encode a directional feature.

For obvious reasons, the lexical form of the simplex verb in the compositional use of the PVC on this uniform account has changed rather dramatically, compare (75a) in Section 3.1.4.2 and (94). The representation in (94) follows the noncompositional strategy to a great extent. To begin with, it encodes the PRED feature of the entire PVC. Now it is constrained to a PVC configuration, and it prescribes that in this meaning the form of the preverb has to be *ki* (out). As opposed to the simplex verb in the noncompositional use, here it requires the presence of the directionality feature (to be contributed by the preverb). The other difference is that here there is no concatenation template. Instead, I assume a PRED feature representation whose details are identical to the result of restriction in the former syntactic predicate composition analysis, see the second line in (94) and compare it with (75b) and the PRED value in (76) in Section 3.1.4.2. For this account to work, we need a special lexical redundancy rule responsible for creating (94) from the ordinary lexical form of this motion predicate, shown in (75a) in Section 3.1.4.2. This approach, mimicking the result of the syntactic restriction operation, has a marked aspect. The main predicate 'out' has no lexical form that could serve as input to this derivational process. In a loose sense, a particular type of conversion takes place which introduces a "superordinate" predicate whose "dummy" morphological exponence is a morpheme with special properties: it has no PRED feature on its own, its actual contribution is just a directionality feature, and it is a syntactic atom.[123]

Inevitably, there emerges a potential problem for this approach: preverbs in their compositional use can be foci or contrastive topics, see (95).

(95)	*Ki*	*a*	*rák*	*mász-ott*	*a*	*folyó-ból.*
	out	the	crab.NOM	crawl-PAST.3SG	the	river-out.of

ca. 'As regards out(crawling) it was the crab the crawled out of the river.'

My response is this. First of all, note that the preverbs of absolutely noncompositional PVCs can also occur independently, on their own, in short answers, for instance, despite the fact that they are definitely semantically empty, with no PRED feature. Consider:

(96)	A:	*Ki*	*fejez-ted*	*a*	*vélemény-ed-et?*	B:	*Ki.*
		out	head.Vsuf-PAST.2SG	the	opinion-your-ACC		out
		'Did you express your opinion?'					'Yes(, I did).'

Naturally, a constituent's use as a contrastive topic (or focus) does require some meaningful content. In this new approach, although the preverb does not function formally as the main predicate of the sentence, in its compositional use it does have some semantic contribution: it encodes directionality, hence its focus/contrastive topic potential. This is the significance of, and rationale behind, my employing the directionality feature in the lexical form of the preverb.

[123] A reminder is in order here: this marked aspect of the analysis is the consequence of the behaviour of PVCs: the syntactic separability of the two pieces. That is why the restriction operator as we know it cannot work in the lexicon.

In the next section, I address the following question. On what basis can the choice between the lexical and the syntactic predicate composition account be made?

3.1.5.2.On the choice between the syntactic and the lexical accounts

At a general level, the pros and cons are as follows. The syntactic account gives up classical LFG's adherence to the Strong Lexicalist Hypothesis, which is a disadvantage. At the same time, it can elegantly capture the special behaviour of these PVCs: it employs a coherent device for complex predicate formation in the syntax. Moreover, it has an extremely favourable implementational merit. These productive PVCs can be parsed "on the fly": no lexical aspect is needed. This reduces the burden on the lexical component of a large scale XLE grammar to a great extent.[124] By contrast, the lexical account respects the Strong Lexicalist Hypothesis. It basically follows the treatment of noncompositional PVCs and supplements it with a special lexical redundancy rule for the generation of a "transparent" PRED feature value. Its implementational disadvantage is that it requires the generation and storage of each PVC in the lexical component, which can be a serious hindrance for a robust XLE grammar.

At this point let me take further facts and criteria into consideration. Fundamentally, I will concentrate on the relevance of various types of productive derivational processes PVCs (whether compositional or noncompositional) can undergo.[125] Below I discuss three processes: causativization, event nominalization, and preverb reduplication.

3.1.5.2.1. Causativization

PVCs, like ordinary verbal predicates, readily undergo causativization. Consider the following examples. (97) exemplifies an intransitive compositional PVC and its causative counterpart, while (98) shows a transitive noncompositional PVC and its causative version. The empirically and intuitively correct generalization is that both the noncompositional and the compositional PVCs are in the scope of the causative morpheme.

(97) a.

A	*fiú*	*ki*	*mász-ott*	*a*	*folyó-ból.*
the	boy.NOM	out	crawl-PAST.3SG	the	river-out.of

'The crab crawled out of the river.'

b.

Ki	*mász-at-tam*	*a*	*fiú-t*	*a*	*folyó-ból.*
out	crawl-CAUS-PAST.1SG	the	boy.ACC	the	river-out.of

'I made the boy crawl out of the river.'

(98) a.

Az	*elnök*	*ki*	*fej-ez-te*	*együttérzés-é-t.*
the	president. NOM	out	head-Vsuf-PAST.3SG	sympathy-his-ACC

'The president expressed his sympathy.'

b.

Ki	*fej-ez-tet-tem*	*az*	*elnök-kel*	*az*	*együttérzés-é-t.*
out	head-Vsuf-CAUS-PAST.1SG	the	president-with	the	sympathy-his-ACC

'I made the president express his sympathy.'

In theory, in the case of noncompositional PVCs this can be properly captured in the CONCAT type lexical analysis proposed by Forst et al. (2010) and Laczkó & Rákosi (2011), and also adopted here. We can causativize the lexical form of the simplex verb (containing the

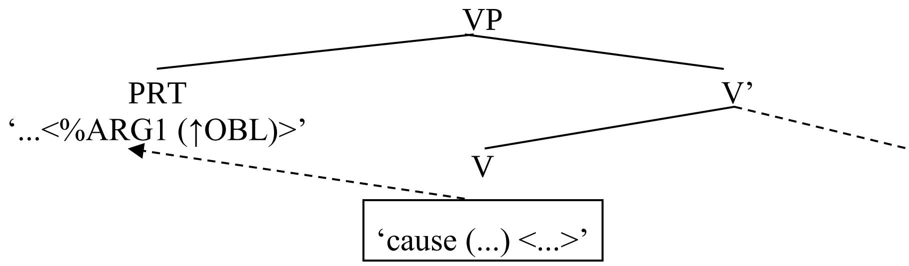
[124] For a detailed discussion of this issue, see Forst et al. (2010).

[125] This is an issue Forst et al. (2010) and Laczkó & Rákosi (2011) do not address and leave for future research.

entire value of the PRED feature of the PVC) just like the lexical form of any ordinary verb,[126] and at the same time the derived form will inherit the CONCAT apparatus from the input verb (the CONCAT template itself and the PRT-FORM constraint).

If compositional PVCs are also treated lexically, in fundamentally the same manner as noncompositional ones as shown in the previous subsection, then their causativization can also be handled along the same lines, so the empirically and intuitively justified uniformity can be achieved. However, on the “syntactic complex predicate formation via restriction” account this seems to be impossible for the following reason. In Hungarian, the causative morpheme is strictly bound: it is a derivational suffix. From this it follows that in this approach the simplex verb has to be causativized in the lexicon, and this form with its PRED will combine with the preverb in the syntax. Thus, the causative simplex verb will be the first argument (that is, it will be in the scope) of the preverb, rather counterintuitively.[127] Consider the abstract representation of this scenario.

(99)



I think this is a serious problem for the syntactic analysis, and it is made even more serious by the fact that there are several absolutely productive derivational processes which can follow one another in a series. There is one such example in (100).

(100)	*a*	*fiú*	*ki*	*mász-at-gat-ás-a*	*a*	*folyó-ból*
	the	boy.NOM	out	crawl-CAUS-ITER-DEV-his	the	river-out.of
	ca. ‘repeatedly making the boy crawl out of the river’					

The problem is that the PVC is best interpreted as being in the scope of the causative suffix (CAUS), this combination should be in the scope of the iterative suffix (ITER), and this new combination should be in the scope of the deverbal nominalizing suffix (DEV). However, in the syntactic approach it is the simplex predicate and its hierarchically growing suffixed counterparts that ultimately undergo complex predicate formation via restriction with the preverb. This fact makes the syntactic approach rather implausible.[128]

3.1.5.2.2. Nominalization of PVCs

One of Ackerman’s (2003) central arguments for treating Hungarian PVCs lexically is that they can serve as input to event nominalization. His fundamental generalization is as follows. “Phrasal predicates generally become synthetic morphological entities when they undergo category changing derivation” (2003: 9). Consider, for instance, the nominalized counterpart of (97), one of our previous examples.

[126] For instance, this device can be a metarule macro or the lexical type of restriction. This is an issue to be explored carefully from an XLE perspective, which I cannot deal with here.

[127] For a similar argument for a lexicalist treatment from an RBL perspective, see Ackerman (2003).

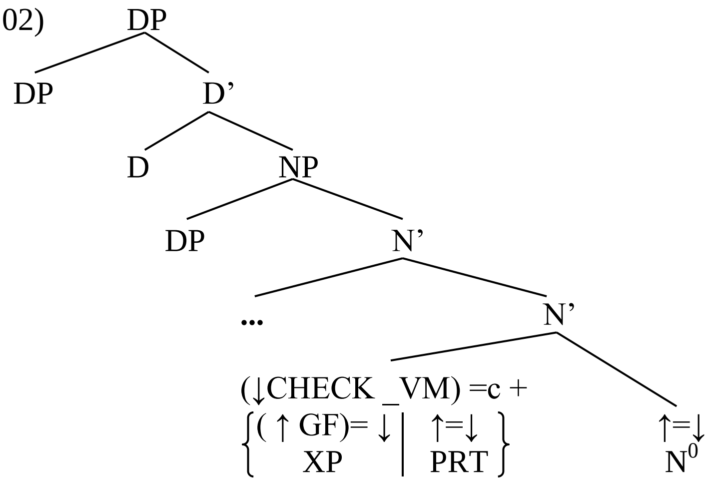
[128] Note that one way out would be to allow ordinary suffixal derivation (e.g. causativization and nominalization) also to take place in the syntax of Hungarian. This, however, would even more seriously undermine classical LFG’s view of morphology in a different respect: it would allow bound morphemes to live independent syntactic lives in a GB/MP fashion. (The nominalizing morpheme cannot be treated as either a clitic or a phrasal suffix, because – among other things – it is affected by the rules of vowel harmony, which is only characteristic of world-level bound morphemes.)

(101) *a fiú ki mász-ás-a a folyó-ból*
the boy.NOM out crawl-DEV.his the river-out.of
'the boy's crawling out of the river'

Before discussing the treatment of the nominalization of PVCs, let me point out that in this section my approach is along the same general lexical lines as Ackerman's. On the one hand, I adopt Forst et al.'s (2010) and Laczkó & Rákosi's (2011) lexical treatment of noncompositional PVCs, and, on the other hand, I argue for a similar lexical account of compositional PVCs (contra Forst et al. 2010 and Laczkó & Rákosi 2011).

In my analysis of the nominalization of PVCs, my most crucial assumption is that these derived forms are not synthetic morphological entities (contra Ackerman's claim). On the basis of Laczkó (2000, 2003), I postulate that Hungarian DPs have the following (skeletal) structure.

(102)



The key idea here is that I assume a special position below the lower N' which I take to correspond to the Spec,VP position in the verbal domain. Furthermore, I postulate that this position is available to the overwhelming majority of the VMs in the verbal domain,[129] e.g. to preverbs with the functional head annotation and a range of designated arguments with their respective grammatical functions. My main motivation for this structure is that among these designated arguments there are also clearly maximal projections, which can also be referential.

Let us first take a look at one of Ackerman's own examples (2003: 28).[130]

(103) a. *szabályszerű-vé válik*
regular-TRANS become
'become regular'

b. *szabályszerű-vé vál-ás*
regular-TRANS become-DEV
'becoming regular'

Ackerman's claim is that in this case, too, nominalization results in the "incorporation" of the VM element, that is, the nominalized version becomes a synthetic morphological entity (just like in the case of the nominalization of PVCs). Notice, however, that the adjective *szabályszerű* 'regular' can be modified, and this results in an AP, for instance: *meglepően szabályszerű* 'surprisingly regular'. This weakens the tenability of the lexical incorporation analysis considerably, because it does not seem to be plausible to "lexicalize" a (possibly

[129] For a preliminary, incomplete and undeveloped version of this idea, in comparison with Szabolcsi's (1994) GB solution, see Laczkó (2000).

[130] I have modified the glosses so that they conform to the glossing pattern followed in this dissertation. TRANS glosses the translative case suffix.

infinite) number of accidental adverb + adjective combinations like this. Furthermore, the verbal predicate in (103a) can also take a full referential DP in translative case as its complement, see the examples in (104).

(104) a. *Pál* *Éva* *barát-já-vá* *vált.*
Paul.NOM Eve.NOM friend-her-TRANS became
'Paul became Eve's friend.'

b. *Pál-nak* *az* *Éva* *barát-já-vá* *vál-ás-a*
Paul-DAT the Eve.NOM friend-her-TRANS become-DEV-his
'Paul's becoming Eve's friend'

I think it would be even more implausible to assume that the referential possessive DP (*Éva barátja* 'Eve's friend') incorporates into a synthetic morphological entity as a result of nominalization.

This phenomenon manifests a very old problem for approaches to VM constituents which aim at a uniform analysis of all these elements (given their complementarity and their fundamentally similar syntactic positional behaviour in neutral, focused and negative clauses). I have just shown that a uniformly lexical/morphological treatment is not feasible.[131] The

[131] In this discussion I have simplified the argumentational picture, as Farrell Ackerman (p.c., 2016.04.17.) rightly points out, referring to Sapir's (1911) and Sadock's (1980, 1986) discussion of noun incorporation in American languages and Greenlandic Eskimo, respectively. The crucial issue is that in these languages there is strong empirical evidence that noun incorporation takes place; however, the incorporated noun can be modified "from outside", i.e. by a constituent outside the word containing the incorporated noun. In Section 1.2.2 I briefly discussed the example in (22), repeated here as (i).

(i) Angisuu-mik qimmeq-arpoq.
big-INST dog-have.3SG
'He has a big dog.'

As a reminder: *-arpoq* 'have' is a verbalizing suffix attaching to noun stems. In this example it combines with *qimmeq* 'dog', that is, in the relevant sense, the noun incorporates into a verbal element, a bound morpheme. The adjective in instrumental case *angisuu-mik* 'big-INST', as a separate word, modifies the incorporated noun. Sadock (1980) analyzes this as an instance of syntactic word formation, i.e. noun incorporation in the syntax. By contrast, given that classical mainstream LFG subscribes to the Strong Lexicalist Hypothesis, Simpson (1991), in this framework, develops a lexical treatment. Its essence is that sublexical functional annotations are assigned to the two morphemes: the verbalizing suffix is a two-place predicate, receiving the functional head annotation, while *qimmeq* 'dog' is its oblique argument, receiving the customary OBL annotation. Furthermore, *angisuu-mik* 'big-INST' has a functional annotation to the effect that it is an adjunct of the oblique argument. Farrell's main point is that examples like (103) in Hungarian can be analyzed along the same "lexical incorporation" lines, and here, too, it is not a problem if the incorporated adjective (in translative case) is modified by an adverb "from outside". My response, briefly reiterating two of my major arguments in Laczkó (2000, 2003), is as follows. (a) My approach straightforwardly captures the "VM+V ~ VM+N" parallel, including the full complementarity of all types of VMs in the nominal domain. (b) It avoids the problem of having to assume that in the case of certain VM types fully referential maximal projections are lexically incorporated. (For the major types of referential XP VMs, see Section 3.2.1.) Let me now add that my "nonlexical-incorporation" approach is superior to the "lexical-incorporation" alternative from a formal-categorial point of view. Let us take another look at (103). On the "lexical-incorporation" account, the adjective is "buried" within a noun. If this adjective takes modification, the modifier must be an adverb. In this configuration, however, the adverb formally modifies a noun, and these two categories are incompatible under normal circumstances. Informally, we can describe this situation in the following way. The prenominal occurrence of the adverb is exceptionally licensed by the presence of an incorporated element within the noun. Or, to put it differently, the adverb can "look into" the noun and it can see that its "modifyee" is based within that word. I do not mean to claim that such a scenario is unacceptable. My main point is that my "nonlexical-incorporation" analysis does not need to be marked at all in this respect: the adverb modifies the adjectival head in an AP, and this AP occupies the customary prenominal "VM" position in my system. Finally, consider the following quote from Farrell. "I actually don't think that nominalization of incorporated elements with the V is as easy to dismiss as you suggest. Especially, since Hungarian distributions appear to parallel those found elsewhere and catalogued as early as Sapir's classic article. On the other hand, there seems little question that there are all sorts of VM V type constructions in Hungarian, and they range from those that challenge the boundary between syntactic and lexical and that, accordingly, it would be great to have a mechanism that can address them in their variety" Farrell Ackerman (2016.04.17.). Let me make two comments. (a) For my view of the pros and cons of the lexical incorporation approach, see the previous part of this footnote. (b) As regards the treatment of this variety of VMs, in Section 3.2. I aim at outlining such a mechanism in my LFG-XLE framework.

other logical possibility is to treat all these VMs and their verbal or nominalized companions as distinct syntactic atoms consistently. My approach does exactly this.

Now let us take a look at the details of my analysis of examples like (101). Of the two VM options in (102), it is the PRT version that is invoked. The preverb has the same lexical form as before in (92), repeated here as (105) for convenience.

(105) *ki* PRT
(↑PRT-FORM)= ki
(↑CHECK _PRT-VERB) =c +
{ (↑ FOCUS)
| (↑CHECK _VM) =c + }
((↑ DIR) = out).

From the lexical form of the simplex verb shown in (94) a lexical redundancy rule creates its event nominal counterpart by changing its syntactic category and replacing the (SUBJ) grammatical function of the first argument of the verb with the (POSS) function.

(106) *mászás* N
(↑PRED) = 'out < 'crawl < (↑POSS) NULL >' (↑OBL) >'
(↑CHECK _PRT-VERB) = +
(↑PRT-FORM)=c ki
(↑ DIR) =c out.

Note two fundamental differences related to the VM position in DPs as opposed to VPs. (i) This position cannot have the (↑ FOCUS) annotation in DPs. (ii) As a rule, a preverb (PRT) can only occupy this position in DPs: it cannot follow the noun head, nor can it target any other pre-head position.

3.1.5.2.3. Preverb reduplication

This is an absolutely productive process even in the case of noncompositional PVCs. Consider two of our previous examples, (73) and (74), this time with reduplicated preverbs. The PVC is compositional in (107) and noncompositional in (108).

(107)	*A*	*rák*	*ki-ki*	*mász-ott*	*a*	*folyó-ból.*
	the	crab.NOM	out-out	crawl-PAST.3SG	the	river-out.of
	'The crab crawled out of the river from time to time.'					

(108)	*Az*	*elnök*	*ki-ki*	*fej-ez-te*	*együttérzés-é-t.*
	the	president. NOM	out-out	head-Vsuf-PAST.3SG	sympathy-his-ACC
	'The president expressed his sympathy from time to time.'				

In Ackerman's (2003) terminology, preverb reduplication introduces the following aspectual feature: intermittently repeated action (IRA), see the translations of (107) and (108). Relying on Kiefer (1995/1996), he makes the following generalizations. Preverb reduplication brings about a synthetic morphological object. Their main test is negation, the observation being that the reduplicated preverb cannot occur postverbally when the verb is preceded by the negative particle, which is the way of negating ordinary PVCs.

My comment on Kiefer's and Ackerman's generalization to the effect that reduplicated preverbs make up a synthetic morphological unit is that it is false. The reason for this is that if this combination was really a complex morphological entity and a single syntactic atom then it should be inserted under a V^0 node and it should be negatable as an ordinary verb. This can only be stipulated in the context of their generalization. My claim is that the (empirically) correct generalization is that a reduplicated preverb is constrained to occupying the Spec,VP position. This single constraint captures the (negative) negation facts, which makes it more tenable than the "Kiefer-Ackerman" approach. I think it is a further (and related) problem that the reduplicated preverb can get "very far" from its base verb in the syntax. Consider the following example.

(109) *A* *rák* *ki-ki* *akar* *mász-ni* *a* *folyó-ból*.
the crab.NOM out-out wants crawl-INF the river-out.of
'The crab wants to crawl out of the river from time to time.'

Notice that in this sentence the reduplicated preverb occurs in the Spec position of a VP headed by a verb different from its own simplex verb within the PVC.

If the PV-PV–V complex is an ordinary synthetic V^0, as is assumed by Kiefer and Ackerman, then, in addition to the impossibility of the negative particle's preceding this V, it is also puzzling why no focused constituent can precede it, either, in the regular Spec,VP position. Consider (110).[132]

(110) **Csak* *a* *rák* *ki-ki* *mászott* *a* *folyó-ból*.
only the crab.NOM out-out crawled the river-out.of
'It was only the crab that crawled out of the river from time to time.'

This fact also follows from my alternative analyis: no focusing is possible because the designated position is occupied by the reduplicated preverb.

All this having been said, the following legitimate question arises. Why are reduplicated preverbs constrained to the Spec,VP position?[133] My tentative answer is that they are capable of enforcing their aspectual content in that position, but this issue requires further investigation.[134]

My analysis of PVCs with reduplicated preverbs is as follows. The lexical form of the simplex verb has to be modified minimally: in addition to the simple form of the preverb, it also has to admit the reduplicated version disjunctively: see (111) below and compare it with (94).

(111) *mászik* V
(↑PRED) = 'out < 'crawl < (↑SUBJ) NULL >' (↑OBL) >'
(↑CHECK _PRT-VERB) = +
(↑PRT-FORM)=c { ki | ki-ki }
(↑ DIR) =c out.

A lexical redundancy rule creates a lexical form for the reduplicated version of the preverb, and it brings about two changes with respect to the lexical form of the input preverb (in addition to the obvious FORM feature change). On the one hand, it eliminates the two-member disjunction by removing the (↑ FOCUS) disjunct,[135] and, on the other hand, it introduces a special aspectual feature which, following Ackerman (2003), I informally represent as IRA ("intermittently repeated action"). Compare the lexical form of the simple preverb in (105), repeated here as (112a) for convenience, with that of the reduplicated counterpart in (112b).

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[132] This example is a reliable test because Hungarian *csak* 'only' constituents obligatorily occupy the Spec,VP focus position.

[133] It is also to be noted that at least for some speakers the postverbal occurrence of a reduplicated preverb is also acceptable (György Rákosi, p. c., July 14, 2013); thus, in their grammar reduplicated PVCs provide even more spectacular evidence for their nonsynthetic nature.

[134] It is noteworthy in this context that É. Kiss (1992), in her GB framework, assumes that certain (phonetically null) aspectual operators occupy the Spec,VP position.

[135] In this way we can constrain the reduplicated preverb to a VM position and function.

(112) a. *ki* PRT
(↑PRT-FORM)= ki
(↑CHECK _PRT-VERB) =c +
{ (↑ FOCUS)
| (↑CHECK _VM) =c + }
((↑ DIR) = out).

b. *ki-ki*, PRT
(↑ PRT-FORM) = ki-ki
(↑ ASPECT) = IRA
(↑CHECK _PRT-VERB) =c +
(↑CHECK _VM) = +
((↑ DIR) = out).

Ackerman (2003) rejects Kiefer's (1995/1996) claim that reduplicated PVC cannot undergo category changing derivation. Ackerman is right. Consider the nominalized counterpart of (107).

(113) *a* *rák* *ki-ki* *mász-ás-a* *a* *folyó-ból*
the crab.NOM out-out crawl-DEV.his the river-out.of
'the crab's crawling out of the river from time to time'

My treatment of this nominalization is very simple. The lexical form of the reduplicated preverb is the same: (112b), and the relevant lexical redundancy rule nominalizes the modified lexical form of the simple verb given in (111).

3.1.5.3. Conclusion

In this section I have revisited crucial LFG theoretical and XLE implementational issues related to the treatment of spatial PVCs in Hungarian. I compared, in a detailed fashion, the lexical-realizational approach advocated by Ackerman (2003) and Ackerman et al. (2011), among others, with an LFG-XLE approach developed by Forst et al. (2010), Laczkó & Rákosi (2011) and Rákosi & Laczkó (2011). As regards the latter two papers, on the one hand, I added some important aspects to their analysis, and, on the other hand, I proposed a significant modification. I argued that compositional PVCs should also be treated lexically in a manner similar to the treatment of noncompositional PVCs, and I presented a possible way of carrying this out. I pointed out that one of the advantages of this uniform lexical treatment is that classical LFG's view of the distribution of labour between the lexical and the syntactic components of grammar can be maintained.[136] I also showed how various morphological processes (often consecutively) involving PVCs can be handled (e.g. causativization, nominalization, and preverb reduplication). And a final remark: it is a favourable aspect of our LFG-XLE approach that its apparatus makes it possible to adhere to the classical notions of a morphological word and a syntactic atom to a great extent.

3.2. A general approach to verbal modifiers

In this section, first I present the major VM types (3.2.1). Then I develop my analysis of these VMs (3.2.2).

[136] Consider the following footnote from Laczkó (2013), on which this section is based. »In this connection, Reviewer 1 writes: "the paper […] tries to adhere to the Strong Lexicalist Hypothesis despite the fact that it has been shown (not necessarily for Hungarian PVCs of type (A), but for other phenomena in other languages) that this hypothesis does not hold 100% while happily sacrificing the productivity of compositional PVCs." My answer is this. I myself think that a linguistic phenomenon may call for a syntactic analysis in violation of the SLH (in Laczkó & Rákosi 2011, we argued for such a solution). However, in the present paper, on the basis of further investigation, my claim is that additional crucial facts more strongly support a lexical treatment. Moreover, I do not "sacrifice" productivity: I simply capture it in the lexical component of grammar. So in this case the SLH is not the motivation or aim driving my (re)analysis; instead, it is just a welcome consequence, making this account one degree less marked, given the general assumptions of LFG« (Laczkó 2013: 395-396).

3.2.1. Major VM types

Below I exemplify the most important types of VMs, which I analyze in this section,[137] and I also point out their relationship to focusing. Consider the examples in (114)-(121).

(114) ***verbal particle (= coverb/preverb)***

Ma *Péter* *fel* ***hívta*** *János-t.*
today Peter.NOM up called John-ACC
'Today Peter called up John.'

(115) ***focused constituent***

Ma *Péter* *JÁNOS-T* ***hívta*** *fel.*
today Peter.NOM John-ACC called up
'Today Peter called up JOHN (and not Joe, for instance).'

(116) ***unfocused bare/reduced (object) argument***

Ma *Péter* *újság-ot*[138] ***olvasott.***
today Peter.NOM newspaper-ACC read.PAST
'Today Peter read a newspaper / newspapers
(= did newspaper-reading).'

(117) ***focused bare/reduced (object) argument***

Ma *Péter* *ÚJSÁG-OT* ***olvasott.***
today Peter.NOM newspaper-ACC read.PAST
'Today Peter read A NEWSPAPER / NEWSPAPERS (= did NEWSPAPER-reading, as opposed to book-reading, for example.)'

(118) ***unfocused designated (oblique) XP argument***

Ma *Péter* *a városunk-ba* ***érkezett.***
today Peter.NOM the city.our-into arrived
'Today Peter arrived in our city.'

(119) ***focused designated (oblique) XP argument***

Ma *Péter* *A VÁROSUNK-BA* ***érkezett.***
today Peter.NOM the city.our-into arrived
'Today Peter arrived IN OUR CITY (and not in Pécs, for instance).'

(120) ***unfocused small clause XCOMP argument***

Ma *Péter* *piros-ra* ***festette*** *a kapu-t.*
today Peter.NOM red-onto painted the gate-ACC
'Today Peter painted the gate red.'

(121) ***idiom chunk*** (*pali* 'paul' = dupe)

Ma *Péter* *pali-ra* ***vette*** *János-t.*
today Peter.NOM paul-onto took John-ACC
'Today Peter made a dupe of John.'

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[137] For a comprehensive overview with empirical generalizations, see Komlósy (1985).
[138] The plural form of this bare noun would also be acceptable with this verb.

A) The verbs in these examples are in bold, and the vertical lines help to identify the constituents immediately preceding the verb (and also the constituents following the verb).
B) (114) and (115) demonstrate the most famous preverbal complementarity in Hungarian: the particle of particle verb constructions (PVCs) and a focused constituent are in complementary distribution. Practically, any argument or adjunct can be focused.
C) Various groups of verbs require one of their designated arguments to precede them in a reduced ("bare") form in neutral sentences. These bare nouns are typically singular in form, and they are underspecified (or, rather, unspecified) for number. In (116), the verb *olvas* 'read' takes a bare object argument as its VM. Certain other verbs take their bare subject, and yet others take their bare oblique argument as their VM.[139]
D) There are also a great number of verbs like *érkezik* 'arrive' in (118) that require a clearly fully-fledged XP as their oblique VM.[140] As I repeatedly emphasize at various points in this dissertation, this fact questions all analyses of any theoretical persuasions which assume that VM + verb combinations are uniformly complex predicates with a lexical unit status. In an important sense, particle VMs in particle verb constructions and fully-projected oblique XP VMs represent the two extreme points on a scale of various types of VMs.
E) (120) exemplifies a small clause XCOMP VM.
F) As (121) demonstrates, the predicate of an idiomatic expression can also require its idiom chunk to function as a VM.
G) As point B) states, practically any constituent can be focused, in which case it prevents a VM from occurring preverbally. It is important to note, however, that preverbal VMs themselves can receive focus stress and interpretation. Two such cases are exemplified in (117) and (119). In the former, a bare object noun VM is focused, and in the latter an oblique XP VM is the focused constituent. As the extended translations show, ordinary focusing, as in (115), and VM focusing, as in (117) and (119), can express what is generally called identificational focus (i.e., exhaustive identification with exclusion). However, a VM can only function as an identificational focus if it is meaningful enough, for obvious reasons: if it is not meaningful, nothing can be identified (and other entities or properties excluded). For instance, the particle in (114) is used in a noncompositional particle verb construction; therefore, it cannot function as an identificational focus. However, it can receive the usual focus stress. Compare (114) and (122). As the English translation shows, here we are dealing with a different kind of focus, standardly called

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[139] Consider the following examples.

(i) *Víz* **ment** *a* *szemembe.*
water.NOM went the eye.1SG.into
'Water got into my eyes.'

(ii) *János* *moziba* **ment**.
John.NOM cinema.into went
'John went to the cinema.'

In Section 3.2.2, I will point out that all verbs requiring a bare noun VM can be treated in a uniform manner, the only difference being that they specify different grammatical functions for their VM.

[140] Verbs with different argument structures can belong here. In (118) there is an intransitive verb, while in (i) below there is a transitive one, and both require an oblique XP VM.

(i) *János* *az* *asztalra* **tette** *az* *üveget.*
John.NOM the table.onto put the bottle.ACC
'John put the bottle on the table.'

verum focus (or *VP focus*): the truth value of the entire statement is emphatically verified. The very same holds for the focused counterpart of (121), see (123).

(122)	*Ma*	*Péter*	*FEL*	***hívta***	*János-t.*
	today	Peter.NOM	up	called	John-ACC
	'Today Peter DID call up John.'				

(123)	*Ma*	*Péter*	*PALI-RA*	***vette***	*János-t.*
	today	Peter.NOM	paul-onto	took	John-ACC
	'Today Peter DID make a dupe of John.'				

H) It is to be noted that if a sentence does not contain either a VM or a focused constituent, the verb itself can receive focus stress. In this case, an ambiguity may arise: (i) the meaning of the verb can be interpreted as being "identificationally focused" or (ii) the sentence expresses verum focus. Consider (124). This potential ambiguity extends to all other cases of identificationally focused VMs.

(124)	*Péter*	*IMÁDJA*	*János-t.*
	Peter.NOM	adores	John-ACC
	(i) 'Peter ADORES John (does not only like him)'.		
	(ii) 'Peter DOES adore John.'		

3.2.2. Towards a comprehensive LFG analysis of VMs

The presentation of my account below follows the order in which these VM types were introduced and exemplified in Section 3.2.1.

3.2.2.1. Particles

As I discussed in a detailed fashion in Section 3.1.4.2, in Laczkó & Rákosi (2011) we analyze certain types of Hungarian spatial particle verb constructions (PVCs). Capitalizing on Laczkó (2013), in Section 3.1.5 I revisited this account and proposed a modified analysis. For the sake of making the presentation of my approach to the major types of VMs in Hungarian really comprehensive and easy to follow, below I reiterate the most important ingredients and aspects of the analyses in Laczkó & Rákosi (2011) and in Laczkó (2013).[141]

The two crucial examples in both papers were (125) and (126).

Consider the examples we use in that paper, which I cited in (73 and (74) in Section 3.1.4.2, and which I repeat here as (125) and (126), respectively, for convenience.

(125)	*A*	*rák*	*ki*	*mász-ott*	*a*	*folyó-ból.*
	the	crab.NOM	out	crawl-PAST.3SG	the	river-out.of
	'The crab crawled out of the river.'					

(126)	*Az*	*elnök*	*ki*	*fej-ez-te*	*együttérzés-é-t.*
	the	president. NOM	out	head-Vsuf-PAST.3SG	sympathy-his-ACC
	'The president expressed his sympathy.'				

[141] For further details and discussion, see Sections 3.1.4.2 and 3.1.5.

The sentence in (125) illustrates the compositional use of the preverb *ki* ‘out’, while (126) shows a truly noncompositional use (given that the simplex verb form *fejezte* does not even exist on its own). In the vein of Forst et al.’s (2010) proposal for the LFG analysis of particle verb constructions in English, German and Hungarian and its XLE implementation, in Laczkó & Rákosi (2011) we develop an analysis and its implementation along the following lines. We assume that preverbs are nonprojecting words in the sense of Toivonen (2001), and their syntactic category is PRT.[142] We analyze noncompositional PVCs lexically and compositional PVCs syntactically. In the latter case, we make use of XLE’s restriction operator in our functional annotations in c-structure. As a result: syntactic argument structure composition (i.e. syntactic complex predicate formation) is assumed and implemented. One of the main motivations for this approach is that XLE can handle compositional, productive (and also novel) PVCs without having recourse to specific and individual lexical form representations. An obvious drawback is that LFG’s subscription to the derivational dimension of the Strong Lexicalist Hypothesis is thereby violated.

In Laczkó (2013) and in Section 3.1.5 in this chapter, I revisit this PVC analysis, and on the basis of evidence from (morphological) causativization, nominalization and particle reduplication I argue for a uniform lexicalist treatment of both noncompositional and compositional PVCs.

I propose the following lexical form for the preverb.

(127) *ki* PRT
(↑PRT-FORM)= ki
(↑CHECK _PRT-VERB) =c +
{ (↑ FOCUS)
| ~(↑ FOCUS)
(↑CHECK _VM) =c + }
((↑DIR) = out).

It is a “shared” lexical form for its use in both noncompositional and compositional PVCs. Its crucial property is that even in the compositional use it has no PRED feature,[143] it only has a PRT-FORM feature, just like in the noncompositional use. The other uniform trait of the preverb in both uses is that it is constrained to a PVC configuration, see the _PRT-VERB CHECK feature in the second line. The disjunction between the focus annotation and the _VM CHECK feature in the third and fourth lines encodes that in neutral (i.e. nonfocused) sentences the particle has to occupy the customary preverbal VM position. It is the optional (↑DIR)=out equation that differentiates between the compositional and noncompositional uses of the preverb in this approach. The idea is that in the compositional use, it carries this spatial-directional feature,[144] and it explicitly contributes this feature to the entire PVC, and in the noncompositional use it does not.

In the spirit of my analysis in Laczkó (2013), but in a simplified, less XLE-specific way, for the purposes of this exposition I assume the lexical forms in (128) and (129) for the two relevant simplex verbs. Notice that in this approach we do not need a special set of functional annotations in c-structure for encoding restriction (complex predicate formation) in the syntax

142 In using this PRT category, we also follow the practice of the English and German implementational grammars.

143 In our analysis in Laczkó & Rákosi (2011), in the compositional use the particle is treated as the main predicate, and it takes the verb as one of its semantic arguments (without any grammatical function): complex predicate formation takes place in the syntax.

144 Note that on this lexical account the preverb itself cannot have a PRED feature, because in the syntax there is no restriction operator: both the preverb and the verb have the functional head annotation, i.e. they are functional co-heads. In this respect, they are treated in the same way as noncompositional PVCs, and only one of them can have a PRED feature (which is a general LFG constraint on functional co-heads).

in the case of compositional PVCs. Instead, in both PVC types, both the verb and the particle get the usual and uniform functional (co-)head annotation.

(128) *fejez* V
(↑PRED) = 'express < (↑SUBJ) (↑OBJ) >'
(↑CHECK _PRT-VERB) = +
(↑PRT-FORM) =c ki
~(↑DIR).

(129) *mászik* V
(↑PRED) = 'crawl-out < (↑SUBJ) (↑OBL) >'
(↑CHECK _PRT-VERB) = +
(↑PRT-FORM)=c ki
(↑DIR) =c out.

3.2.2.2. Reduced arguments

Consider (116), repeated here as (130) for convenience.

(130)	*Ma*	*Péter*	*újság-ot*	***olvasott.***
	today	Peter.NOM	newspaper-ACC	read.PAST
	'Today Peter read a newspaper / newspapers (= did newspaper-reading).'			

Recall from Section 3.2.1 that (i) certain verbs (e.g. *olvas* 'read' in (130)) also permit the plural form of the bare noun and (ii) a verb may select other (subject or oblique) arguments to be expressed as a bare noun VM than the object argument, as in (130).

The analysis runs as follows. A verb like *olvas* 'read' optionally allows (or, rather, requires) its object to be expressed by a bare noun in neutral sentences. This has to be encoded in the lexical form of such a predicate by means of a set of optional annotations, as in (131).

(131) *olvas*, V (↑PRED)= 'read <(↑SUBJ) (↑OBJ)>'
((↑OBJ NUMBER)= SG
~(↑OBJ INDEX)
{ (↑FOCUS)
| (↑OBJ CHECK _VM)= + }).

This set of optional annotations encodes the following. The predicate allows for a "reduced" (= bare nominal) object argument. The morphological form of its object is singular obligatorily: (↑OBJ NUMBER)= SG and it is unspecified for "semantic" number; and, therefore, it is nonreferential (see the English translation of (130)). This is captured by the following (negative) existential constraint: ~(↑OBJ INDEX). This reduced argument must occur in the Spec,VP position: (↑OBJ CHECK _VM)= +, unless the sentence contains a focused constituent, which can be any phrase (including the reduced argument itself). The reason why the (additional alternative) lexical specification is needed is twofold. (A) It is only (a definable) set of verbs that can have this option. (B) The reduced argument can occur anywhere in a nonneutral sentence, so its special form and interpretation cannot be appropriately captured solely by c-structural (positional and annotational) means.[145] These two crucial observations hold for the analysis of all the other VM types to be presented below.

3.2.2.3. Oblique arguments

Consider (118), repeated here as (132), and the simplified lexical form of the verb *érkezik* 'arrive' in (133).

(132)

Ma	*Péter*	*a városunk-ba*	***érkezett.***
today	Peter.NOM	the city.our-into	arrived

'Today Peter arrived in our city.'

(133) *érkezik*, V (↑PRED)= 'arrive <(↑SUBJ) (↑OBL)>'
{ (↑FOCUS)
| ~(↑FOCUS)
(↑OBL CHECK _VM)= + }.

The analysis of this VM type is similar to that of the reduced argument VM type with the following differences. (i) In this case, the VM requirement is obligatory in neutral sentences. (ii) Following from (i), there are no (additional) constraints on the designated oblique argument (because in neutral sentences it must occupy the preverbal VM position). As I mentioned in Section 3.2.1, this type seriously questions any analysis of VMs assuming that a VM and the verb make up a lexical unit (along some vaguely defined complex predicate and/or incorporation lines). In Section 3.2.1, I also pointed out that a verb taking this VM type can be either intransitive (as in (132)) or transitive, see example (i) in Footnote 140 repeated here as (134), and the lexical form of the verb *tesz* 'put' in (135).

(134)

János	*az*	*asztal-ra*	***tette***	*az*	*üveg-et.*
John.NOM	the	table-onto	put	the	bottle-ACC

'John put the bottle on the table.'

(135) *tesz*, V (↑PRED)= 'put <(↑SUBJ) (↑OBJ) (↑OBL) >'
{ (↑FOCUS)
| ~(↑FOCUS)
(↑OBL CHECK _VM)= + }.

3.2.2.4. Small clause XCOMPs

Consider (120), repeated here as (136).

(136)

Ma	*Péter*	*piros-ra*	***festette***	*a*	*kapu-t.*
today	Peter.NOM	red-onto	painted	the	gate-ACC

'Today Peter painted the gate red.'

In this example, the verb requires a (case-marked AP) XCOMP to have the VM status in neutral sentences. Its lexical form is the same in nature as that of *tesz* 'put' in the previous type (except for the OBL vs. XCOMP GF contrast). Compare (135) and (137).

[145] If a verb also admits bare plural nouns then the following alternative pair of annotations can be applied: (↑OBJ NUMBER)= PL, (↑OBJ SPECIFIC)= –. This ensures that these plural nouns are interpreted nonspecifically.

(137) *fest,* V (↑PRED)= 'paint <(↑SUBJ) (↑OBJ) (↑XCOMP) >'
(↑OBJ)= (↑XCOMP SUBJ)
{ (↑FOCUS)
| ~(↑FOCUS)
(↑XCOMP CHECK _VM)= + }.

3.2.2.5. Idiom chunks

Consider (121), repeated here as (138) and the lexical form of the verb *vesz* 'take' as used in this idiomatic expression in (139).

(138)	*Ma*	*Péter*	*pali-ra*	***vette***	*János-t.*
	today	Peter.NOM	paul-onto	took	John-ACC
	'Today Peter made a dupe of John.'				

(139) *vesz,* V (↑PRED)= 'take <(↑SUBJ) (↑OBJ) > (↑OBL)'
(↑OBL FORM)= PALIRA
{ (↑FOCUS)
| ~(↑FOCUS)
(↑XCOMP CHECK _VM)= + }.

Note that the oblique VM type transitive predicate *tesz* 'put' in (139) and the oblique idiom chunk VM type transitive predicate *vesz* 'take' follow the same pattern, except that in the case of the former the oblique VM is a semantic argument, whereas in the case of the latter it is just a formal (nonsemantic) oblique constituent.[146]

3.3. Conclusion

3.3.1. General remarks

1) In this section, I have presented the crucial aspects of an LFG (and XLE-implementable) analysis of the major types of Hungarian verbal modifiers.
2) In accordance with the general approach outlined in Chapter 2, I assume that focused constituents, verbal modifiers and the (verb-adjacent) question phrase are in complementary distribution in Spec,VP. Following from the main topic of this chapter and for simplicity of exposition, here I only formally modelled the complementarity (and interaction) of VMs and focusing.
3) I have shown that VMs can also be focused, and, depending on their nature, they can be used to express two types of focus: identificational focus and verum focus.
4) I distinguish two major types of VMs: particles (= preverbs) belong to the first type, and the rest of VMs to the other type. On the basis of the analysis I proposed in Section 3.1.5, I treat both compositional and noncompositional PVCs lexically, with both the verb and

[146] Note that idioms like this seem to make it necessary to assume that occasionally even the "semantically restricted" OBL function can be assigned to a nonsemantic constituent. The relevant classic LFG generalization is that only the SUBJ and OBJ grammatical functions are specified as [–r], i.e. semantically unrestricted, and only they can be assigned to nonsemantic constituents. I will address this issue in future work. At this point, it appears to me that an easy way out would be to assume that OBLs are semantically restricted when they are assigned to constituents with a PRED features (i.e. semantic constituents), but they can also be assigned to constituents with only a FORM features. I leave it to future research to explore the ramifications of this assumption in LFG.

particle having their respective lexical forms with appropriate functional annotations and cross-referencing (including the use of CHECK features). The particle and the verb are analyzed as functional coheads in both PVC types. All the other VMs, with their own grammatical functions, are lexically selected by their verbs in these verbs' lexical forms. Depending on the nature of the VM involved, the verb can impose various constraints on it.

5) I argue against assuming that all VM + verb pairs are lexical units or combinations, and when the VM immediately precedes the verb, (obligatory) syntactic incorporation takes place in some (theory-dependent) form. Three comments are in order here.
   a. Some VM + verb pair types must really be treated as lexical combinations, because they have a shared meaning and argument structure. In my approach, PVCs (of both major types) and idioms belong here. However, even in these cases "lexical combination" means separate, appropriately annotated and cross-referenced lexical items which occupy distinct syntactic positions even when the VM immediately precedes the verb. This means that I reject the idea of syntactic incorporation in these instances as well.
   b. In the case of all the other VMs, the relationship between the VM and its verb is fundamentally syntactic, except that *(i)* the verb requires its designated VM argument to occupy the Spec,VP position in neutral sentences and *(ii)* the verb may, in general, specify the features the VM needs to exhibit, see 4) above. Notice, however, that *(i)* already calls for a lexical encoding, in the verb's lexical form, of this VM requirement, because the VM—verb syntactic dependency is very often verb-specific (although there are also certain verb types, with particular semantics and/or argument structure, that typically behave similarly in this respect).
   c. The LFG-style encoding of the VM—verb relationship in the verb's lexical form makes it possible to capture the appropriate co-occurrence of the two elements (and the required properties of the VM) in both neutral and focused sentences without employing any syntactic movement operation.
6) Question phrases apart, VMs and focused constituents aspire to the Spec,VP position. The widely assumed, basic generalization is that in the nonneutral vs. neutral sentence binary distinction, focused constituents occupy this designated position in the former setup and VMs occupy it in the latter. In the case of neutral sentences, the extremely strong tendency is that if the verb is combined with a particle then the particle has the VM status. There are, however, some exceptions. Consider the examples in (140) and (141).

(140)	*A*	*város*	*a*	*folyó*	*két*	*partján*	***terül***	*el.*
	the	city.NOM	the	river.NOM	two	bank.POSS.3SG.on	spreads	VM

'The city lies on both banks of the river.'

(141)	*A*	*férfi*	*gyógyszert*	***vett***	*be.*
	the	man.NOM	medicine.ACC	took	VM

'The man took medication.'

In both these examples, there is a PVC; however, it requires an argument (and not the particle) to occupy the Spec,VP position in neutral sentences. In (140), the VM is a designated oblique XP argument, and in (141), it is a bare noun object. Such examples underline a favourable aspect of the lexical treatment of VMs along the lines proposed in this chapter: the special behaviour of predicates is best captured by lexical means.

7) In future work, I plan to explore, in a detailed fashion, what motivates (or triggers) the occurrence of a constituent in the immediately preverbal position from the perspective of

focusing. My initial hypothesis is as follows (naturally, it is based on several crucial aspects of a variety of approaches).

a. Obviously, the "common denominator" is that the preverbal constituent and the verb make up a phonological word (unit) with the verb losing its ordinary word-initial stress completely or to a considerable extent.[147]
b. This syntactic adjacency and phonological pattern of the two elements can serve two distinct purposes. On the one hand, the preverbal constituent receives a remarkable degree of prosodic salience, which enables it to encode a designated type of discourse salience (= focusing, for details, see point c) below). On the other hand, when the verb definitely makes up a lexical unit with a syntactically separable element (an obviously marked but not at all uncommon option across languages) as in the case of PVCs and idioms, this lexical unity can be naturally encoded by this configuration in neutral sentences. Given that there is always only one finite verb in a clause, and, therefore, only one prosodically salient position, the two purposes cannot be simultaneously satisfied under normal circumstances. This is the cause of the famous preverbal complementarity.[148] Naturally, discourse salience enjoys priority.
c. Capitalizing on Kálmán's (2001) important empirical generalizations, and by developing them further, my basic idea is that four types of focus should be distinguished in Spec,VP: (i) ordinary focus ("everybody's focus"): exhaustive/exclusive identification (ii) Kálmán's (2001) hocus: identification (iii) presentational focus (iv) verum focus. The differences between them are as follows. (i) cannot be used in an out-of-the-blue sentence: it has to be used as an answer to a constituent question or as a corrective sentence. (ii) can be used in an out-of-the-blue sentence, but certain "shared knowledge" or a shared presupposition is necessary for identification to be possible. (iii) can be used in an out-of-the-blue sentence, and it does not require any "shared knowledge" or any shared presupposition. (iv) emphatically verifies the truth value of a statement.
d. I claim that a generalization assuming that the motivation for the occurrence of a constituent in Spec,VP is complex predicate formation in general (which is often rather vaguely defined) is untenable. And a partially related issue: I also claim that a general (uniform) syntactic incorporation analysis in the case of VMs is not feasible either. Of course, there are VM types in which the VM and the verb clearly make up a lexical unit (a complex predicate in this sense), see PVCs and idioms, for instance; however, even in these cases the VM should not be analyzed as incorporated into the verb in the syntax.
e. The generalization I intend to explore is that the "common denominator" of the behaviour of all VMs is that they are lexically specified. At one end of the scale we have PVCs and idioms (lexical but not syntactic complex predicates), and at the other end we find verbs that require one of their designated XP arguments to occupy the preverbal position in neutral sentences, for instance *érkezik* 'arrive'. In this case, only this requirement is encoded in the verb's lexical form. It stands to reason to assume that

[147] It is an issue belonging to a subordinate dimension whether the intonation of the rest of the sentence after the verb follows the focus (i.e. nonneutral), "eradicating" stress pattern, with all the phrases losing their customary stress entirely or to a large extent or it follows the neutral stress pattern.

[148] And, I think, it is for this reason that approaches postulating a single designated syntactic position (in combination with the what-you-see-is what-you-get principle) can be considered more feasible intuitively.

such verbs create a special "presentational focus" configuration for their designated argument in a neutral sentence.[149]

3.3.2. Implementational issues

I discussed the implementational dimension of the treatment of PVCs, the central, most extensively and most intensively investigated type of VMs in Hungarian, in a detailed fashion is Sections 3.1.4 and 3.1.5. The challenge is to capture the mixed lexical and syntactic properties of PVCs in a formally and implementationally satisfactory manner. On the basis of these two sections, the following general remarks can be made.

- The essence of Forst et al.'s (2010) (programmatic) proposal for XLE grammars for English, German, and Hungarian is as follows.
    - Noncompositional and nonproductive PVCs should be treated lexically, as in the current ParGram grammars of English and German (the central XLE device being concatenation), as in existing English and German XLE grammars.
    - Compositional and productive PVCs, by contrast (and contrary to the existing English and German XLE grammars), should be treated syntactically (the crucial XLE device being restriction, making complex predicate formation in the syntax possible).
- In Laczkó & Rákosi (2011) and Rákosi and Laczkó (2011), we adopt this mixed (lexical and syntactic) approach in our analysis of the four major PVC types in Hungarian in our HunGram.
- Capitalizing on Laczkó (2013), in Section 3.1.5 I develop a modified approach to these Hungarian PVCs, which treats even compositional and productive PVCs in Hungarian lexically. The crucial (shared) device for handling both productive and nonproductive PVCs in Hungarian is concatenation (and there is no syntactic complex predicate formation via restriction).
- As should be obvious from Section 3.1.5.2, the HunGram implementation of the analysis I propose for all the other major VM types in Hungarian is straightforward and unproblematic.

[149] In an important sense, the properties of this VM type yield an additional motivation for assuming that focused constituents and VMs occupy the very same syntactic position in complementary distribution: an ordinary VM (in a neutral sentence) exhibits presentational focus behaviour, a borderline case between the two domains.

Chapter 4. Operators

In Chapter 2, I developed the essential aspects of a comprehensive LFG analysis of the preverbal portion of Hungarian finite clauses (designed to be XLE-implementable), and I also discussed what certain aspects of my approach can contribute to augmenting the parametric space potentially available to c-structure–function associations in LFG. I proposed a general formal apparatus for treating constituents in the topic field, in the quantifier zone and in the specifier position of the VP. It is one of my central assumptions that focused constituents, verbal modifiers (VMs) and question phrases are in complementary distribution in Spec,VP. The major goals of this section are as follows:

- classification and a programmatic LFG-XLE treatment of focused constituents in Spec,VP;
- arguing that Spec,VP is always occupied by a single constituent (even in the case of multiple constituent questions);
- addressing the fundamental question of why exactly the well-known constituent types compete for the designated preverbal position;
- arguing for the following articulation of Hungarian sentences: TOPIC – PREDICATION (= OPERATOR FIELD + PREDICATE (=VP));
- showing that this articulation provides an appropriate general setting, in an LFG framework, for the treatment of regular and special combinations of operators (focused constituents, questions phrases, (universal) quantifiers, and negation)[1] in the preverbal zone.

In this chapter, I will base my discussion on a detailed critical overview of Mycock (2010) for the following reasons. (A) This work reports the results of very important experimental research (based on elicited spoken data) exploring the syntax-prosody interface with respect to encoding prominence in Hungarian (such experimental investigations are relatively rare in this domain).[2] (B) It offers an assessment of alternative approaches. (C) It covers a wide range of phenomena, and posits its account in an LFG framework. (D) Although I basically agree with the general lines of Mycock's approach, I disagree with her analysis of certain construction types. I will point out that in these cases her views are shared by several other researchers, so when I discuss these details I will have a chance to argue in a generalized fashion against similar proposals in the relevant literature.

4.1. Mycock's (2010) assessment of Szendrői (2003), É. Kiss (2002) and Hunyadi (2002)

Mycock (2010) discusses the following three salient types of approaching the correspondence between syntactic focus (= syntactically encoded prominence) and prosodic prominence, and she tests them against her experimental results.

(A) Szendrői's (2003) Stress-Focus Correspondence Principle: *The focus of a clause is a(ny) constituent containing the main stress of the intonational phrase, as determined by the stress rule* (2003: 47). The essence of this proposal (couched in a Minimalist framework) is that the Stress-Focus Correspondence Principle is satisfied by moving a constituent to Spec,FP, that is, this is an instance of stress driven movement. Mycock points out that an empirically testable prediction of this approach is that a constituent in Spec,FP, a syntactic

[1] Following É. Kiss' (1992) terminology, among others, I consider universal quantifiers, wh-words and negative particles inherent operators and focused constituents noninherent operators. All of them are scope-taking elements.

[2] For the findings of important subsequent empirical research, see Mády (2012), Gyuris & Mády (2013, 2014), and Mády et al. (2013). Several of these works refer to Mycock (2010), and they (experimentally) reinforce her results.

focus position, must bear main stress. Any data not conforming to this prediction will seriously weaken the hypothesis. Mycock refers to É. Kiss (2009b) and Hunyadi (2002), who claim that this is the case: when a universal quantifier precedes a focused constituent, the former receives main stress. Mycock adds that this claim is also empirically supported by her findings. Consider her pitchtrack in Figure 1.

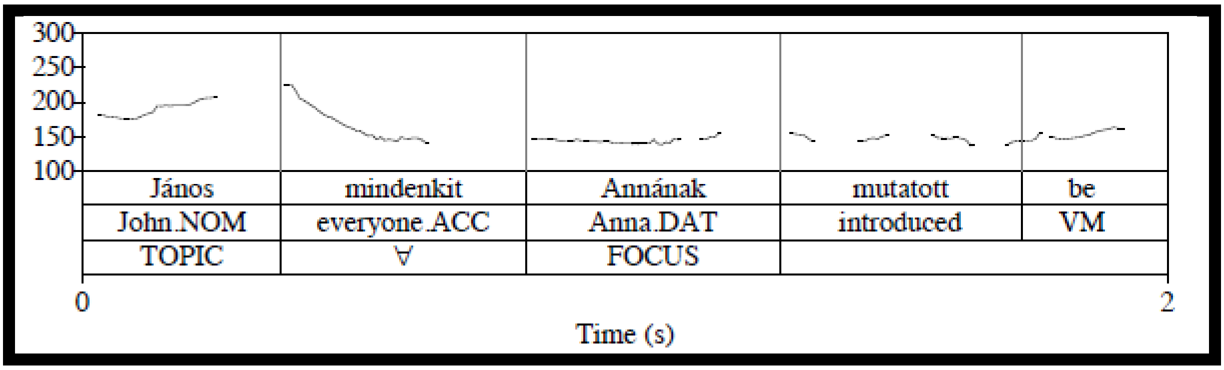


Figure 1. Pitchtrack of (26) *János mindenkit Annának mutatott be.*

I fully agree with this criticism, and I also think that the construction type presented in Figure 1 seriously undermines the feasibility of Szendrői's hypothesis as a general account of focusing in Hungarian.

(B) É. Kiss' (2002) Stress-Predicate Edge Alignment: *The first obligatory stress, which also represents the heaviest grammatical stress in the sentence, falls on the first major constituent of the predicate. (In Hungarian, phrasal stress – similar to word stress – falls on the left edge* (2002: 11)). This hypothesis makes a prediction different from Szendrői's: the first constituent in the predicate will receive main stress, whether it is a focused constituent or not. Mycock points out that this is another testable claim: if a universal quantifier precedes a focused constituent, it is predicted that the former will bear main stress. Thus, it correctly captures the fact attested by Figure 1. However, Mycock claims that "a challenge is presented by those interrogative sentences in which there is more than one question phrase […], and by a declarative in which a distributive quantifier precedes negation" (2010: 285). She supports this claim by the pitchtracks shown in Figures 2 and 3.

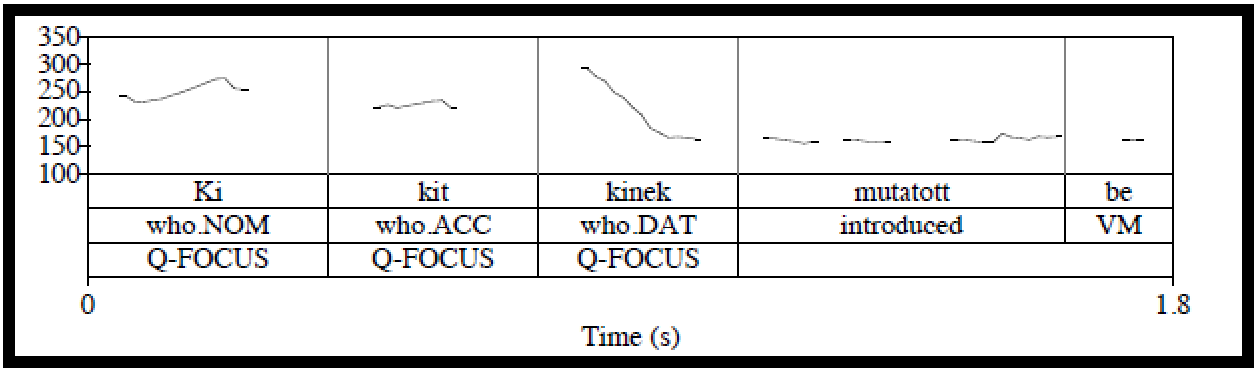


Figure 2. Pitchtrack of (35) *Ki kit kinek mutatott be?*

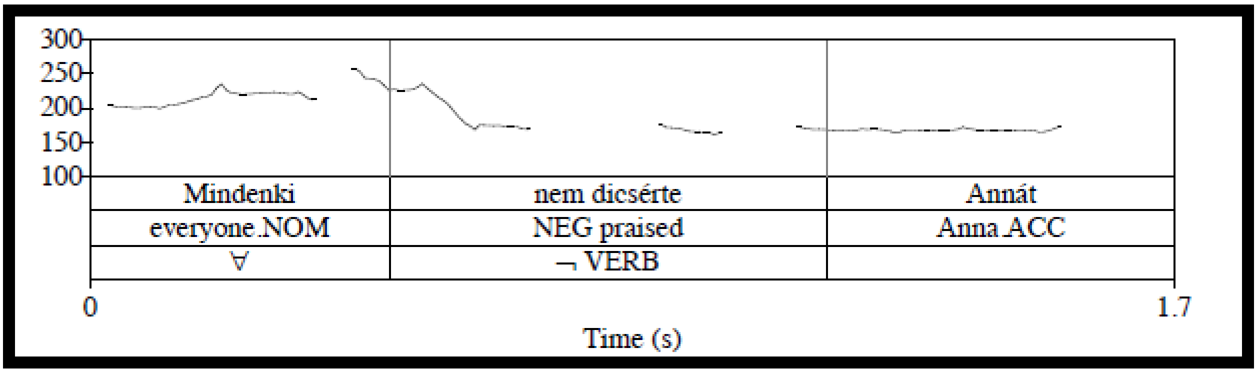


Figure 3. Pitchtrack of (29) ***Mindenki nem dicsérte Annát.***

In connection with multiple questions there is a very important footnote in Mycock (2010):

> In É. Kiss (1987: 59) it is claimed that all question words in a multiple CQ[3] are assigned the highest level of stress. As the highest level stress is indicated by a H+L pitch accent, the data presented in this article do not support this claim; see (33)-(36). Furthermore, these data do not support a distributive quantifier analysis of those question words which do not appear in immediately preverbal position in Hungarian multiple CQs (see e.g. Lipták 2001; É. Kiss 2002). If such question words were universal quantifiers and the immediately preverbal question word were the focus, one would predict that the preverbal sequences universal quantifier—focus and question word—question word in two different sentences would exhibit the same basic pattern of intonation. However, comparison of (25) and (33) shows that this is not the case: the universal quantifier bears the H+L accent in the former, but the immediately preverbal question word bears H+L in the multiple CQ [Footnote 13, 2010: 268].

I show Mycock's pitchtracks of (25) and (33) in Figures 4 and 5, respectively.

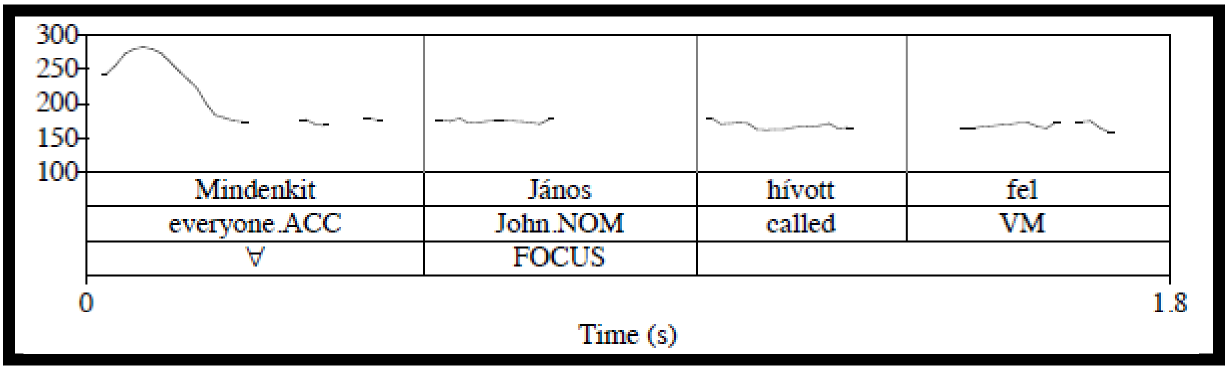


Figure 4. Pitchtrack of (25) ***Mindenkit János hívott fel.***

[3] CQ = constituent question.

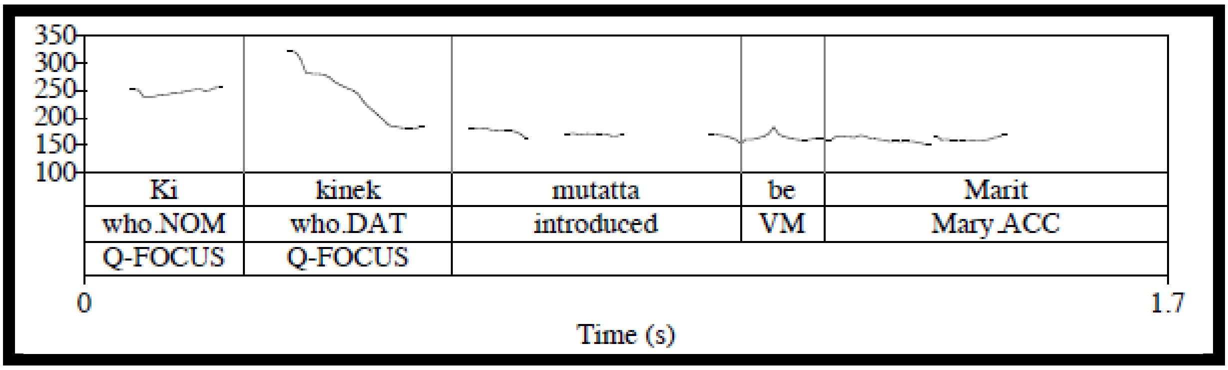


Figure 5. Pitchtrack of (33) *Ki kinek mutatta be Marit?*

On the basis of the foregoing considerations, Mycock concludes that É. Kiss' Stress-Predicate Edge Alignment approach also has serious shortcomings.

Let me make the following comments on Mycock's observations and criticism.

1. When I am discussing her analysis in Section 4.2, I will point out that the prosodic behaviour of multiple questions is more complex than is shown in Figure 2. Mycock's own elicited data manifest variation among speakers with respect to which question word receives the H+L accent. Although it is true that the default pattern is the one presented in Figures 2 and 5, i.e. the main stress falls on the immediately preverbal question word, there are also attested cases in which the first question word bears main stress.[4] This fact by itself weakens the force of the criticism considerably.

2. When I am developing my alternative analysis in Section 4.3, I will point out that the above-mentioned attested prosodic variation in multiple questions lends strong support to my proposed distinction between predication and predicate in Hungarian sentence articulation, the former being the post-topic portion of the sentence, beginning with the leftmost VP adjoined constituent, and the second being the VP, both understood in the structural context of É. Kiss' (1992) classical analysis. If this approach proves tenable, it can contribute to maintaining É. Kiss' (2002) alignment rule modified in a principled fashion: Stress–Predicate Edge Alignment → Stress–Predication/Predicate Edge Alignment. For details, see Section 4.3.

3. Mycock's second objection to É. Kiss' (2002) approach based on the construction type presented in Figure 3 is not valid. She seems to be under the impression that the universal quantifier is in the operator zone (i.e. in the predicate) and it is "destressed" in this position to prosodically satisfy the scope encoding requirements: it is interpreted as being in the scope of the negative particle. However, the universal quantifier in example (29) in Figure 3 is definitely not in the predicate portion of the sentence. It is a contrastive topic. This is supported by its contrastive topic prosody,[5] on the one hand, and by the fact that topics or sentence adverbs can follow it, see (1), for instance.

(1)	Mindenki	szerencsére	nem	dicsérte	Anná-t.
	everyone.NOM	luckily	not	praised	Anne-ACC
	'Luckily, (it is) not (the case that) everyone praised Anne.'				

For more on this and its relevance to my alternative analysis, see Section 4.3.

4. My remarks on Mycock's observations and claims in her Footnote 13 are as follows.

[4] For the demonstration of the relevant details, see Section 4.2.

[5] See É. Kiss (1992), Gyuris (2004), and Gyuris & Mády (2014), among others.

a. Although it is absolutely true that her data in her examples in (33)-(36) do not support É. Kiss' (1987) claim that "all question words in a multiple CQ are assigned the highest level of stress",[6] it has to be noted that in addition to the by far most common prosodic pattern manifested by these examples, there is a significant complication, also attested by Mycock's elicited data. Consider Figure 6, showing Mycock's three different pitchtracks of the sentence in example (37). (37a) shows the typical, unmarked pattern, also manifested by (the pitchtracks of) the examples in (33)-(36). (37c) seems to correspond to É. Kiss' (1987) generalization: the first question phrase receives a rise-fall and the second one receives the usual fall accent. This can be taken to prove that there may be dialectal and/or idiolectal variation in this domain.[7] In Section 4.3, I will argue that these data lend further support to my predication & predicate approach. (37b) appears to be a special mixture of the two patterns in (37a) and (37c) in that in the first question phrase it is only the question word itself that bears rise-fall and there is a shallow rise on the following noun. Mycock acknowledges these prosodic variants and leaves their investigation to future research. For my present purposes the mere existence of this variation is important, see Section 4.3.
b. In my opinion, Mycock's criticism of Lipták's (2001) and É. Kiss' (2002) assumption that nonfinal question words are distributive quantifiers is absolutely valid from a GB/MP perspective (for instance, Surányi (2003, 2006, 2007) makes the same critical remark). In the GB/MP (cartographic) tradition, the basic assumption is that a designated syntactic position must be associated with a single distinct prosodic feature and semantic property. Obviously, Mycock's data in Figures 4 and 5 violate this principle. However, my claim is that in an LFG framework, syntactic positional, prosodic and semantic "misalignments or ambiguities" are just natural, given the parallel representational architecture of the theory. My take on this issue is as follows: nonfinal question words occupy the same quantifier/operator positions as any other quantifiers (preceding the focus position), but they are not distributive quantifiers (they are WH operators), and their prosodic pattern is different from that of distributive quantifiers (which may be a natural consequence or correlate of their semantic difference). For further details, see Section 4.3.

[6] Her example (33) is shown in Figure 5 above, and example (35) in Figure 2. The other two examples she refers to, (34) and (36), follow the same pattern.

[7] And maybe É. Kiss and/or her informants belong to this group of speakers. In addition, there may also be pragmatic factors involved. It is left to future research to investigate perception data pertaining to these issues.

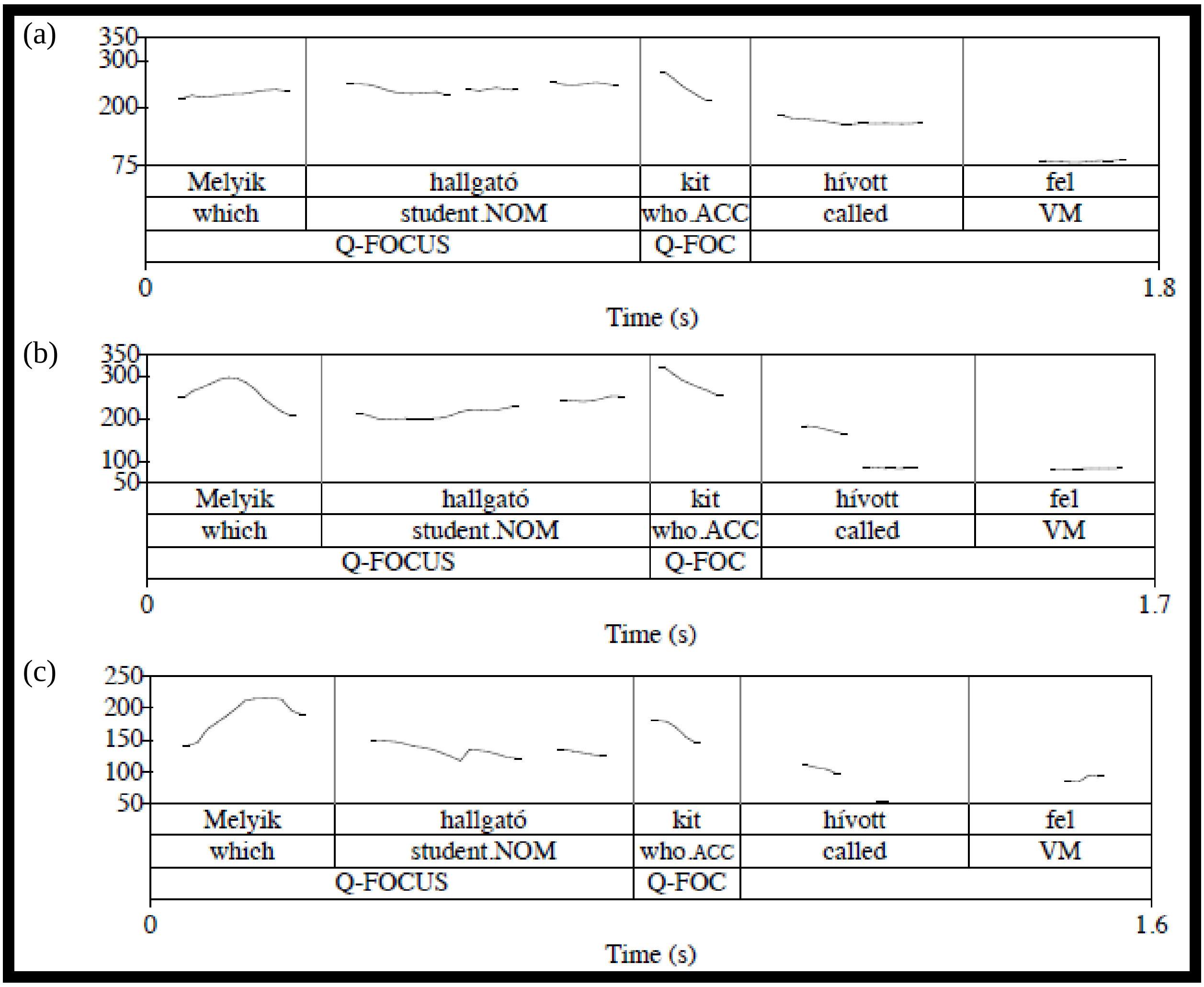


Figure 6. Three pitchtracks of (37) ***Melyik hallgató kit hívott fel?***

(C) Hunyadi's (2002) Stress-Scope Correspondence: *There exists a systematic relation between the semantics of a sentence and its prosody, with prosody being the feature of Phonetic Form one of whose primary functions is the expression of the operator-scope relation in the semantic-logical representation of a sentence* (2002: 19). The main hypothesis is that "the stress-bearing head of each intonational phrase has wide scope over the rest of the operators in the same intonational phrase" (Hunyadi 1999: 88). It is a crucial aspect of this approach that no reference is made to syntactic structure, i.e. stress (and stress reduction) in the Intonational Phrase encodes scope relations without, and independently of, syntax. Mycock (2010) points out that examples in which the main-stress-bearing element in an IntP was not the widest-scoping operation would manifest evidence against this hypothesis. A further problem would be posed by examples in which the widest-scoping interpretation of an operator was determined by its designated syntactic position alone (and not its stress).

Mycock observes that her experimental results support the two main aspects of Hunyadi's (2002) approach: (i) the operator that has widest scope receives greatest prosodic prominence (that is, it bears the H+L accent), and (ii) the scope of this operator is identified with the meaning of the Intonational Phrase (IntP) in which it occurs. At the same time, on the basis of Jackson (2008), Mycock rejects a crucial property of Hunyadi's analysis: he assumes that all constituents receive initial stress and then some of them undergo stress reduction. Mycock points out that this is a theoretical problem, because Hunyadi has to introduce a special rule (Neutralisation; Hunyadi 2002: 104) to achieve the most common prosodic pattern to be associated with the predicate of a nonneutral sentence which contains a postverbal universal quantifier. This means that the analysis cannot naturally capture the unmarked status of this prosodic pattern. In addition, Mycock claims that the fact that Hunyadi's approach models the relationship between prosody and semantics but does not offer a defined mapping between syntax and semantics leads to problems in the case of constructions in which linear order has a decisive role in the determination of relative scope, as observed by É. Kiss (2002: 122) and Jackson (2008: 90). Consider the following examples from É. Kiss (1998b: 16), cited by Jackson (2008: 90) and Mycock (2010: 290).[8]

(2) a. **Csak két lány** választ-ott **csak egy könyv-et**.
only two girl.NOM choose-PAST.3SG only one book-ACC
'There were only two girls who chose only one book.' only 2 > only 1
#'There was only one book which only two girls chose.' only 1 > only 2

b. **Csak egy könyv-et** választ-ott **csak két lány.**
only one book-ACC choose-PAST.3SG only two girl.NOM
'There was only one book which only two girls chose.' only 1 > only 2
#'There were only two girls who chose only one book.' only 2 > only 1

Mycock (2010: 290) cites Jackson: "Hunyadi's system must admit after all that syntax (or at least linear order) must play a role in scope assignment. However, that admission implies a denial of the cornerstone of his theory, which is that scope is computed more or less directly from prosodic structure" (2008: 90).

4.2. Mycock's (2010) analysis

On the basis of her observations and comments on Szendrői's (2003) and É. Kiss' (2002) approaches, which I summarized in 4.1, Mycock rejects them. She fundamentally accepts Hunyadi's hypothesis; however, she modifies it in two crucial respects. On the one hand, she assumes an entirely different mechanism of associating prosodic patterns with utterances. On the other hand, she postulates that in addition to Hunyadi's prosody–semantics connection a separate (parallel) syntax–semantics connection also has to be modelled.

As regards prosodic pattern generation, on the grounds of general theoretical considerations, Mycock rejects Hunyadi's uniform initial stress assignment to constituents and subsequent neutralization (stress reduction) for achieving basic prosodic patterns. Instead, she introduces a rule of tune–text association. Her generalization, on the basis of her elicited data, is this:

> … the characteristic tune of the predicate in a Hungarian nonneutral sentence can therefore be characterised as in (3),[9] in which H+L represents the point of greatest prosodic prominence, i.e. main stress, and brackets represent optionality.
>
> (3) NonNeutral Predicate Tune
> (H) H+L L (2010: 284)

[8] The expressions in bold receive the H+L accent.

[9] This is my example number here. Mycock's (2010) original number is (40).

Her rules are as follows (2010: 289).[10]

(4) NONNEUTRAL PREDICATE TUNE—TEXT ASSOCIATION RULE
In the Intonational Phrase that follows an Intonational Phrase mapping to a topic, associate a H+L accent with the first stressed syllable (i.e. the leftmost stressed syllable) in the Phonological Phrase which realises the widest scoping operator or the sorting key in a multiple CQ; associate L with the final syllable; and associate H with the initial syllable, if there are any preceding the one which bears the H+L accent.

(5) PROSODY–SCOPE CORRESPONDENCE
When an operator α takes scope over an element β, α is prosodically prominent (i.e. bears H+L) and β is associated with a L monotone, a H monotone, or no tone at all, i.e. where the Kleene star * denotes that β may occur zero or more times and brackets indicate optionality:

$$\begin{array}{llllll} \text{tones} & \begin{pmatrix}\text{H}\\ \beta\end{pmatrix} & \beta^* & \begin{array}{c}\text{H+L}\\ \alpha\end{array} & \beta^* & \begin{array}{c}\text{L}\\ \beta\end{array} \end{array}$$

As regards modelling the relations between prosody and semantics, on the one hand, and between syntax and semantics, on the other hand, Mycock (2010) argues that LFG provides an appropriate framework for formally capturing the facts and empirical generalizations. She employs the following levels of representation as directly relevant to analyzing her experimental data (2010: 292).[11]

Level of structure	Type of linguistic information
s-string	lexical items
p-string	phonological words
c(onstituent)-structure	surface syntactic representation
f(unctional)-structure	abstract grammatical functions (e.g. subject, object) and features
p(rosodic or phonological)-structure	phonological and prosodic features
i(nformation)-structure	information packaging (discourse functions)
s(emantic)-structure	meaning

Table 1. The parallel levels representation in LFG, Mycock (2010: 292)

She depicts the relevant levels and correspondence relations she assumes as follows (2010: 292).[12]

[10] My (4) is her (42), and my (5) is her (43).

[11] My Table 1 is her Table 2.

[12] My Figure 7 is her Figure 1.

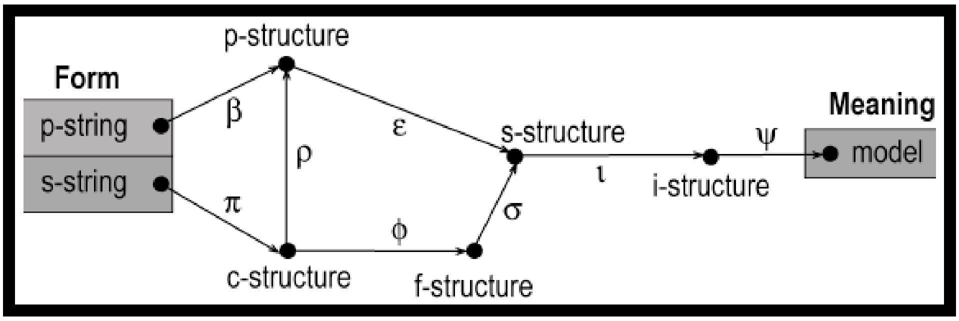


Figure 7. Relevant levels and correspondence relations in the LFG projection architecture, Mycock (2010: 292)[13]

Mycock's central claim is that, thanks to the parallel levels of representation in the LFG architecture, the scope relations to be computed in s-structure can be independently encoded in two distinct components of this grammar: (i) p-structure, linked to s-structure directly via ε-mapping,[14] and (ii) c-structure, directly linked to f-structure via ϕ-mapping, which, in turn, is linked to s-structure via σ-mapping. Obviously, p-structure to s-structure mapping is Mycock's LFG counterpart of Hunyadi's (2002) approach. Her rules are spelt out in (3), (4) and (5) above. At the end of Section 4.1 I pointed out that É. Kiss (2002), Jackson (2008) and Mycock (2010) criticize Hunyadi (2002) for not accommodating the modelling of the syntax–semantics correspondence in cases when scope relations are attestably encoded syntactically. Mycock's c-structure → f-structure → s-structure mapping is, thus, her LFG style expansion of Hunyadi's approach. Her basic generalization is this (2010: 291).[15]

(6) SYNTAX–SCOPE CORRESPONDENCE
If an OPERATOR α precedes OPERATOR β, α outscopes β.

The standard LFG implementation of this rule is as follows. Linear precedence in c-structure is mapped to f-structure as f-precedence,[16] defining a precedence-like relation at this level,

[13] Capitalizing on Dalrymple & Nikolaeva (2011). In subsequent work, Mycock and her co-authors propose the modified architecture shown in Figure (I).

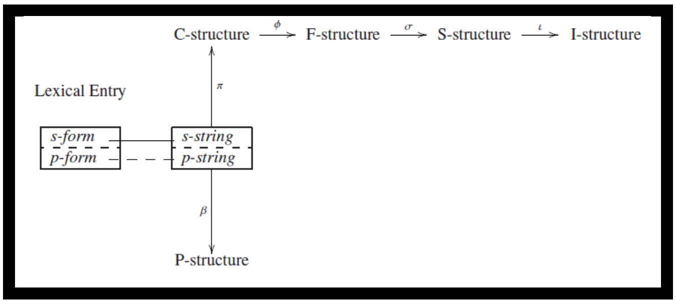


Figure (I). An alternative architecture of the main components of LFG, Dalrymple & Mycock (2011: 178), Mycock & Lowe (2013: 446)

[14] Given that Dalrymple & Mycock (2011) and Mycock & Lowe (2013) have a different view of the prosody-semantics interface, see the previous footnote, Mycock's (2010) generalizations would need substantial revision to fit with this more recent view (Louise Mycock, p.c., January 2016). These details are not relevant to the main topics of this dissertation. My crucial claim in this connection is that LFG's modular interface architecture offers an appropriately detailed and principled formal apparatus for handling the Hungarian phenomena under investigation.

[15] My (6) is her (48).

[16] For the formal details of the f-precedence mapping rule, see Bresnan (2001: 195).

and this f-precedence relation is further mapped to s-structure, where scope relations are computed based on this information.

On the basis of her elicited data, Mycock makes the following additional observation and generalization. “In most cases […] syntax and prosody encode congruent information about relative scope. However, (29)[17] shows that a general principle holds in Hungarian which requires prosody to override syntax when it comes to indicating which operator scopes widest, i.e. Prosody–Scope Correspondence[18] […] will take precedence over Syntax–Scope Correspondence[19] […]” (2010: 291).

Now let us take a closer look at Mycock’s analysis. Below I present those generalizations of hers which are directly relevant to the main themes of this section, and I make some comments on them.

(A) “Morphologically, phonologically and semantically the sequence VM–verb forms a single unit. This is reflected in its standard orthography” (2010: 266). The huge categorial (and, consequently, behavioural) diversity of elements collectively called VMs (verbal modifiers) is not at all a central issue for her. This is manifest in her apparent reduction of VMs to verbal prefixes (a.k.a. coverbs or (verbal) particles)[20] in her examples and discussions (also see her Footnote 3 on p. 266). First of all, in Section 3.2 in Chapter 3 I offer an overview and an LFG-XLE analysis of the major types of VMs by also reflecting on previous LFG and GB/MP analyses. In accordance with the mainstream GB/MP approaches,[21] I assume that even verbal prefix VMs are independent syntactic atoms, and they do not combine with their verbs morphologically. In my analysis, they occupy the same Spec,VP position as other VMs,[22] on the one hand, and focused constituents, on the other hand. It is noteworthy that several LFG (or LFG-friendly, i.e. OT) analyses make morphological and semantic (incorporational) assumptions about VM–verb combinations similar to Mycock’s, see, for instance, Ackerman’s (1987) and Gazdik’s (2012) LFG approach and Payne & Chisarik’s (2000) OT account. Even if we disregard the additional challenges posed by other types of VMs and concentrate on verbal prefixes, an immediate problem for the morphological unit analysis is the famous preverbal complementarity of focused constituents, the negative particle and the verbal prefix, see the next point.

(B) “The immediately preverbal position is associated with the discourse function focus […]. Note that when there is a preverbal focus, a VM cannot intervene between it and the verb, so the VM occurs postverbally” (Mycock 2010: 267). It seems to me that capturing this fact in a principled formal way is a rather insurmountable problem if one assumes that the VM and the verb make up one morphological word and, consequently, one syntactic atom occupying the V^0 syntactic position. Mycock (2010) does not address this issue.[23]

---

[17] See her example (29) in Figure 3.

[18] See (5).

[19] See (6).

[20] See Chapter 3.

[21] For an analysis and useful literature overview, see É. Kiss (2002).

[22] I also claim that some VM types do not even make up a semantic unit with their verbs. However, all types of VMs share the property that they make up a phonological/prosodic unit with the verb, see Chapter 3.

[23] However, Louise Mycock (p.c., January 2016) suggests that there may be two possible ways of capturing the relevant facts along the lines of her assumptions: (a) LFG’s Lexical Sharing developed by Michael Wescoat, see Wescoat (2002, 2007); or (b) a straight mismatch with respect to the number of s-structure and p-structure units.
As regards (a), Lexical Sharing provides a principled formal apparatus for mapping two or more categorial terminal nodes in c-structure into a single word. Consider the following French examples from Wescoat (2007: 445) (next page).

(C) “In contrast to preverbal focus, when a distributive quantifier immediately precedes a verb in the predicate the VM appears preverbally […], not postverbally […] Universal quantifiers cannot themselves occupy immediately preverbal focus position” (2010: 267). In this approach, it is not clear why quantifiers (in a nonfocus position) admit (morphological!) preverbal VMs, while focused constituents reject them. It seems that quantifiers cannot look into or regulate the morphological composition of a V^0, while focus can. Needless to say, if one assumes that the verbal prefix is in complementary distribution with focus then the contrast between QP VM V^0 and QP Foc V^0 VM straightforwardly follows.

(D) Mycock (2010: 268) presents the distribution of constituents in Hungarian sentences as follows (the operator field is underlined).

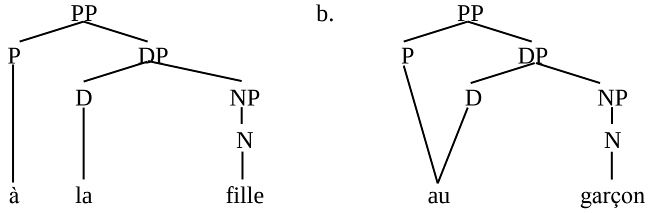
(7) (Topic*) [((neg) Distributive Quantifier*) ((neg) focus) (neg) V (XP*)]$_{PRD}$

OPERATOR FIELD

She adds: “Multiple foci are possible in a declarative, but only one focused constituent may appear in preverbal focus position; any others appear postverbally and are prosodically prominent […]. By contrast, multiple question words […] in a regular CQ, which elicits a pair-list answer, must appear immediately preverbally” (2010: 269). Then she points out that there are analyses, e.g. Lipták (2001) and É. Kiss (2002), which assume that those question phrases which are not immediately preverbal (“higher question phrases”) are distributive quantifiers occupying these designated quantifier positions. Referring to Surányi (2003: 185), who claims that these question phrases do not need to be interpreted exhaustively in all cases, she also rejects this view: “I therefore classify Hungarian as a multiple focusing language […]. Multiple question phrases may be syntactically focused before the verb (8); noninterrogative and interrogative foci may not co-occur in this position (9a,b), unless they are understood as being embedded under a performative (Varga 1982). When a focused element occurs in a CQ, the noninterrogative appears postverbally and is prosodically prominent (9c)” (2010: 270).[24]

(i) a. *à* *la* *fille* b. *au* *garçon*
to the girl to_the boy

a. b.



In (ia) and (iia), there is an ordinary combination of word level categories: P + D + N (when the noun is feminine). In (ib) and (iib), by contrast, one word (syntactic atom) is shared by two categorial terminal nodes: P + D. At first sight it does seem that some crucial properties of preverb+verb combinations in Hungarian straightforwardly justify an analysis in this fashion (they can be taken to be lexical units, they make up phonological units, etc., for details, see Chapter 3). However, even noncompositional preverbs can occupy all kinds of (discontinuous) syntactic positions within (and even outside) the clause, and, as such, they are standardly taken to be phrasal in nature. In addition, they are in complementary distribution preverbally with clearly phrasal VMs and clearly phrasal focused constituents (for details, see Chapter 3 again). For this reason, if we want to capture their phrase-level complementarity, the lexical sharing treatment of preverbs (and only of preverbs among VMs) would not be a plausible solution; what is more, it would even complicate our analytical task.

As far as (b) is concerned, the mismatch between s-structure and p-structure elements is straightforward. The verb loses its “independent” phonological word status. This, however, holds across the board in this domain, whether the “immediately pre-verbal” element is a genuine preverb, or it belongs to other (phrasal) VM types, or it is a focused constituent. Again, the full complementarity of preverbs and the other elements in this domain is most naturally captured by assuming that all of them share the same properties at the levels of s-structure and p-structure.

[24] I faithfully copy Mycock’s examples here (including formatting and glossing) except for their numbering. My (8) corresponds to her (11b), and my (9a,b,c) correspond to her (13a,b,c).

(8) János ki-t ki-nek mutat-ott be?
John.NOM *who*-ACC *who*-DAT *introduce*-PAST.3SG VM
'Who did John introduce to who?'

(9) a. *[János] FOCUS [*ki-t*] FOCUS mutat-ott be Anná-nak?
John.NOM *who*-ACC *introduce*-PAST.3SG VM *Anna*-DAT

b. *[*Ki-t*] [János] FOCUS mutat-ott be Anná-nak?
who-ACC *John*.NOM *introduce*-PAST.3SG VM *Anna*-DAT

(a, b): 'Who did John introduce to Anna?'

c. [*Ki-t*] hív-ott fel **János**?
who-ACC *call*-PAST.3SG VM *John*.NOM
'Who did John call?'

Let me make the following comments.

(D1) Mycock (2010), partially motivated by Surányi (2003), assumes that all preverbal question phrases make up one cluster of a special focused constituent. Mycock does not elaborate on this issue here. However, in Mycock (2006), in which she makes the same assumption, she offers a detailed discussion and demonstration of the formal details. She writes:

> All question phrases are syntactically focused in Hungarian, appearing as they do in the immediately preverbal (SPECVP) position associated with DF FOCUS. […] MSF is only possible when the focused constituents are question phrases in Hungarian. Interrogative and noninterrogative focus are therefore forbidden from co-occurring. Such data support the division of focus at i-structure into (at least) two types: 'interrog' and 'noninterrog'. Once such a distinction is made, it is possible to capture the appropriate generalizations and formalize them as rules such as (10).[25]
>
> (10) **C-structure Rule of Hungarian CQF**
>
> $$\begin{array}{lccc} VP & \rightarrow & XP^* & V' \\ & & (\uparrow GF^*) = \downarrow & \uparrow = \downarrow \\ & & (\downarrow PARAM) \in (\uparrow \iota FOCUS\ interrog) & \end{array}$$
>
> The complementary distribution of a question phrase and a noninterrogative focus constituent is proposed to stem from the impossibility of having one c-structure position (i.e. SPECVP) simultaneously associated with two different types of focus (i.e. FOCUS 'interrog' and FOCUS 'noninterrog') (Mycock 2006: 227-228).

I can see the following problems here.

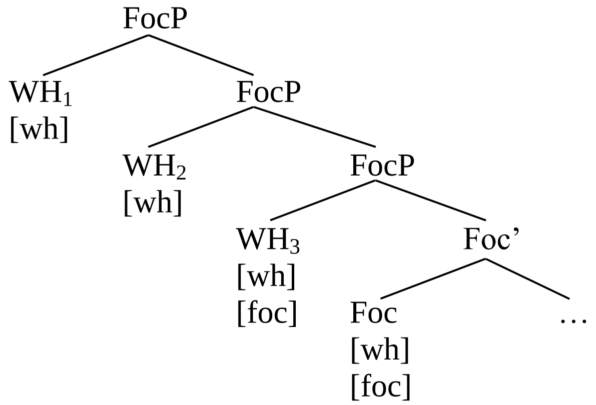
- Although Mycock speaks about a single focus position that may be filled by several question phrases (contra a single noninterrogative focus), her rule in (10) rather seems to generate a flat multiple (Spec,VP) configuration parametrically constrained to the interrogative focus type at i-structure; that is, it is not the idea of a single, multiply filled focus position that has been formalized. That idea would require different and special phrase-structure rules. I myself sympathize with (10) and think that it is more motivated and feasible than the single focus position idea, and its noninterrogative focus counterpart can be easily spelled out, see (11).

[25] My example number (10) corresponds to her (51) in the original text. In this excerpt she uses the following abbreviations: DF = discourse function, MSF = multiple syntactic focusing, i-structure = information structure.

(11) VP → XP V’
(↑ GF) = ↓ ↑=↓
(↓ PARAM) ∈ (↑ ιFOCUS noninterrog)

And the two rules can be collapsed in such a way that the XP* and the XP (with their annotational specifications) are inserted disjunctively.[26] It is interesting to compare the structural aspects of Mycock’s and Surányi’s approaches. They both make the same general assumption in two different frameworks (LFG and MP, respectively): all question phrases are focused constituents. Surányi assumes multiple (focused) specifiers. In Surányi (2007) he postulates a Focus projection with the specifiers and the Foc head associated with the feature distributions as in (12) below.

(12)



In Surányi (2011) he does not employ functional projections like FocP and NegP; instead, he develops an interface-based MP account. His skeletal structure is shown in (13).[27]

(13) $[_{TP}$ **Spec*** $[\,[_{T}$ **V**$]\,[_{AspP} \ldots\,]\,]\,]$

- I find the absolutely strictly stated prohibition on the co-occurrence of interrogative and noninterrogative foci exemplified and discussed in Mycock (2010: 270) and Mycock (2006: 227-228) above problematic for her approach, see point (D3) below.
- I fully agree with (i) the representation of discourse functions in i-structure, and (ii) distinguishing interrogative and noninterrogative focus types, among others.

(D2) When I commented on Mycock’s Footnote 13 (2010: 268), I pointed out that the assumption that higher question phrases occupy the same positions as distributive quantifiers (despite the fact that their semantics is different) is problematic from a GB/MP perspective, and it is not at all problematic in an LFG framework. In Section 4.3, my main claim will be that both constituent types are operators, and, therefore, they can legitimately occupy the same syntactic positions. It does not matter that their prosodic behaviour and their interpretation differ.

(D3) The assumption of the strict complementarity of single noninterrogative focus and possibly multiple interrogative focus is a crucial aspect of Mycock’s system. However, there

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[26] Louise has clarified this for me: “what I meant was to associate Spec,VP (however many instances there may be of Spec,VP) with the DF Focus”, Louise Mycock, p.c., January 2016.

[27] Needless to say, Surányi (2011) is considerably closer in spirit to LFG than Surányi (2007), because although it uses the standard MP functional projections like TP and AgrP, it postulates no FocP.

are three special construction types that clearly violate this prohibition, which, in my opinion, seriously undermines the tenability of this approach.

(D3a) Although it is unquestionable that the sentence in (9a) is ungrammatical under normal circumstances, as Mycock rightly points out, in a special context it is fully acceptable. Let us imagine a situation is which a speaker is informed that Peter has introduced Kate to Anna, but (s)he is aware that János has also introduced someone to Anna. If (s)he wants to inquire about the details of this instance of introduction, (s)he can say (14a) and continue by asking the question in (14b), which is basically the same as the otherwise unacceptable question in (9a).[28]

(14)	a.	Tud-om,	hogy	Peter	[*ki-t*]	mutatott	be	Anná-nak …
		know-PRES.1SG	*that*	*Peter*.NOM	*who*-ACC	introduced	VM	*Anna*-DAT
		‘I know who Peter introduced to Anna …’						

b.	… de	[János] $_{\text{FOCUS}}$	[*ki-t*]	mutat-ott	be	neki?
	but	*John*.NOM	*who*-ACC	*introduce*-PAST.3SG	VM	*to.her*
	‘… but who did JOHN introduce to her?’					

In (9a) *János* is clearly a focused constituent. On the one hand, it receives the H+L accent (stealing it from the preverbal question phrase). On the other hand, in addition to not having (contrastive) topic prosody, it cannot intermingle with other (contrastive) topics or sentence adverbs. For instance it is impossible to insert constituents like *tegnap* ‘yesterday’ or *a parkban* ‘in the park’ between *János* ‘John’ and *kit* ‘who.ACC’. Mycock points out that the acceptable counterpart of the construction in (9a), which is unacceptable under normal circumstances, is a structure in which the focused constituent, receiving its prosodic prominence, occurs postverbally, and she exemplifies this with (9c). The minimal pair counterpart of (9a) would be (15) below.

(15)	[*Ki-t*]	mutat-ott	be	Anná-nak	**János**?
	who-ACC	*introduce*-PAST.3SG	VM	*Anna*-DAT	*John*.NOM
	‘Who did JOHN introduce to Anna?’				

Although Mycock’s acceptability generalization about the contrast between (9a) and (15) harmonizes with a widely held view in the literature, I think the real picture is considerably different. In my opinion both constructions have exactly the same acceptability or grammaticality status. The reason for this is that (15) is as unacceptable or ungrammatical as (9a) without an appropriate context. So if (9a) is starred (without a suitable context), (15) also has to be starred (without a suitable context). In my opinion this is the real generalization. And as regards the relationship between these two alternative constructions, I view it as being similar to the well-known preverbal and postverbal occurrence of universal quantifiers, compare (16a) and (16b).

(16)	a.	Mindenki	János-t	hív-ta	fel.
		everyone.NOM	*John*-ACC	*call*-PAST.3SG.DEF	VM
		‘Everyone called John.’			

b.	János-t	hív-ta	fel	**mindenki.**
	John-ACC	*call*-PAST.3SG.DEF	VM	*everyone*.NOM
	‘Everyone called John.’			

[28] Gazdik (2012) also mentions this special type – without offering a formal analysis.

(16a) is the standard pattern. The universal quantifier precedes and outscopes the focused constituent, and we know from Mycock's (2010) empirical study that it is more prominent prosodically as well. When the quantifier occurs postverbally, there are two possibilities. (i) It receives no scope-taking prosodic prominence, and it is within the scope of the focused constituent: 'It holds for John (and for nobody else) that everybody called him'. (ii) It receives scope-taking prosodic prominence (this is indicated by bold letters in (16b)) and it scopes over the focus, and the interpretation of the sentence is the same as that of (16a). It is also noteworthy that the (i) postverbal variant, in which the universal quantifier is in the scope of the focus, also has a preverbal counterpart:

(17)	Mindenki	János-t	hív-ta	fel.
	everyone.NOM	*John*-ACC	*call*-PAST.3SG.DEF	VM
	'It holds for John that everybody called him.'			

Note that the sequence of the constituents in (17) is the same as that in (16a); however, the status of the universal quantifier is different. It is in a topic position (as opposed to the quantifier position in (16a)), it receives contrastive topic prosody, and, consequently, the focus has scope over it. Returning now to the crucial construction type in (9a), it exhibits the combination of a noninterrogative focus and an interrogative focus (strictly banned by Mycock's system), the former taking prosodic and scope prominence over the latter. True, this construction type needs a special context for it to be felicitous, but when these contextual requirements are satisfied, it is always absolutely acceptable. Any approach aiming at a comprehensive coverage of the relevant data needs to characterize it, which appears to pose a a considerable problem for Mycock's approach. It seems to me that she could argue that this focus is different, it is contrastive focus and not (exhaustive) id-focus, so it is exempt from her ban on the co-occurrence of interrogative and noninterrogative focus, because her generalization only targets the id-type of noninterrogative focus. Even so, her approach would face the following challenges. (i) If she assumed that this special nonid-focus is also in a Spec,VP position, her +interrogative vs. –interrogative focus rule would still need some modification. (ii) If she assumed that this special focus was outside the VP then, on the basis of the distribution facts I pointed out above, she would have to put it in a quantifier position. I think this would be a less special, less marked solution in her approach; however, it would still run against one of her underlying assumptions: she consistently separates (universal) quantifiers and ±interrogative foci syntactically by positing all instances of the latter in Spec,VP. Compare this scenario with the approach I am in the process of developing in this chapter. I postulate a single Spec,VP position for an always single noninterrogative id-focus, for a single interrogative focus (question word) or for the final (immediately preverbal) interrogative focus in multiple wh-sentences. In addition, I assume that the VP-adjoined position is available not only to (universal) quantifiers but also to other operators: absolutely productively to additional (nonfinal) question words, and, rather exceptionally, to contrastive focus in questions containing a question word in Spec,VP. I think my system can more naturally accommodate the treatment of this marked phenomenon.[29]

(D3b) The second problem, which appears to me to be equally unsurpassable, given Mycock's (2010) fundamental assumption of the incompatibility of interrogative and noninterrogative foci is this. Consider the following quote and example.

[29] For a mirror image of this relationship, i.e. a question word followed by negative focus, see the next point – and this is an absolutely regular, productive pattern.

> When a noninterrogative focus is negated, another focus may precede it. The preceding focus may be noninterrogative (Horvath 1995: 60) or interrogative (Koopman & Szabolcsi 2000: 200; Kenesei 2009), as in (18) (Mycock 2010: 271).[30]

(18)	[*Ki-t*] FOCUS	nem	[János] FOCUS	hív-ott	fel?
	who-ACC	NEG	*John*.NOM	*call*-PAST.3SG	VM

[lit.] 'Who did not John call?'
('Who was called by someone other than John?')

- Notice that this absolutely productive construction type contains a nonpreverbal interrogative focus and a preverbal (negated) noninterrogative focus, violating Mycock's ban on the co-occurrence of the two focus types. A negated noninterrogative focus is still a noninterrogative focus. So Mycock exemplifies and discusses this construction type, but she does not present it as being problematic, and, therefore, does not address the issue from this perspective.
- It is also noteworthy that the two special cases of the banned co-occurrence of interrogative and noninterrogative foci I showed here are mirror images of each other: noninterrogative focus + interrogative focus vs. interrogative focus + negated noninterrogative focus.
- When I present my analysis in Section 4.3, I will emphasize the importance of Mycock's experimental results: she has attested two distinct prosodic patterns associated with the construction type in (18). I will argue that this alternation lends further support to my approach.

(D3c) Consider the following example.

(19)	Péter	miért	**Anná-t**	hívta	fel?
	Peter.NOM	why	Anna-ACC	called	up

'Why did Peter call ANNA?'

Miért 'why' is the only question word in Hungarian which is compatible with a nonnegated preverbal focus.[31] Notice that this is a special subcase of the general pattern in (D3b).

(D4) It is important to emphasize the fact that all the three construction types require a special treatment in any generative approach I am aware of. I have pointed out above that in my opinion the construction types in (D3a)-(D3c) pose very serious challenges for Mycock's generalization to the effect that interrogative foci and noninterrogative foci are strictly incompatible: they cannot co-occur. By contrast, in Section 4.3 I will argue that my approach provides a more principled and flexible general setting for accommodating all three construction types, combined with the devices necessitated by the marked properties of the constructions: special functional annotations, constraining equations and CHECK features in the c-structure representation and in certain lexical forms.

Let me now present, and comment on, Mycock's (2010) tabular overview of the intonation patterns she attested in her experimental research. Consider her table[32] and all her examples, whose numbers are also included in the table (2010: 285). Below I number these examples as (M21)…(M39).

[30] My example number (18) corresponds to her (14).

[31] *Anna*, the focus in (19), could also be negated.

[32] My Table 2 is her Table 1.

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

Table 2. General patterns of intonation

A dashed line indicates that no constituent occupies the relevant syntactic position.[33] The point of prosodic prominence (a sharply falling pitch accent H+L at the left edge of the first phonological word) is represented by shading; the low plateau which follows it is indicated by italics; any high (H) monotone preceding the H+L accent is indicated by bold.

(M21) [János]TOPIC [**Anná-nak**]FOCUS mutat-t-a be Mari-t
John.NOM *Anna*-DAT *introduce*-PAST-DEFO.3SG VM *Mary*-ACC
a mozi-ban.
the cinema-INE
'John introduced Mary to ANNA at the cinema.'

(M23) János **nem**=[Mari-t]FOCUS hív-t-a fel.
John.NOM NEG=*Mary*-ACC *call*-PAST-DEFO.3SG VM
[lit.] 'John called not MARY.'
('John called someone other than Mary.')

(M31) [János]TOPIC [**ki-nek**]FOCUS mutat-t-a be Mari-t?
John.NOM *who*-DAT *introduce*-PAST-DEFO.3SG VM *Mary*-ACC
'Who did John introduce Mary to?'

(M24) **Mindenki-t** fel-hív-ott János.
everyone-ACC VM- *call*-PAST.3SG *John*.NOM
'For every *x*, *x* = person, John called *x*.'

[33] I have added three dashed lines to make Mycock's table complete in this respect.

(M29)	Mindenki	**nem**=dicsér-t-e	Anná-t.		
	everyone.NOM	NEG=*praise*-PAST-DEFO.3SG	*Anna*-ACC		
	'Not everyone praised Anna.'				

(M28)	**Nem**=mindenki-t	hív-ott	fel	János.	
	NEG=*everyone*-ACC	*call*-PAST.3SG	VM	*John*.NOM	
	[lit.] 'John called not everyone.'				
	('Not everyone was called by John.')				

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

(M33)	[Ki]$_{\text{FOCUS}}$	[**ki-nek**]$_{\text{FOCUS}}$	mutat-t-a	be	Mari-t?
	who.NOM	*who*-DAT	*introduce*-PAST-DEFO.3SG	VM	*Mary*-ACC
	'Who introduced Mary to who?'				

(M35)	[Ki]$_{\text{FOCUS}}$	[ki-t]$_{\text{FOCUS}}$	[**ki-nek**]$_{\text{FOCUS}}$	mutat-ott	be?
	who.NOM	*who*-ACC	*who*-DAT	*introduce*-PAST.3SG	VM
	'Who introduced who to who?'				

(M39)	[János]$_{\text{TOPIC}}$	[ki-nek]$_{\text{FOCUS}}$	nem=[Mari-t]$_{\text{FOCUS}}$	mutat-t-a	be?[34]
	John.NOM	*who*-DAT	NEG=*Mary*-ACC	*introduce*-PAST-DEFO.3SG	VM
	[lit.] 'Who did John introduce not MARY to?'				
	('Who did John introduce someone other than MARY to?')				

Let me now comment on Mycock's (2010) table (below, I refer to her construction types by using the example numbers in Table 2).

First of all, as (7) and the top of Table 2 show, Mycock subscribes to the widely assumed basic sentence articulation in Hungarian shown in Figure 8, where phrase-structurally the verb heads a VP, focus is in Spec,VP and the postverbal field is dominated by V'. The actual structural treatment of quantifiers is not stated (whether they are VP-adjoined or they are sisters of VP).

topic field			predicate		
	operator field			verb	postverbal field
	quantifiers	focus			

Figure 8. Mycock's (2010) sentence articulation

By contrast, in Section 4.3, I will assume the following modified articulation.

topic field		predication			
	operator field		predicate		
		±focus	verb	postverbal field	

Figure 9. My alternative sentence articulation

[34] (39a) and (39b) in Table 2 only differ in their prosody, that is why just one example is given in (M39).

In my view, too, focus is in Spec,VP. However, I assume that all VM types are also in Spec,VP in complementary distribution with focus (contra Mycock 2010); that is why I have ± preceding focus in Figure 9. In addition, in my approach, constituents in the operator field are left-adjoined to VP. As I briefly mentioned in Section 4.1, this alternative sentence articulation can contribute to augmenting syntactic and prosodic alignment. For instance, É. Kiss' (2002) alignment rule can be modified in a principled fashion: Stress–Predicate Edge Alignment → Stress–Predication/Predicate Edge Alignment, which will result in larger alignment coverage.[35] And now let us turn to Mycock's construction types in Table 2.

(21): this is the basic syntactic and prosodic alignment of prominence: the focused constituent, in Spec,VP, receives H+L pitch accent. Consider the pitchtrack of (21) in Figure 10.

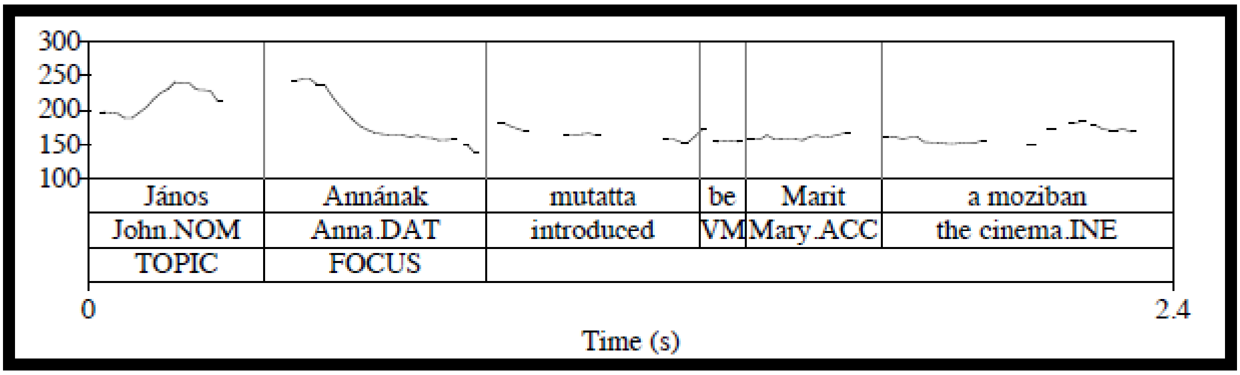

Figure 10. Pitchtrack of (21) *János Annának mutatta be Marit a moziban*.

As regards the treatment of the relationship between foci and VMs, recall that at the beginning of this section I pointed out that Mycock (2010) does not seem to be able to explain why the VM has to occur postverbally in the presence of a preverbal focus. The reason for this is that she assumes that the VM and the verb make up a single morphological word (i.e. syntactic atom), and, thus, a focus and a VM are not in complementary distribution; thus, their "preverbal" complementarity has to be stipulated.

(23): this is the well-known, standard pattern of constituent negation. An ordinary negated constituent must obligatorily occupy the focus position, and, as the pitchtrack of (23) in Figure 11 shows, this construction follows exactly the same syntactic and prosodic alignment pattern as the usual focus construction type in (21). In Mycock's words: "[w]hen a focused constituent is negated with *nem*, the generalisation holds that prosodic prominence aligns with the left edge of the phonological word which is also syntactically focused" (2010: 277).

[35] But, of course, the system is more complex because of the added disjunction. Louise Mycock (p.c. January 2016) has raised the following legitimate question in this connection. Why is it desirable to have a larger degree of alignment, given that massive misalignment is a feature of the syntax-prosody interface, see Dalrymple & Mycock (2011). My naive and intuitive answer is that I think it is an advantageous feature of the complex system of language from the perspective of both production (generation) and processing (parsing) if elements in two modules are aligned at an interface, and, thereby "reinforce" each other.

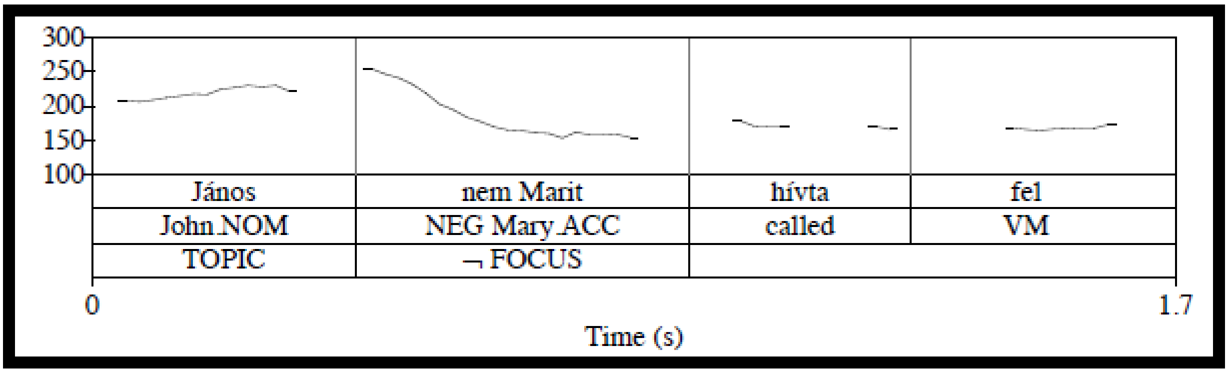

Figure 11. Pitchtrack of (23) ***János nem Marit hívta fel.***

(31): this is another uncontroversial pattern both syntactically and prosodically. If there is a single question phrase in a Hungarian constituent question, it unquestionably occupies the focus position: it has exactly the same syntactic and prosodic properties as a noninterrogative focused constituent. Compare the pitchtrack of (31) in Figure 12 with that of (21) in Figure 10.[36]

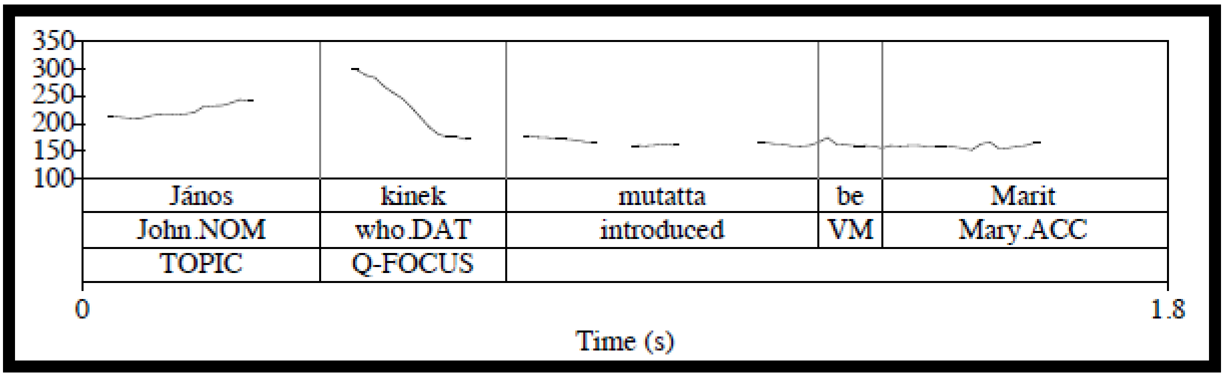

Figure 12. Pitchtrack of (31) ***János kinek mutatta be Marit?***

(24): in this construction type there is a universal quantifier, and the VM occurs "preverbally". As I pointed out in my criticism of Mycock's analysis at the beginning of this section, and also in the discussion of (21) in Table 2, she assumes that a "preverbal" VM makes up a morphological word with the verb, and, thus, this morphological complex occupies the V^0 position. This is also reflected in her structural representation of (24): the quantifier fills the regular operator position, the Spec,VP = "focus" position is empty, and the VM+V complex is in V^0. One of my earlier critical remarks still holds: how can Mycock explain why a focused constituent obligatorily ousts the VM from its "embedded" preverbal morphological position, while the preverbal universal quantifier systematically fails to do so? Naturally, if we assume instead that VMs and foci compete for the same Spec,VP position, these facts fall out. The quantifier and the VM can co-occur preverbally, because they are in two adjacent positions. Consequently, a more appropriate representation of (24) in Table 2 would be this:

[36] The question phrase—focus prosodic parallel is also supported by Mády's (2012) findings from the focus side. Also consider the following quotes from Gyuris & Mády (2013: 353). "The tonal description for wh-interrogatives based on this experiment is identical to the analysis given in Mycock (2010: 284) […] Hungarian wh-interrogatives have an intonation pattern that is very similar to that of declaratives with narrow focus: they contain a falling pitch accent on the focus and a low phrase-final boundary." For the results of an experimental study of the prosody of Hungarian polar questions, also reflecting on Mycock (2010), see Mády & Szalontai (2014).

(20)	∀	*VM*	*verb*	*SUBJ*	(24)

From this approach, it also follows that a focused constituent (possibly co-occurring with a universal quantifier) will force the VM to occur postverbally, see Mycock's appropriate representation of such a construction, example (25), in Table 2:

(21)	∀	focus	*verb*	*VM*	(25)

Mycock's description of the properties of (24) is as follows. "In (24) only a universal quantifier appears in the operator field.[37] This utterance exhibits the usual pattern of nonneutral sentence prosody, with the familiar H+L accent, which is followed by a low plateau, occurring at the left edge of the universal quantifier" (2010: 277). Consider the pitchtrack of (24) in Figure 13. It will be very important to compare this intonation pattern with that of a corresponding construction in (25), also containing a focused constituent.

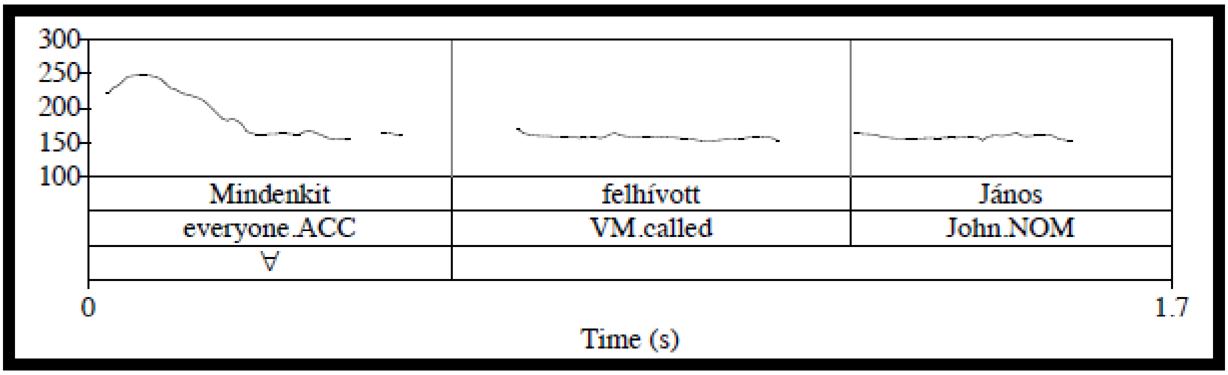

Figure 13. Pitchtrack of (24) *Mindenkit felhívott János.*

(29): consider the following quote from Mycock.

> Preverbal universal quantifier—*nem* sequences […] are typically ungrammatical in Hungarian because the linear order of the operators does not correspond to their relative scopes, i.e. a distributive quantifier cannot take scope over negation. However, researchers including Szabolcsi (1997) and Kenesei (2009) have pointed out that with appropriate intonation, this order of operators is grammatical because the distributive quantifier is interpreted as scoping below negation. The appropriate intonation is exemplified in (29): the universal quantifier *mindenki* bears a H(igh) monotone, while the familiar H+L accent occurs at the left edge of the phonological word *nem=dicsérte* 'not praised'; the rest of the constituents are realised as a low plateau […] Thus prosody 'rescues' this sentence by providing information crucial to its interpretation which is not contributed by the syntax (2010: 279).

When I criticized one major aspect of Mycock's criticism of É. Kiss' approach in Section 4.1, I showed Mycock's pitchtrack in Figure 3, which I repeat here for convenience as Figure 14.

[37] Recall that in Mycock's analysis, focus in Spec,VP is also part of her "operator field". In this example there is no focus, and the VM combines with the verb morphologically (below V^0).

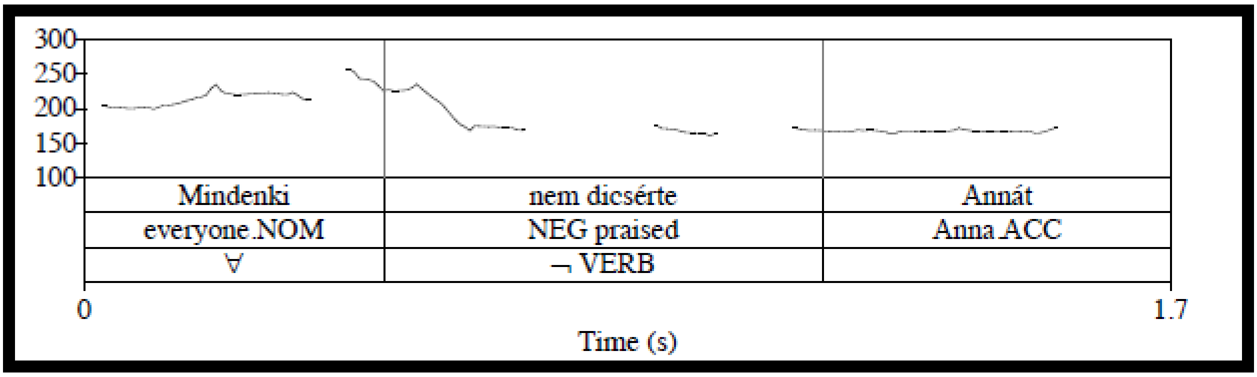

Figure 14. Pitchtrack of (29) ***Mindenki nem dicsérte Annát.***

In Section 4.1 I pointed out that Mycock misinterprets the relevant facts here. It is not the case that the quantifier is in the operator field. Instead, its properties are, in all relevant respects, identical to those of a contrastive topic.[38] ***(i)*** It can intermingle with (contrastive) topics and sentence adverbs, see (1) in Section 4.1, repeated here as (22) for convenience

(22)	Mindenki	szerencsére	nem	dicsérte	Anná-t.
	everyone.NOM	luckily	not	praised	Anne-ACC
	'Luckily, (it is) not (the case that) everyone praised Anne.'				

The fact that the sentence adverb *szerencsére* 'luckily' can intervene between the quantifier and the negative particle clearly shows that the quantifier is in the topic field. ***(ii)*** The quantifier is in the scope of the negative operator. This narrow scoping is a fundamental characteristic of contrastive topics. ***(iii)*** The quantifier does not bear the H+L accent. These three features together lead to the following conclusion. ***(a)*** This is not a construction type relevant to Mycock's (2010) approach, because she concentrates on the syntactic and prosodic encoding of prominence in the operator field, and the quantifier here is not in this field. ***(b)*** From this it follows that the behaviour of this construction is not an argument against É. Kiss' (2002) approach. ***(c)*** On this account then there is no syntax-prosody misalignment: we are dealing with the standard syntactic and scopal behaviour of a contrastive topic expressed by a quantifier. Given that the scope of Mycock's experimental research was different, in her examples and pitchtracks we do not find any other examples of (the prosody of) contrastive topics, so we cannot compare the prosody of the quantifier in (29) with that of another, independently attested contrastive topic. However, if we compare the quantifier's prosody in (29) with that of topics in other examples investigated by Mycock, we can minimally conclude that it has the general characteristics of ordinary topics, and in my judgement it could pass as the prosody of a contrastive topic.[39]

As regards the analysis of clausal negation in which the negative particle precedes the verb and there is no focused constituent present, and example (29) belongs to this type, Mycock's view is as follows.

> In terms of its prosody, an utterance involving preverbal negation shares key features with other nonneutral sentences, such as those which include a syntactically focused constituent […]. The negative particle *nem* bears Kálmán et al.'s (1986) 'eradicating

[38] Louise Mycock (p.c., January 2016) points out that conclusive prosodic support for this claim would be pitchtracks of sentences containing a longer universal quantifier phrase that clearly bears the distinctive intonational contour associated with a Contrastive Topic in Hungarian.

[39] It is just an additional speculation on my part that several sentences containing an ordinary topic as a default interpretation in isolation could also be interpreted as if they contained a contastive topic (accompanied by the appropriate prosody of the constituent in question). For instance, see examples (21) and (23) and their pitchtracks in Figures 10 and 11, respectively.

> stress', i.e. a sharp fall in pitch followed by a low plateau. In contrast to a syntactically focused constituent, though, *nem* procliticises to the following word to give a single phonological word (É. Kiss 2002: 135). Stress falls on the initial syllable of this word composed of the clitic *nem* and its host. In (22), *nem* forms a phonological word with the verb *hívta* 'called', and the familiar sharp fall in pitch which is characteristic of a nonneutral sentence occurs at this word's left edge (2010: 276).

Consider Mycock's example (22) and its pitchtrack in Figure 15 (2010: 277).

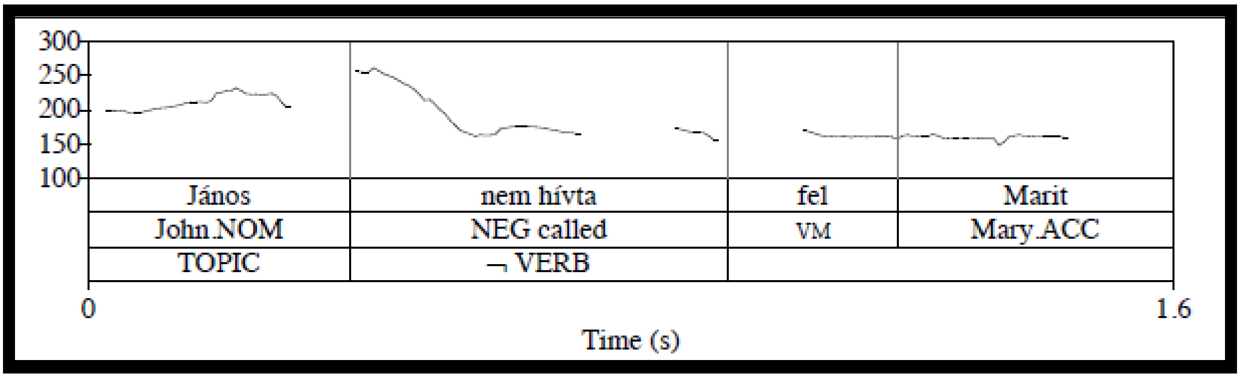

Figure 15. Pitchtrack of (22) *János nem hívta fel Marit.*

Let me make the following comments on this view (shared with É. Kiss 2002).

A) It is generally accepted (and Mycock also subscribes to this) that (i) this construction type follows the "eradicating stress pattern" of nonneutral, focused sentences, and (ii) the "eradicating stress" itself falls on the negative particle.

B) In my opinion the most straightforward way of capturing this generalization is to assume that the negative particle occupies the same Spec,VP focus position as any ordinary focused or VM constituent. This approach gives us the simplest and most general way of accounting for the preverbal complementarity of focused constituents, VMs and the negative particle.[40] In addition, this assumption appropriately and satisfactorily characterizes this negative clause type. Compare the prosodic aspects of examples (21) and (22) in Figures 10 and 15 respectively.

C) Of course, the focused constituent (*Annának*) in Figure 10 is multisyllabic, and it itself creates the same prosodic pattern as the three-syllabic combination of the one-syllable negative particle and the two-syllable verb (*nem hívta*) in Figure 15. However, I would be reluctant to assume that the negative particle "(pro)cliticises" to the verb in such a way that it will receive the main, eradicating stress of this newly created phonological word. The reason for this is that this generalization goes against the most basic, most widely accepted descriptive notion of clitics: they are standardly defined as "reduced" elements phonologically dependent on a host element.[41] This would be a mirror image of the usual situation: the clitic would get the prosodic upper hand. In addition, if a one-syllable ordinary constituent is focused then its combination with the two-syllable verb will yield exactly the same phonological word type prosodic pattern as the combination of the one-syllable negative particle and the same two-syllable verb, see (23).

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[40] As I discuss in Chapter 5, a focused constituent and a preverbal negative particle can also co-occur. This is an additional, entirely different construction type to be analyzed separately.

[41] Although Louise Mycock (p.c., January 2016) points out that the "recursive prosodic word" approach can be used to accommodate this cliticization analysis: having the clitic be the first syllable in the (newly formed) prosodic word doesn't make it "host" the verb (verb ≠ clitic). When such a new prosodic word is formed, the clitic gets stressed because this is the general requirement at the level of the prosodic word in Hungarian.

(23) János ma hív-t-a fel Mari-t.
John.NOM *today* *call*-PAST-DEFO.3SG VM *Mary*-ACC
'John called Mary TODAY.'

Also note that the VM can be a full phrase as well, and in this case, too, the verb loses its phonological-word-initial stress, see (24).[42]

(24) János az asztal-ra te-tt-e a könyv-et.
John.NOM *the* *table-onto* *put*-PAST-DEFO.3SG the book-ACC
'John put the book on the table.'

On the basis of all these considerations, I think the proclitic representation of *nem* in (29) in Figure 14 and Table 2 is (also) questionable.[43]

D) It is also to be noted that there are clitic-like elements in Hungarian, but typically they are enclitics, and they satisfy all the basic criteria of (en)cliticho od, most importantly: being unstressed and phonological dependence on a host.[44] The yes-no question marker *-e*, and particles like *is* 'also', *se(m)* 'also.not' are usually considered to belong in this group.

E) Let me also point out that, at least in my idiolect, while in the case of clause negation, as in (22), the H+L accent obligatorily falls on the negative particle preceding the verb, in the case of constituent negation this accent can fall either on the negative particle, as shown by the pitchtrack of (23) in Figure 11, repeated here for convenience, or on the first syllable of the negated constituent.[45] I would be inclined to assume that it is in this latter case, i.e. when the negative particle is unstressed, that we are dealing with a proclitization phenomenon.

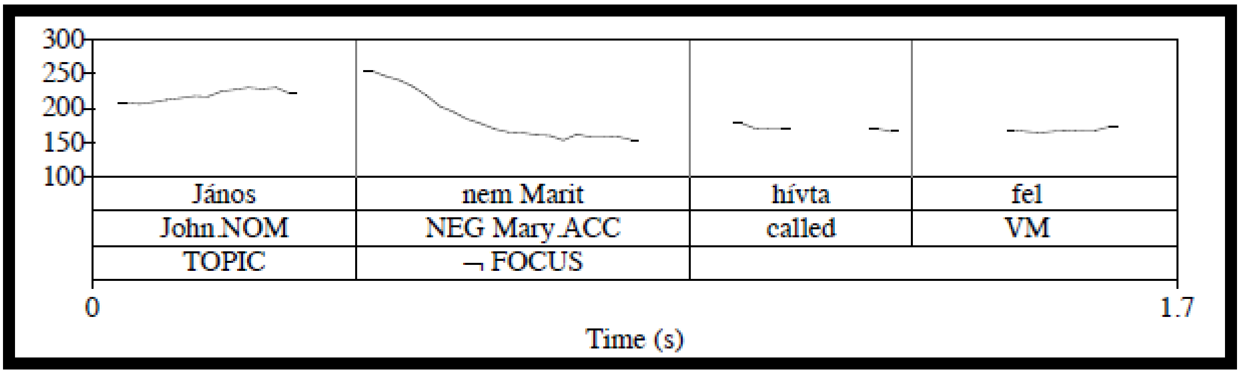


Figure 11. Pitchtrack of (23) *János nem Marit hívta fel.*

F) In addition, VPs can also be negated. In this case the obligatory pattern is that the negative particle is unstressed, and, if the VP contains a VM, the heavy stress falls on the first syllable of the VM, otherwise it falls on the first syllable of the verb. (25a) is an ordinary statement with an idiom chunk VM, and (25b) contains its VP negation counterpart.[46] I think the (obligatory) prosodic property of this NEG + VM combination is another plausible instance of procliticization.

[42] The constituent *az asztalra* 'onto the table' can be a VM in a neutral sentence, or a focus in a nonneutral one.

[43] In this connection Louise Mycock (p.c., January 2016) raises the question often raised in the literature: is it at all possible to tell the difference between "eradicating stress" at the IntP level and word-level initial stress in such cases? If the empirical answer is negative then there is no direct support for either approach.

[44] As a rule, they can never be stressed in that phonological-word-final position. Compare this with Footnote 41.

[45] For details, see Chapter 5.

[46] For further details, see Chapter 5.

(25) a.

Péter	pali-ra	vette	János-t.
Peter.NOM	paul-onto	took	John-ACC

‘Peter made a dupe of John.’

b.

Nem,	Péter	nem PALI-RA	vette	János-t,	hanem	ki	rúgta.
NEG	Peter.NOM	NEG paul-onto	took	John-ACC	but	VM	kicked

‘No, today Peter didn’t MAKE a dupe of John, but he kicked him out.’

G) We have discussed three types of negation above: (i) clause negation when the negative particle is in Spec,VP in my view, or it procliticizes to the verb both syntactically and prosodically; (ii) constituent negation; (iii) VP-negation. In (i) NEG is obligatorily heavily stressed, in (iii) it is obligatorily unstressed, and in (ii) it is either stressed or unstressed. As I will point out when I develop my own analysis in Section 4.3, Mycock (2010) makes the following crucial assumptions: (a) both syntax and prosody are capable of encoding scope relations; (b) usually they are aligned; (c) when they are not aligned, prosody determines scope. I fully agree with (a) and (b). As regards (c), my view is different. I assume that in the preverbal domain it is syntax that determines scope when there is no alignment,[47] and in the postverbal domain prosody is the determining factor in establishing scope-taking over any elements in the predicate. Now, in this general context of views of scope marking, the prosodic behaviour of the three types of negation can be described along the following lines. (a) It is unquestionable that in all the cases, irrespective of the prosodic pattern, the negative particle has scope over the constituent it is combined with: NEG + V’, NEG + XP, NEG + VP. (b) From this it follows that in these constructions it is syntax that fundamentally encodes scope. (c) When the negative particle is heavily stressed, syntax and prosody are aligned. (d) When it is unstressed, we are dealing with a conflict in scope marking between syntax and prosody, and syntax gets the upper hand. We can conclude then that these facts lend considerable support to my syntax over prosody assumption for the preverbal domain. (e) It is highly relevant in this connection that all the three types of negation belong in the preverbal domain: in the case of NEG + V’ and NEG + VP this is the case trivially. As regards constituent negation (NEG + XP), the rule is that the negated constituent must occupy the Spec,VP focus position, it can never occur postverbally, so my preverbal domain generalization for syntax-driven scope marking holds in this case as well.[48]

(28): this construction contains a negated universal quantifier and no (additional) focused constituent. Consider Mycock’s example and its pitchtrack in Figure 16.

[47] With the only exception of the case of contrastive topics, see Section 4.3.

[48] As I will show immediately below, a negated universal quantifier can, (or rather must) occupy the VP-adjoined quantifier position when Spec,VP is filled by a focused constituent, see (26). However, it is still in the preverbal domain.

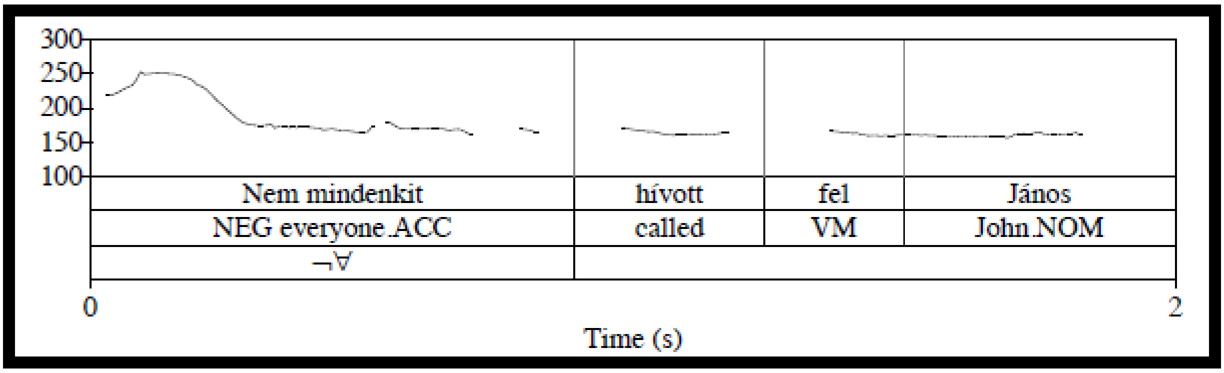


Figure 16. Pitchtrack of (28) *Nem mindenkit hívott fel János.*

The negated quantifier exhibits all the prosodic properties of an ordinary negated constituent,[49] which must obligatorily occupy the Spec,VP position: such a constituent cannot occur anywhere else in a sentence. In Chapter 5, I assume that the negation of a universal quantifier is a special case of constituent negation, because it has two syntactic positions available. (i) When there is no (other) focused constituent in the sentence, the negated quantifier must follow suit: it must fill the Spec,VP focus position designated for negated constituents. (ii) A negated universal quantifier's extra option is that it can occupy its regular operator position provided that the focus position is filled by a (possibly negated) other constituent (see 26a) or the negative particle alone (see 26b).

(26) a. Nem mindenki-t (nem) János hív-ott fel.
NEG *everyone*-ACC NEG *John*.NOM *call*-PAST.3SG VM
ca. 'It does not hold for everyone that it was (not) John who called them.'

b. Nem mindenki-t nem hív-ott fel János.
NEG *everyone*-ACC NEG *call*-PAST.3SG VM *John*.NOM
ca. 'It does not hold for everyone that John did not call them.'

Let me make two additional remarks here.

(i) Although in the unmarked case a nonnegated universal quantifier occupies its regular operator position and has a focused constituent in its scope, it is also possible for it to occur postverbally, and if it receives the appropriate prosodic prominence in that position, it can take scope over the preverbal focus. Compare (M25), repeated here as (27) and (28).

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

[49] In the spirit of my reservations about considering a verb negating negative particle to be a proclitic in the construction type exemplified in (22), I claim that the negative particle in constituent negation (including quantifier negation) should not be regarded as a proclitic, either, contra the representation in (28) in Figure 16. However, it seems to me that the common denominator here between the two approaches is that a phonological/prosodic word is created by the verb and the preceding element (whether a VM, NEG or focus), or by a constituent and NEG preceding it. And it is a separate issue whether this process is identified as procliticization or not. Given that focused constituents and some VM types are definitely phrasal, I do not find taking them to be clitic-like a very appealing solution. In addition, as Table 2 shows, in Mycock's (2010) approach "procliticized" preverbs (VMs) and "procliticized" NEG do not only make up a phonological word with the verb: they are syntactic and morphological structurally also assumed to make up a unit. In Table 2 they are represented as (morphologically) combining with the verb (below V^0) and not occupying the Spec,VP position. By contrast, my main claim is that both these elements sit in Spec,VP, but they do constitute a phonological word with the verb. In this respect, the crucial difference between Mycock's approach and mine is that in the former prosody and syntax/morphology are aligned, while in the latter there is misalignment.

(28) [János]$_{\text{FOCUS}}$ hív-ott fel **mindenki-t**.
John.NOM *call*-PAST.3SG VM *everyone*-ACC
'For every *x*, *x* = person, JOHN called *x*.'

The latter option is not available to a negated universal quantifier (or any negated constituent in the postverbal domain). Compare (26a), (28) and (29).

(29) *(*Nem) [János]$_{\text{FOCUS}}$ hív-ott fel **nem mindenki-t**.
NEG *John*.NOM *call*-PAST.3SG VM NEG *everyone*-ACC
ca. 'It does not hold for everyone that it was (not) John who called them.'

From this we can conclude that a negated universal quantifier basically follows the general principles of constituent negation. It cannot occur as freely as its nonnegated version, and it has to target the designated focus position for ordinary negated constituents, and its only privilege is that it can occupy its usual operator position iff the focus position is filled by another element.[50]

(ii) It is an additional and strong argument for assuming that an immediately preverbal negated universal quantifier is in Spec,VP, as in my analysis, and not in its regular operator position, as in Mycock's approach, that in this way we can explain why a negated universal quantifier forces a VM to occur postverbally (as opposed to its nonnegated version). Compare (M24) and (M28), repeated here as (30) and (31), respectively.

(30) **Mindenki-t** fel-hív-ott János.
everyone-ACC VM-*call*-PAST.3SG *John*.NOM
'For every *x*, *x* = person, John called *x*.'

(31) **Nem**=mindenki-t hív-ott fel János.
NEG=*everyone*-ACC *call*-PAST.3SG VM *John*.NOM
[lit.] 'John called not everyone.'
('Not everyone was called by John.')

(25): in this construction type a (nonnegated) universal quantifier co-occurs with a focused constituent. This is a crucial construction in two (related) respects from the perspective of my analysis to be presented in Section 4.3. On the one hand, it is comparable to (24) in which there is a ("preverbal") VM. On the other hand, here we are dealing with two operators in Mycock's operator field, and the universal quantifier steals the customary prosodic prominence from the focused constituent. Compare (24) and its pitchtrack in Figure 13, repeated here as Figure 17, with (25) and its pitchtrack in Figure (18).

[50] In Chapter 5 I will argue that it is the privilege of certain types of operators that when they are negated they can occupy the regular VP-adjoined position iff Spec,VP is filled by a focused constituent. In my analysis, this holds not only for negated universal quantifiers like *nem mindenki* 'not everybody' but also ***(i)*** for negative polarity items combined with an encliticizing negative particle *nem/sem* 'not/also_not' as in *senki nem/sem* 'not/also_not anybody'; and ***(ii)*** for ordinary constituents negated by the enclitizing negative particle *sem* 'also_not', which turns these constituents into negative polarity items, e.g. *János sem* 'also not John / not John, either'.

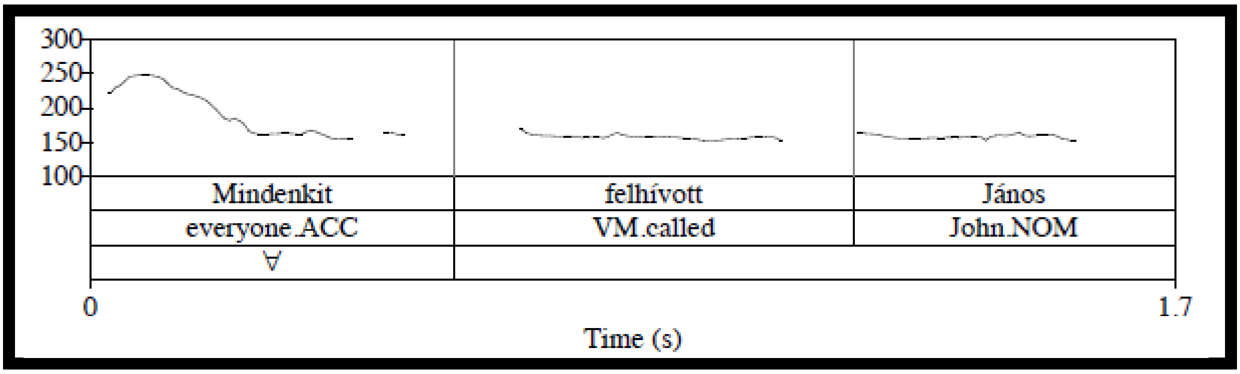


Figure 17. Pitchtrack of (24) *Mindenkit felhívott János.*

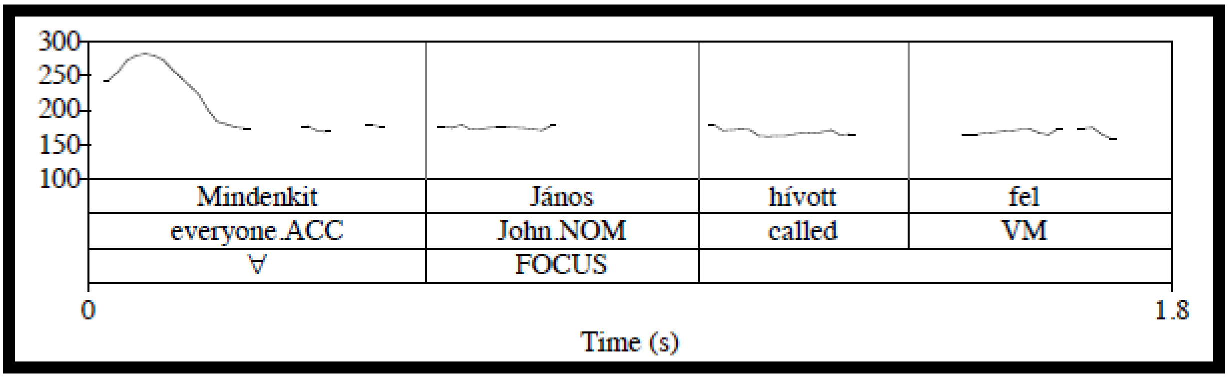


Figure 18. Pitchtrack of (25) *Mindenkit János hívott fel.*

Mycock compares (24) and (25) in the following way. "This same intonational pattern is found in a sentence which includes both a universal quantifier and a preverbal focused constituent. However, prosodic prominence does not align with syntactic focus in such an utterance […]. Rather, the sharp fall in pitch occurs at the left edge of the distributive quantifier *mindenkit* 'everyone' and the syntactic focus *János* is realised as part of the following low plateau (25)" (2010: 278). In Section 4.3, I will claim that the prosodic properties of these constructions lend additional support to two aspects of my analysis: (i) to the assumption that the Spec,VP position hosts focused constituents and VMs in complementary distribution: both types co-occur with a nonnegated universal quantifier left-adjoined to the VP); (ii) to my predication vs. predicate distinction: either the left edge of the predication, the leftmost VP-adjoined operator or the left edge of the predicate, i.e. the Spec,VP can receive prosodic prominence – the construction in (25) instantiates the former, and an ordinary focused construction instantiates the latter.[51]

At this point I find it useful to summarize, in a tabular form, the (non)co-occurrence in the preverbal domain of the following operators: universal quantifier (∀), focus (Foc) and negative particle (NEG), see Table 3. Compare it with the relevant rows of Mycock's (2010) Table 2 above.

[51] As I will point out and exemplify below, the choice between the two options is regulated partially by the lexical properties of the constituents involved and partially by the intended scope relations.

topic field	operator field	Spec,VP	V	postverbal field	
	∀	VM	V		(a)
		NEG-∀	V	VM	(b)
∀		NEG	V	VM	(c)
*NEG-∀		NEG	V	VM	(d)
	∀	Foc	V	VM	(e)
	*∀	NEG-Foc	V	VM	(f)
	*∀	NEG	V	VM	(g)
	NEG-∀	Foc	V	VM	(h)
	NEG-∀	NEG-Foc	V	VM	(i)
	NEG-∀	NEG	V	VM	(j)

Table 3. The distribution of ∀, Foc and NEG in the pre-verbal domain

The unacceptability of some combinations is due to scope constraints.

- In a neutral sentence, a universal quantifier precedes a preverbal VM: (a).
- In a neutral sentence, a negated universal quantifier precedes the verb, and a VM must occur postverbally: (b).
- A universal quantifier can be in the scope of negation (as a contrastive topic), but a negated universal quantifier cannot: (c)-(d).
- A universal quantifier can have focus in its scope: (e), but it cannot have negation in its scope: (f)-(g).
- A negated universal quantifier can have both focus and negation in its scope: (h)-(j).

(35): (both (33) and (35) illustrate the same construction type): in Hungarian constituent questions more than one question phrase can precede the verb immediately (or, more precisely, when there is more than one question phrase in a sentence, all of them must immediately precede the verb in an uninterrupted sequence), and given that in Section 4.1 I showed these examples in Figures 5 and 2, respectively, here I only repeat the more complex one (containing three question phrases) given in Figure 2 as Figure 19 for convenience.

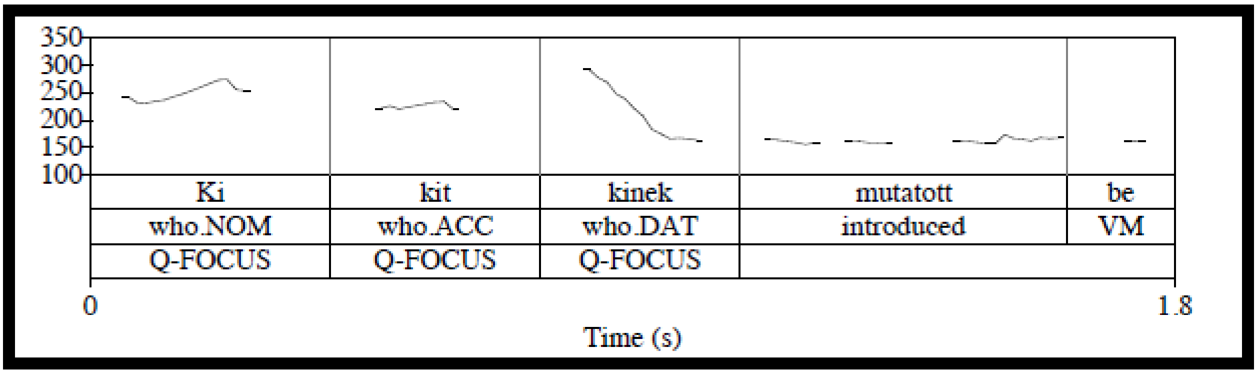


Figure 19. Pitchtrack of (35) *Ki kit kinek mutatott be?*

- The essence of Mycock's proposal about this construction type is as follows.
  a) [t]he main stressed constituent marks the right edge of a unit of some sort which it forms with those preceding constituents within the predicate that bear the H monotone, thus forming a single predicate-initial constituent whose right edge is marked by the H+L accent. […] This is plausible if one analyses all question phrases in a multiple CQ as bearing the discourse function (Questioning) focus […]. In that case, H H+L could be analysed as forming a prosodic focus unit (2010: 286).

b) I follow Varga (2002: 37-8) and assume that a H monotone 'points' to the H+L pitch accent which immediately follows it because only the latter is significant in prosodic terms. […] The native speakers I consulted identify the final question word in a regular multiple CQ as being the most important one – the one that the question is 'about' in the sense of being the information gap that is of primary concern. […] The sorting key communicates how the questioner expects information in any answer to be organised, and thus is an important factor in determining whether a response is felicitous […] in Hungarian, the final (i.e. rightmost) question word in the immediately preverbal group, which is prosodically prominent, was identified by the consultants as most important and therefore the sorting key (2010: 287).

c) I propose that through the intonational pattern associated with it, the question word which has sorting key status indicates that interrogative operators scope widest. […] The sorting key is prosodically prominent and also linearly final in the preverbal group. Together, prosody and syntax mark sorting key status in spoken Hungarian (2010: 288).

- Let me make three remarks on Mycock's approach.
  (a) In the first part of this section, I have already discussed some formal syntactic issues pertaining to the assumption that all preverbal question phrases make up a single cluster in the Spec,VP position, see Figure 19. As I pointed out in Section 4.1, according to Mycock this prosodic pattern of multiple questions undermines É. Kiss' (2002) Stress-Predicate Edge Alignment hypothesis, because in Mycock's analysis the entire question phrase cluster is at the beginning of the predicate; however, it is the last constituent that receives the H+L pitch accent, thereby violating É. Kiss' alignment rule. For my detailed critical discussion of Mycock's view, see the relevant part of Section 4.1. For my analysis, one of whose "side-effects" is that it also offers a principled way of maintaining É. Kiss' hypothesis by augmenting it, see Section 4.3.
  (b) This cluster of question phrases is assumed to form a single (H H+L) prosodic unit, and as such it receives a uniform (general) questioning focus DF interpretation, and the immediately preverbal question phrase with its H+L pitch accent is held responsible for encoding this by making the whole unit prosodically significant. While the salient marking of the right edge of this proposed syntactic and prosodic unit is straightforward, one wonders how the left edge of this cluster can be prosodically delimited (identified). It seems to me that the contours of topics and nonfinal question phrases are basically identical.[52] Consider the following minimal pair in Figures 20 and 21, containing examples and pitchtracks taken from Mycock (2010).

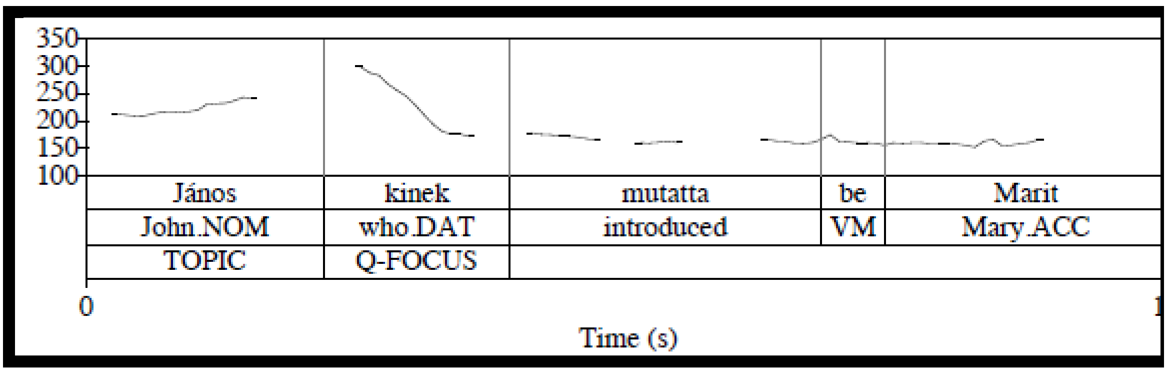


Figure 20. Pitchtrack of (31) ***János kinek mutatta be Marit?***

[52] This, however, would require further empirical research, as has been pointed out by Louise Mycock (p.c., January 2016). Also see Mycock's (2010) remarks to the same effect.

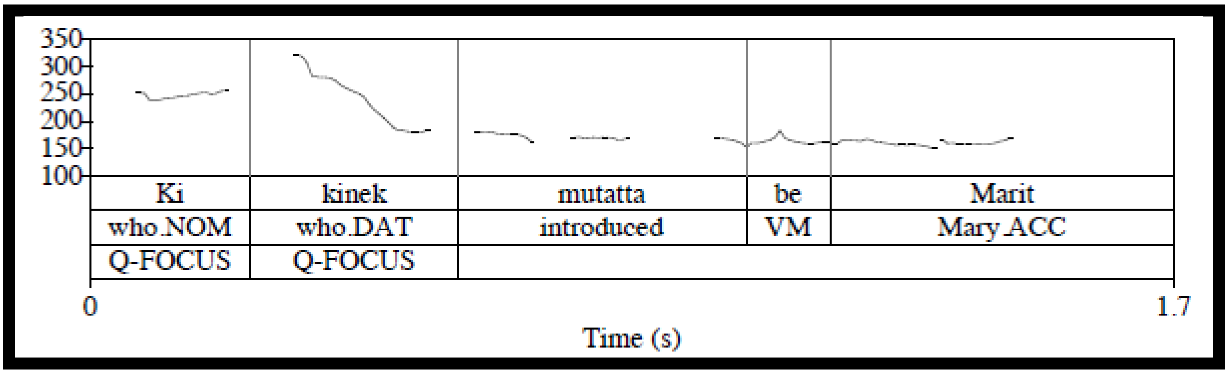


Figure 21. Pitchtrack of (33) ***Ki kinek mutatta be Marit?***

It seems to me that Mycock's topic *János* 'John', in (31) in Figure 20 has the same prosody as her question-focus *ki* 'who' in (33) in Figure 21.[53] By pointing this out, I do not at all mean to say that nonfinal question phrases are syntactic topics,[54] but I think their prosodic behaviour is also compatible with a syntactic analysis in which they are outside the VP, i.e. the final question phrase is in Spec,VP and all the others precede the VP, as in Lipták's (2001) and É. Kiss' (2002) analysis and in mine to be presented in Section 4.3. As I mentioned in Section 4.1, in Section 4.3 I will claim that this alternative analysis is also supported (at least indirectly) by the fact that Mycock (2010) has attested additional (although much less frequent) alternative prosodic patterns associated with multiple constituent questions (with possibly different interpretations). For details, see Sections 4.1 and 4.3.

(c) The fundamental function of the prosodically salient final question phrase in Mycock's approach is to encode that "interrogative operators scope widest", i.e. the entire cluster receives the wide-scoping question-focus interpretation. In addition, she assumes that in the domain of question-focus discourse functions the final question phrase has the distinguished sorting key status. Although in Section 4.3 I will point out that I find Mycock's general view that in terms of their discourse functional properties question phrases can be separately classified along the same lines as ordinary noninterrogative constituents (focus, topic, completive information, background information),[55] it seems clear that she erroneously takes the final question phrase to have the sorting key status (despite the "aboutness" aspect elicited from her informants). First of all, for instance, both Surányi (2006, 2007) and Gazdik (2012) claim that it is the nonfinal question phrases in Hungarian that are sorting keys. Surányi's generalization is that they are topics semantically,[56] but not syntactically (sitting in Spec*,FocP or Spec,TP), while Gazdik considers them to be topics both semantically and syntactically. In Section 4.3, I will point out that I agree with Surányi's general take on this issue. In my analysis, nonfinal question phrases are topics semantically, but syntactically they are in the operator field (in VP-adjoined positions). Secondly, the final question phrase is best analyzed as Mycock's questioning focus.[57] It has long been assumed that one of the basic functions

[53] But, again, this would require targeted empirical research in the future, see the previous footnote.

[54] On the issue of the precise DF status of nonfinal question phrases, which is semantically related to topichood, see point (c) below.

[55] For her classification of question word types, see Mycock (2013).

[56] This assumption is supported by the fact that in answers to multiple questions, the constituents responding to nonfinal question words are topics, and the constituent in Spec,VP, responding to the final question word is undoubtedly the focus.

[57] Again, see Mycock (2013) in the context of English question words.

(interpretations) of a noninterrogative focused constituent is to reply to the focused (i.e. immediately preverbal) question phrase in an overt or implicit constituent question (in an “exhaustively identifying” fashion). For instance, Bródy & Szendrői (2011) propose that this exhaustive interpretation connects question-answer pairs in which the focused final question phrase in the interrogative sentence and the focused constituent in the answer are formally related by the EXH (exhaustivity) operator. I also agree with this general question-answer correspondence in the focus position (although my LFG analysis is inevitably radically different from Bródy & Szendrői’s (2011) MP account). From this it follows that I also reject the assumption that the final question phrase in Hungarian sentences has the sorting key discourse function. Instead, it has the questioning focus status. Thirdly, as I pointed out in (b) above, the prosody of nonfinal question phrases looks identical to that of topics.[58] This lends considerable support to their interpretation as topics, i.e. sorting keys.

(39): this is the last construction type in Mycock’s (2010) Table 2. When I discussed the general aspects of her analysis, I pointed out that one of its cornerstones is the assumption that a single-constituent noninterrogative focus and a possibly multiple-constituent interrogative focus are in strict complementary distribution: they cannot co-occur or intermingle. Despite this fact, on the one hand, Mycock mentions a construction type in which there is a noninterrogative focus + interrogative focus. She discards this by saying that a special context is required for its acceptability. My comment is that even so any approach should offer an analysis of this construction as well, and it seems to pose a serious challenge for Mycock because of the above-mentioned strict complementarity assumption. The second major construction type that I consider even more problematic for Mycock’s approach is attested, discussed and even analyzed by her;[59] however, she fails to realize or point out this major problem.[60] When I develop my account in Section 4.3, I will emphasize the significance of Mycock’s experimental findings: she has attested two distinct prosodic patterns associated with this construction type, see Figure 22.

[58] But, as I also pointed out above, this needs to be tested empirically in future work.

[59] She stars the previous construction type (without an appropriate context), but she presents this as absolutely acceptable. (Let me note in parentheses though that this construction type needs an appropriate context just as badly as the other one.)

[60] Consider the following quote. “Recall that a preverbal question word and a noninterrogative focus can only co-occur when the latter, which is immediately preverbal, is negated” (2010: 283). Recently, Louise Mycock (p.c., January 2016) has clarified this by explaining that originally she assumed (although did not say explicitly) that the fact that NEG, an operator of a different type, is also involved in this construction type, is an important factor. Even so, I think her fundamental “interrogative focus vs. noninterrogative focus complementary distribution” generalization would need substantial revision.

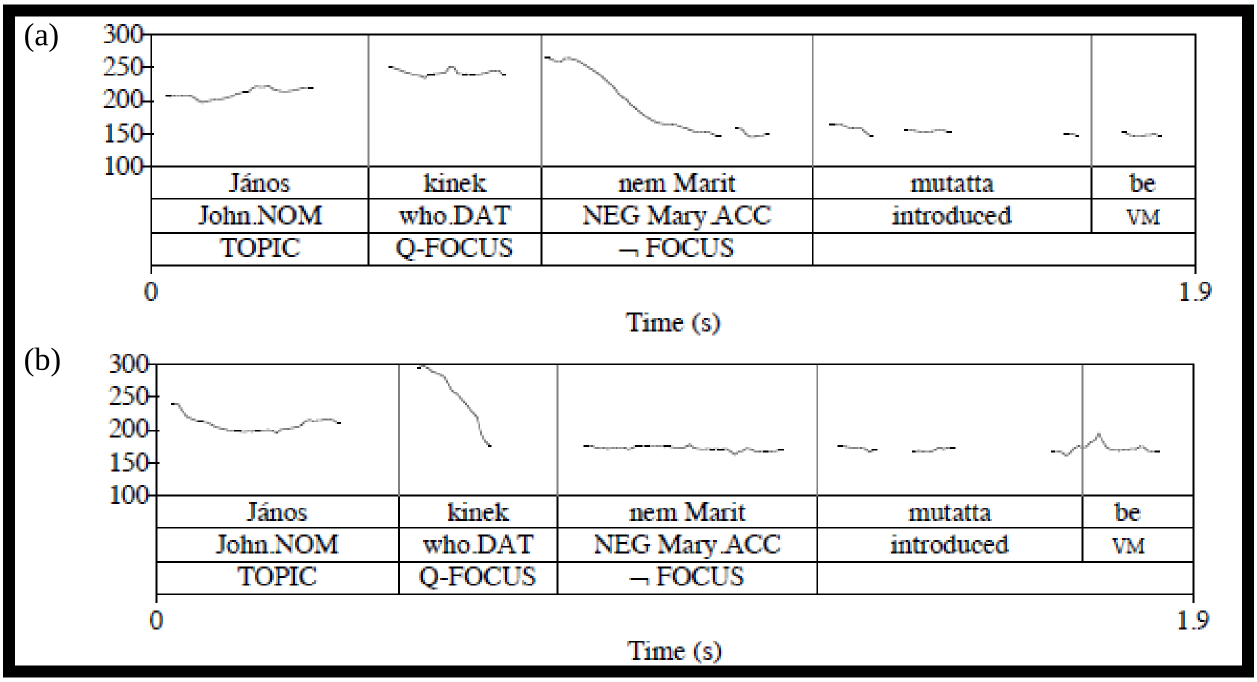


Figure 22. Pitchtracks of (39a,b) *János kinek nem Marit mutatta be?*

I will claim that this alternation yields further support to my analysis.

At the end of discussing Mycock's (2010) Table 2 let me juxtapose her syntactic analysis of the relevant construction types with my syntactic analysis to be presented in Section 4.3. Consider Table 4.

Mycock (2010)				**Laczkó (Section 4.3)**			
Predicate				Predication			
Operator Field			VERB	Operator Field	Predicate		
QP	FOCUS			QP	Spec,VP	VERB	
---------	focus		verb	---------	focus	verb	(21)
---------	NEG+focus		verb	---------	NEG+ focus	verb	(23)
---------	single Q-phrase		verb	---------	single Q-phrase	verb	(31)
∀	------------------------		VM+verb	∀	VM	verb	(24)
∀	------------------------		NEG+verb	--------- (!)	NEG	verb	(29)
NEG+∀	------------------------		verb	---------	NEG+∀	verb	(28)
∀	focus		verb	∀	focus	verb	(25)
---------	**Q1**	Q final	verb	**Q1**	Q final	verb	(33)
---------	**Q1 Q2**	Q final	verb	**Q1 Q2**	Q final	verb	(35)
---------	**Q1**	NEG+focus	verb	**Q1**	NEG+focus	verb	(39a)
---------	Q1	NEG+focus	verb	Q1	NEG+focus	verb	(39b)

Table 4. Comparison of Mycock's (2010) and my syntactic analysis

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

(24): Mycock: the quantifier is in QP; the Spec,VP position, which is reserved for focused constituents in her approach, is empty; the VM morphologically combines with the verb (i.e. both elements are under V^0). Laczkó: the quantifier is in QP here, too; the Spec,VP position is also a standard position for VMs, so the VM occupies this position; and the simplex verb is under V^0.

(29): Mycock: the quantifier is in QP; the Spec,VP position, which is reserved for focused constituents in her approach, is empty; and the negative particle procliticizes to the verb under V^0. Laczkó: the quantifier is ***not*** in QP here, as I argued above: it is in a (contrastive) topic position preceding the QP, hence the "--------- (!)" representation in Table 4; the Spec,VP position is also a standard position for the negative particle, so NEG occupies this position, and the simplex verb is under V^0.

(28): Mycock: the negated universal quantifier is in its regular ("cartographic") QP position; Spec,VP is empty; and the verb is in V^0. Laczkó: the negated universal quantifier is in Spec,VP, just like any ordinary negated constituent, which must be focused as a rule;[61] and the verb is in V^0.

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

(33), (35): Mycock: all the question phrases make up one cluster that occupies the Spec,VP focus position. Laczkó: it is always the final (immediately preverbal) question phrase that occupies the Spec,VP position; and all the nonfinal question phrases are in the operator field, in left-VP-adjoined positions.[62]

(39a,b): The fundamental difference between the two approaches is the same as in the case of the previous construction type. Mycock: the (nonimmediately-preverbal) question phrase and the negated (noninterrogative) focus make up a cluster, which is the focused unit in Spec,VP. Laczkó: only the negated (noninterrogative) focus is in Spec,VP; and the (nonimmediately-preverbal) question phrase is in a left-VP-adjoined position (in the operator field).[63]

---

[61] As I pointed out in the discussion above, a negated universal quantifier can only occupy the QP position if the Spec,VP position is filled by a nonnegated focused constituent:

(i)

NEG+∀	FOCUS	verb

[62] On empirical generalizations about the possible ordering and scope relations among various types of quantifiers and operators (including focus, wh-words and negation) in the preverbal domain, see É. Kiss (1992) and Kálmán (2001), among others. As I have pointed out several times, in this dissertation I concentrate on modelling the most basic facts and leave the developing a detailed and comprehensive analysis of the relevant phenomena in this domain to future work.

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

4.3. My alternative analysis

In Chapter 2, I show that there are two fundamental types of generalized Hungarian sentence articulation in the literature, see Table 5 as a reminder (this was Table 1 in Chapter 2).

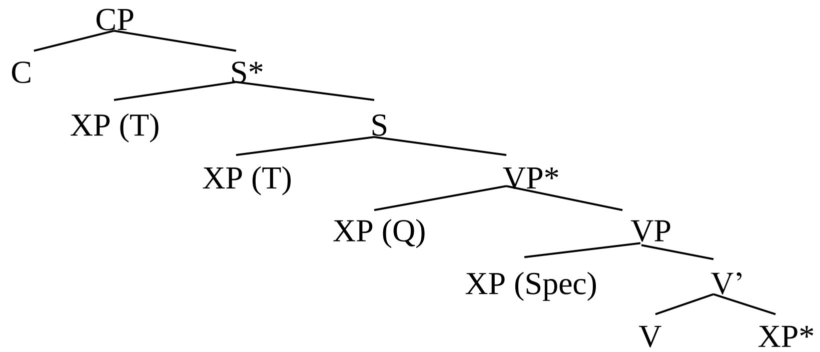
<table>
<tr><td>TOPIC</td><td colspan="5">PREDICATE</td></tr>
<tr><td rowspan="2">(A)
(contrastive)
topic, sentence
adverb</td><td rowspan="2">(B)
quantifier</td><td colspan="2">(C)
focus/VM</td><td rowspan="2">(D)
verb</td><td rowspan="2">(E)
postverbal
constituents</td></tr>
<tr><td>(Ca)
focus</td><td>(Cb)
VM</td></tr>
</table>

Table 5. Hungarian sentence articulation

The well-known difference between them is that one of them assumes that foci and VMs compete for the same preverbal position, while the other postulates two distinct positions which cannot be simultaneously filled: (C) vs. (Ca) + (Cb). Basically, on the grounds of the actual complementarity of the two construction types and LFG's what-you-see-is-what-you-get representational rule of thumb, I adopted (C), and I outlined an LFG-XLE treatment of the major construction types in the (B) and (C) positions. My fundamental goal in this section is as follows. Partially on the basis of my main claims and generalizations in Sections 4.1 and 4.2, I set out to augment and modify the analysis of constituents in the (B) and (C) positions that I developed in Chapter 2 in order to cover both the ordinary and the special construction types presented in Section 4.2.

In Chapter 2, I posited the following generalized sentence structure.[64]

(32)



I associated the following functional annotations with constituents in the topic field, in the operator field and in Spec,VP (in Chapter 2 this was Table 5).

<table>
<tr><th>T (topic field), $[XP\ S]_S$:
{ (c-)topic | sent.adv. }</th><th>Q (operator field), $[XP\ VP]_{VP}$:
{ quantifier | WH }</th><th>Spec,VP:
{ focus | WH | VM }</th></tr>
<tr><td>{ (↑GF)= ↓
{↓ ∈ (↑ TOPIC)
| ↓ ∈ (↑ CONTR-TOPIC)}
| ↓ ∈ (↑ ADJUNCT)
(↓ADV-TYPE)=c SENT }</td><td>(↑GF)= ↓
{ (↓CHECK _QP)=c +
| (↑CHECK _VM-INTER)=c +
(↓CHECK _QP-INTER)=c +
(↓SPECIFIC)=c + }</td><td>{ (↑GF)= ↓
(↑FOCUS)= ↓
| (↑GF)= ↓
(↓CHECK _VM-INTER)=c +
((↑CHECK _VM-INTER)= +)
| { (↑GF)= ↓
| ↑=↓ }
(↓CHECK _VM)=c + }</td></tr>
</table>

Table 6. Basic functional annotations in the left periphery

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

In the topic field there are three basic annotational possibilities for a constituent. (A) It has either an argument function or an adjunct function (represented as GF in a generalized way: (↑GF)= ↓), and it has (Ai) a topic or (Aii) a contrastive topic discourse function.[65] (B) It has an adjunct function if it is a sentence adverb: (↓ADV-TYPE)=c SENT. It is to be noted that in the rules in Table 6. I only model the most significant syntactic properties of the basic construction types. I do not cover scope relationships, among other things. For instance, it is a well-known empirical generalization about contrastive topics that they must occur in a sentence containing a focused constituent, and, furthermore, their scope must be narrow with respect to that of the focus. Thus, a fuller annotational representation of the contrastive topic disjunct in Table 6 could be as is informally shown in (33).

(33) (↑GF)= ↓
↓ ∈ (↑ CONTR-TOPIC)
(↑ FOCUS SCOPE)= wide
(↓ SCOPE)= narrow

In (34), for example, if the subject, *Péter* 'Peter', receives a contrastive topic intonation, it scopes below the focused object *Anná-t* (Anna-ACC).

(34) Péter **Anná-t** dicsér-t-e.
Peter.NOM *Anna*-ACC *praise*-PAST-DEFO.3SG
ca. 'As regards Peter, it was Anna that he praised.'

The third annotation requires the presence of the focus function in the sentence, on the one hand, and it specifies its scope value as wide with respect to the (narrow) scope of the contrastive topic, specified in the fourth line, on the other hand.

The annotations in the operator field also only programmatically capture the main properties of two basic construction types.

(A) The first disjunct captures the generalization that this VP-adjoined position is available to quantifiers in all kinds of grammatical functions: (↑GF)= ↓. The restriction to quantifiers is encoded by a CHECK feature pair whose constraining member is associated with the constituent in c-structure: (↓CHECK _QP)=c +, and its defining member is included in the lexical forms of elements intrinsically specified as quantifiers. The crucial annotation is this:

(35) L (quantifier) …
…
(CHECK _QP (GF*↑))= +

This CHECK feature representation contains an inside-out functional uncertainty relation: (GF*↑), because a quantifier can be (multiply) embedded in a constituent; however, it still

[65] Three remarks are in order here. (i) Earlier, for instance in É. Kiss (1992), it was assumed that contrastive topics occupy a distinct left-peripheral position. However, given that they can intermingle with ordinary topics and sentence adverbs, they are generally assumed to occur in the regular topic field. (ii) As I pointed out in Chapter 1, I assume an architecture of LFG in which all discourse functions are represented in i-structure. However, in this dissertation, for the sake of simplicity of exposition, even in such cases I use the customary f-structural annotations, involving the usual ↑ and ↓ symbols (in the spirit of an earlier architecture of the theory). Thus, they should be interpreted as metavariables linking the elements involved to i-structure: $\uparrow_\iota$ and $\downarrow_\iota$. I leave the full investigation and LFG style modelling of scope relations (including the relative scope among contrastive topics, for instance) in finite sentences covering both the preverbal and postverbal domains to future work. (iii) Given that there can be several (contrastive) topics in a sentence, topics get the set annotation just like adjuncts: ↓ ∈ (↑ …).

turns this entire constituent into a quantified phrase which is required to occupy the designated quantifier position.

(B) The second disjunct in the operator field encodes my view of multiple constituent questions, which I argued for in Section 4.2: I assume that all nonfinal (i.e. nonimmediately preverbal) question phrases are in the operator field. The (↑CHECK _VM-INTER)=c + and the (↓CHECK _QP-INTER)=c + constraining equations guarantee that this position can be occupied by an interrogative expression (see the second equation) if the Spec,VP position is also occupied by another question phrase (see the first equation). The defining equation counterpart of the first equation is associated with the Spec,VP position, for details, see below, while the defining counterpart of the second equation is part and parcel of the lexical forms of question words, see (36). The (↓ SPECIFIC)=c + constraining equation has been added to capture É. Kiss' (1992) empirical generalization to the effect that in multiple constituent questions specific interrogative expressions target the operator field. I assume that question words have the generalized lexical form shown in (36).

(36) L (wh-word) …[66]
(↑ PRON-TYPE)= interrogative
(STMT-TYPE (GF* ↑))= wh-interrogative
~(FOCUS (GF* ↑))
{ (CHECK _VM-INTER (GF* ↑))= +
| (CHECK _QP-INTER (GF* ↑))= + **}**

The annotations encode the following properties respectively.

- These elements are interrogative pronouns: (↑ PRON-TYPE)= interrogative.
- They occur in constituent questions: (STMT-TYPE (GF* ↑))= wh-interrogative.[67]
- They occur in sentences that do not contain a focused constituent: ~(FOCUS (GF* ↑)).[68,69]
- They are constrained to occur either in the Spec,VP position: (CHECK _VM-INTER (GF* ↑))= +, or in the (VP-adjoined) quantifier positions: (CHECK _QP-INTER (GF* ↑))= +.

And now let me comment on the annotations associated with the Spec,VP position in Table 6.

- The three main disjuncts encode that focused constituents, question phrases and VMs are in complementary distribution (in this order).
- The first disjunct is straightforward: a constituent bearing any grammatical function also has the FOCUS discourse function.

[66] An XLE technical remark is in order: (GF* ↑) in these annotations has to refer to the same path, so a local variable needs to be used to anchor it.

[67] STMT-TYPE stands for statement type. Note that a question word, just like a quantifier, can be (multiply) embedded in a constituent, and even in that case it turns a sentence into a constituent question; that is why the STMT-TYPE annotation contains the inside-out functional uncertainty representation.

[68] This captures the fact in my earlier analysis that, on the one hand, question phrases and ordinary focused constituents are in complementary distribution, competing for the same Spec,VP position, and, on the other hand, even when one or several of them do not occur in Spec,VP that position has to be occupied by another question expression (and not a focused constituent). Naturally, these aspects of the analysis will be modified in this section, when certain special construction types are also accounted for, for instance the co-occurrence of a question phrase in the operator field with a negated noninterrogative focus. Also see the next footnote.

[69] It is a widely discussed exception that the question word *miért* 'why' behaves differently: it can occur in a VP-adjoined position when Spec,VP is occupied by a focused constituent, see Section 4.2, for instance. This calls for a special treatment which I will include in my analysis of (multiple) constituent questions in this section. However, it is obvious already that the ~(FOCUS (GF* ↑)) negative existential constraint will have to be removed from the lexical form of this particular question word, and in the annotations associated with the VP-adjoined position the simultaneous presence of an ordinary focused constituent will have to be optionally encoded, but all this will have to be appropriately constrained to questions containing *miért* 'why'.

- In the second disjunct, the first (constraining) CHECK feature equation requires that a question phrase occupy this designated position. The lexical forms of question words contain its defining counterpart, see (6).
- In the second disjunct, the second, optional, defining CHECK feature equation serves as the licensor of the occurrence of question phrases in the operator field.[70] The system works in the following way. When this optional CHECK feature is not present in the structure, no question phrase can occur in the quantifier position, because it is not licensed. When this CHECK feature is present, it requires the presence of one or more question phrases. From the perspective of question phrases in the operator field: they can only occur there if the Spec,VP position is filled by a question phrase.
- The third disjunct takes care of VMs. The defining counterpart of its constraining CHECK feature equation is given in the lexical forms of the elements that can occupy this position in neutral sentences (that is, in nonfocused sentences and nonconstituent-question sentences). The functional head annotation (↑=↓) in the disjunction is for particles in particle-verb constructions, and the (↑GF)=↓ annotation handles all the other types of VMs.

Let me make two comments on my previous account I summarized above, concentrating on the operator field and Spec,VP. This version of the analysis is programmatic in two important respects. (i) It only covers the most basic construction types, and shows how they can be analyzed in an LFG framework. (ii) Even in this limited domain, it does not deal with ungrammaticality most probably due to the general incompatibility of certain types of operators.[71] The analysis to be developed below has been designed to be more comprehensive and more adequate in both respects.

Before I develop my augmented and modified analysis, let me present the most important aspects and dimensions of this approach. Fundamentally, I subscribe to Mycock's (2006, 2010) LFG framework. Consider the following sentence. This is from Mycock (2010: 280). It was discussed in the previous section, and its number was (M31) and now I repeat it as (37), and consider its pitchtrack in Figure 20, repeated here as Figure 23 (next page).

(37)	[János]$_{\text{TOPIC}}$	[**ki-nek**]$_{\text{FOCUS}}$	mutat-t-a	be	Mari-t?
	John.NOM	*who*-DAT	*introduce*-PAST-DEFO.3SG	VM	*Mary*-ACC
	'Who did John introduce Mary to?'				

[70] Its constraining counterpart is associated with the VP-adjoined position, see my discussion of annotations associated with the operator field above.

[71] To illustrate this point: a universal quantifier does not tolerate a question phrase in Spec,VP:

(i)	*Mindenki	ki-t	hív-ott	fel?
	everyone.NOM	who-ACC	call-PAST.3SG	VM
	'Who did everyone call up?'			

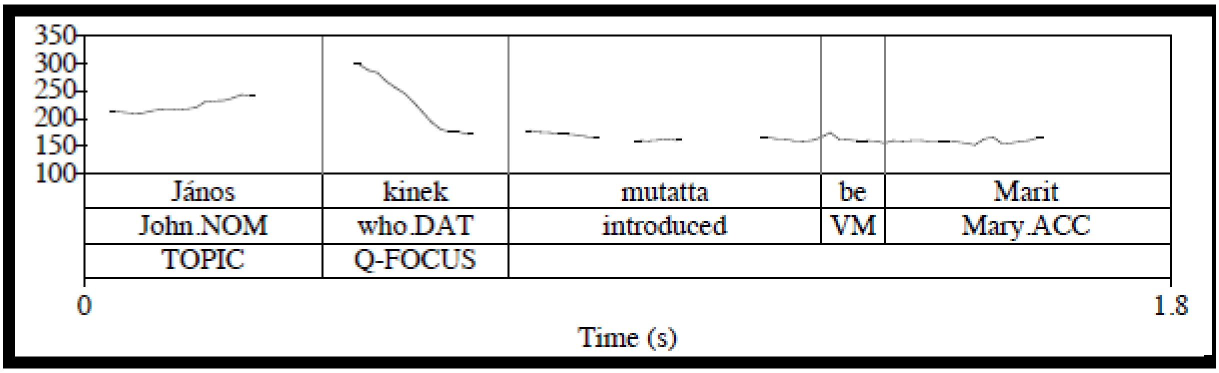


Figure 23. Pitchtrack of (31) *János kinek mutatta be Marit?*

I chose this example because Mycock (2006: 237-238) offers a detailed analysis of the very same sentence. So here we have a full picture: the pitchtrack from Mycock (2010) and the LFG analysis from Mycock (2006) in Figures 24 and 25. Figure 26 shows the constituent question formation rule Mycock assumes.

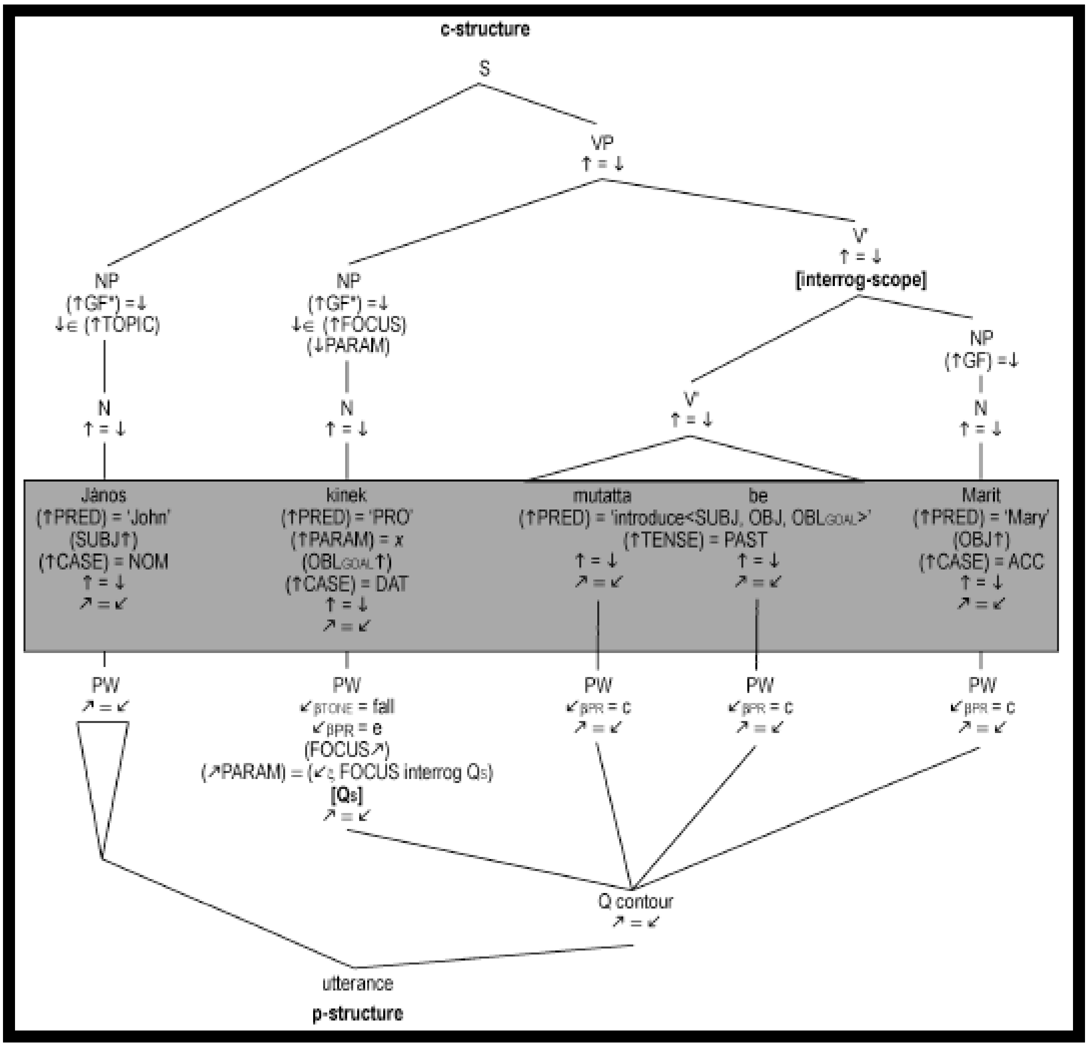


Figure 24. Mycock's (2006) c-structure and p-structure of (31) *János kinek mutatta be Marit?*

The two structures, associated with the s-string, consisting of lexical items, and the p-string, consisting of phonological words, are given in a parallel fashion. In this way, syntax-prosody (mis)matches can be efficiently represented.[72] From the perspective of this dissertation, the crucial annotations in the two structures are those that encode the following facts. (i) In the Spec,VP position the constituent is associated with the focus discourse function, see ↓∈(↑FOCUS) in the c-structure representation. (ii) This constituent also has prosodic prominence: ↙βtone=fall, and its focus type is interrogative: (FOCUS↗), (PARAM↗)=↙ξ FOCUS interrog Qs), see the p-structure encoding. This representation is based on the following complex rule assumed by Mycock.

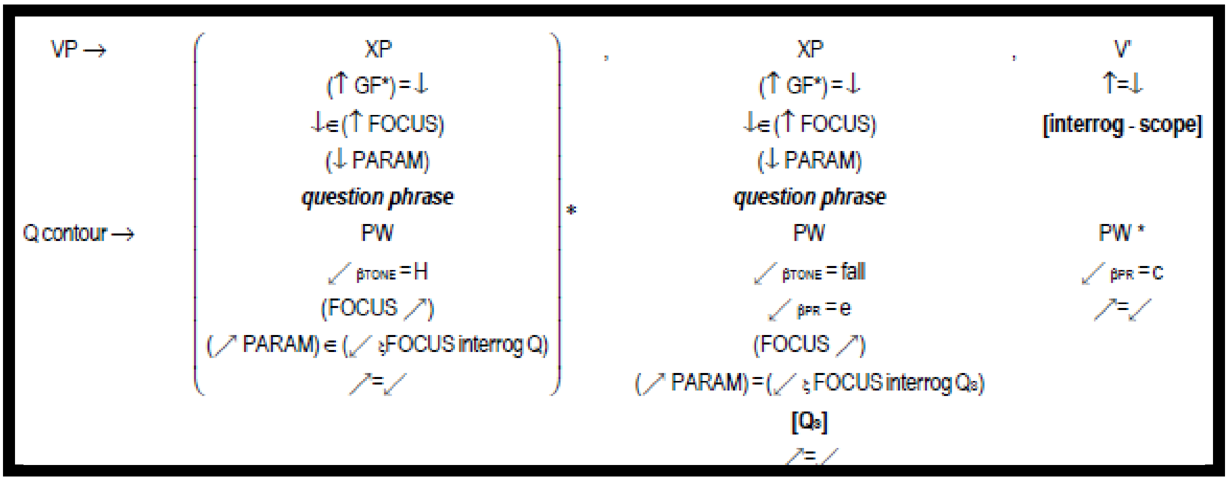


Figure 25. Mycock's (2006) constituent question formation rule for Hungarian[73]

Note that Mycock (2006) uses the following p-structure elements in the representation in Figure 24: utterance – Q contour – phonological word (PW). There are also alternative LFG approaches to prosody and the prosody-syntax and the prosody-semantics interface, see, for instance, Butt & King (1998), O'Connor (2006), Bögel et al. (2009, 2010), and Dalrymple & Mycock (2011). Dalrymple & Mycock (2011) develop a framework designed to capture interface phenomena. Consider one of their examples and its analysis in Figure 27, which is cast in the space of the p-structure categories given in Figure 26, based on Selkirk (1986).

Utterance (Utt)
|
Intonational Phrase (IntP)
|
Phonological Phrase (PhP)
|
Prosodic Word (PW)

Figure 26. Dalrymple & Mycock's Prosodic Hierarchy (2011: 180)

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[72] This approach is further developed in Dalrymple and Mycock (2011).

[73] This type of rule has been superseded by Dalymple & Mycock (2011) and Mycock & Lowe (2013).

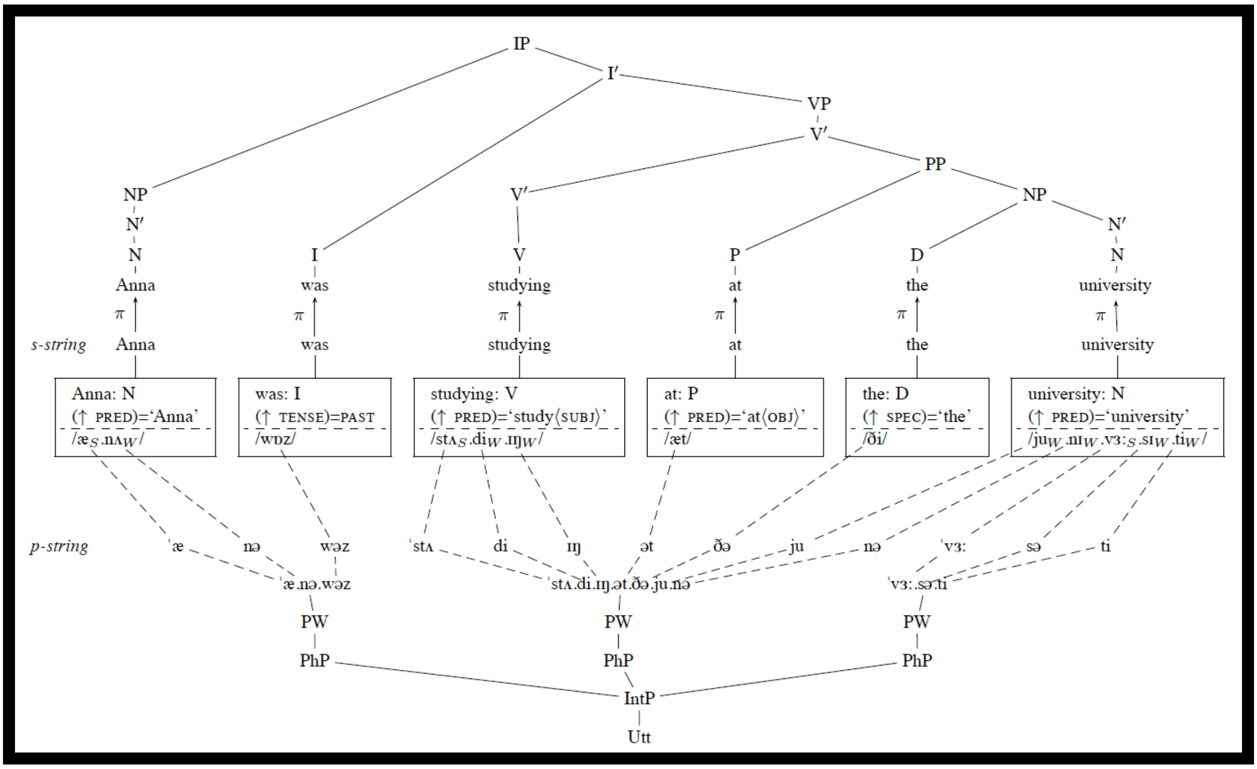

Figure 27. Default phrasing: ***(Anna was)$_{PW}$ (studying at the uni)$_{PW}$ (versity)$_{PW}$*****.**
Dalrymple & Mycock (2011: 181)

In this dissertation, I do not deal with the (additional) prosodic aspects and details of my analysis. I simply assume that they can be formally expressed and integrated in the overall account along the general lines of Mycock (2006) or Dalrymple & Mycock (2011).

Now consider Mycock's (2006) f-structure and i-structure analysis of (37) in Figure 28.

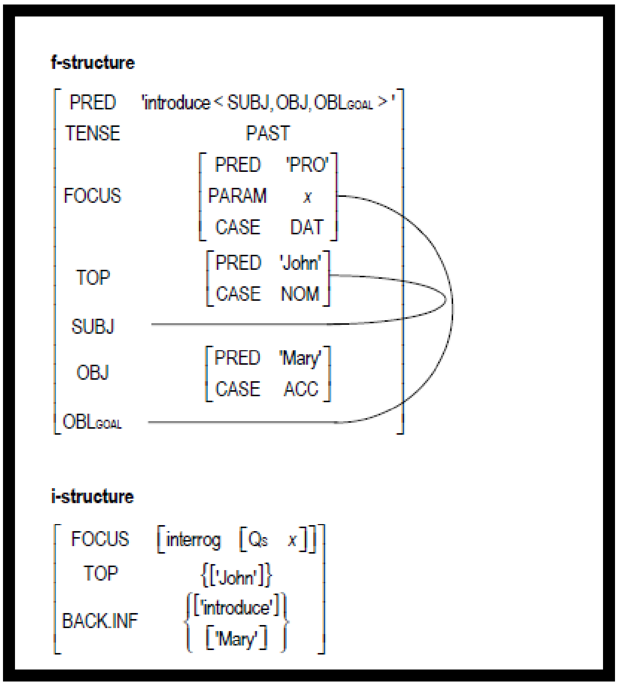

Figure 28. Mycock's (2006) f-structure and i-structure of *János kinek mutatta be Marit?*

Notice that Mycock represents the grammaticalized discourse functions topic and focus both in f-structure and in i-structure. The focus type is encoded in i-structure (linked to the focus function in f-structure via the *x* variable). In addition to focus and topic, the i-structure also contains a third discourse functional category: BACK.INF = background information.

After this overview of the LFG framework I use, below I develop my new (modified and augmented) analysis of both the basic construction types and the special types that pose a challenge for any formal approach in the generative tradition. I proceed in the following way. For the sake of easy comparability, first I analyze the construction types in the order in which they appear in Mycock's (2010: 285) table, and then I present the analysis of the additional special constructions I discussed in Sections 4.1 and 4.2. Consider Table 4 from Section 4.2, repeated here as Table 7, which summarizes the similarities and differences between her and my view of the basic syntactic properties of the constructions under investigation. I use the same examples as in Section 4.2.

Mycock (2010)				**Laczkó (Section 4.3)**			
Predicate				Predication			
Operator Field			VERB	Operator Field	Predicate		
QP	FOCUS			QP	Spec,VP	VERB	
---------	focus		verb	---------	focus	verb	(21)
---------	NEG+focus		verb	---------	NEG+ focus	verb	(23)
---------	single Q-phrase		verb	---------	single Q-phrase	verb	(31)
∀	------------------------		VM+verb	∀	VM	verb	(24)
∀	------------------------		NEG+verb	--------- (!)	NEG	verb	(29)
NEG+∀	------------------------		verb	---------	NEG+∀	verb	(28)
∀	focus		verb	∀	focus	verb	(25)
---------	**Q1**	Q final	verb	**Q1**	Q final	verb	(33)
---------	**Q1 Q2**	Q final	verb	**Q1 Q2**	Q final	verb	(35)
---------	**Q1**	NEG+focus	verb	**Q1**	NEG+focus	verb	(39a)
---------	Q1	NEG+focus	verb	Q1	NEG+focus	verb	(39b)

Table 7. Comparison of Mycock's (2010) and my syntactic analysis

(M21) [János]$_{TOPIC}$ [**Anná-nak**]$_{FOCUS}$ mutat-t-a be Mari-t
John.NOM *Anna*-DAT *introduce*-PAST-DEFO.3SG VM *Mary*-ACC
a mozi-ban.
the cinema-INE
'John introduced Mary to ANNA at the cinema.'

Other than my remarks on my earlier account, I have nothing to add about the treatment of constituents in the topic field; thus, the analysis of the topic constituent *János* 'John' is as usual. In this example there is no constituent in the operator field. The oblique argument, *Annának* 'to Anna' is the focus in the Spec,VP position. In Table 8, I show the relevant annotations in my previous account and those in my new analysis.

Laczkó (Chapter 2)	**Laczkó (here)**
Spec,VP	**Spec,VP**
(↑GF)= ↓ (↑FOCUS)= ↓	(↑ GF)= ↓ (↑ VM-FOCUS)= ↓ { (↓ VM-FOCUS-TYPE)= exh [↗=↙, ρ: erad] | (↓ VM-FOCUS-TYPE)= id [↗=↙, ρ: level] | (↓ VM-FOCUS-TYPE)= pres { [↗=↙, ρ: level] | [↗=↙, ρ: erad] } }

Table 8. Functional annotations for focus in Spec,VP

In the new analysis, too, (↑ GF)= ↓ is the standard generalized grammatical function annotation as in my previous analysis. The (↑FOCUS)= ↓ annotation in the previous analysis is radically augmented here. The reason for this is that in the previous, programmatic approach I only modelled one focus type in this single designated Spec,VP position, the generally assumed exhaustive type. In the new, more detailed and more comprehensive analysis (still concentrating on the preverbal domain in Hungarian sentences) I also treat a construction type in which a focused constituent occurs in the operator field, preceding a question phrase in Spec,VP. Therefore, the two foci (the "standard" one in Spec,VP and this other one in this special construction) need to be distinguished. My solution is that I label the standard focus as VM-FOCUS[74] and all other occurrences of foci (in either the preverbal or the postverbal domain) simply as FOCUS. Partially motivated by Kálmán et al. (1984), Kálmán (1985, 2001) and Gazdik (2012), I distinguish three types of focus that constituents can be associated with: ordinary exhaustive focus, presentational focus and identificational focus, the third one roughly corresponds to Kálmán's (2001) and Gazdik's (2012) "hocus". And there is also a special, additional type, often called verum focus, whose function is to verify the truth of a statement.[75] I assume that all the three "constituent focus" types can be expressed in Spec,VP. According to Kálmán et al. (1984), Kálmán (1985, 2001) and Gazdik (2012) neutral sentences have level prosody and nonneutral sentences have an eradicating stress pattern. Given that what they call hocus (with a kind of identificational function) occurs in level-prosody sentences, they assume that hocus belongs in the neutral sentence domain. By contrast, for me basic word order properties are more criterial than prosodic features. In particular, if in a sentence type a potential VM would occur postverbally I consider that sentence type nonneutral. All the three constituent focus types occur in what I define as nonneutral sentences, which in my approach come in either level-prosody or eradicating stress varieties. Exhaustive focus, as a rule, aligns with the eradicating pattern, while hocus always occurs in a level prosody sentence.[76] The reason for this is simple: since both focus types strictly require the postverbal VM environment, it is their sentences' distinct prosodic properties that distinguish them. Depending on the context, *Annának* 'to Anna' in (M21) can

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

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

[76] See Kálmán et al. (1984) and Kálmán (1985, 2001), among others.

be interpreted as either exhaustive focus or hocus, with eradicating or level prosody, respectively. As regards the prosody of presentational focus, I am not aware of any empirical study. My own intuition is that it is compatible with both prosodic patterns. In the representation of my new analysis in Table 8 I use the [↗=↙, ρ: level/erad] notation[77] as an informal, short-hand representation for a complete set of prosodic annotations along the lines of Mycock's (2006) approach.[78] The labels "level" and "erad" stand for the prosodic properties of the constituent in this position in level-prosody and eradicating-stress sentence types, respectively.[79]

(M23) János **nem**=[Mari-t]$_{\text{FOCUS}}$ hív-t-a fel.
John.NOM NEG=*Mary*-ACC *call*-PAST-DEFO.3SG VM
[lit.] 'John called not MARY.'
('John called someone other than Mary.')

In my implemented LFG-XLE analysis of constituent negation in Laczkó (2014c) I use the following XLE-style c-structure rules and functional annotations. (i) I disjunctively add the XPneg phrasal category to the usual XP category in Spec,VP, and it receives the customary (^ GF)=! (^ FOCUS)=! annotations.[80,81] My phrase structure rule for the XPneg itself is as follows.

(38) XPneg --> NEG: @ADJUNCT;
XP.[82]

NEG is used to implement the idea that the negative particle is a special nonprojecting functional word which can be adjoined to X^0 and XP categories (in this case it adjoins to an XP).[83] NEG is analyzed as an adjunct. The @ADJUNCT template in XLE is a shorthand representation that the system "translates" as ↓ ∈ (↑ ADJUNCT). I assume the following lexical form for the negative particle.

(39) *nem* NEG @(PRED %stem)
(^ ADJUNCT-TYPE)= neg.

Its category is NEG. The @(PRED %stem) template, when associated with a lexical item, spells out the PRED feature in the following way: (↑ PRED)= 'nem', that is, it indicates that

---

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

78 Such a representation is no longer compatible with the approach (further) developed in Dalrymple & Mycock (2011) and Mycock & Lowe (2013), because these works propose a strict division between prosody and syntax. However, in this dissertation the (informal) representation of the interface relations between syntax and prosody in terms of Mycock's (2006) system serves my expository purposes in a reader-friendly way.

79 Recall that in Mycock's (2010) analysis it has the characteristic H+L accent, in Mycock's (2006) representation it has the ↙βTONE=fall annotation.

80 Recall that in the XLE notational system ^ stands for the up-arrow and ! stands for the down-arrow.

81 In my current analysis the negated focused constituent is also associated with the [↗=↙, ρ: erad] prosodic annotation.

82 XP is the functional head of XPneg. Recall that it is a convention in XLE that the ↑=↓ functional head annotations are not indicated in the phrase structure, and the system automatically associates this annotation with nodes lacking other (grammatical) functional annotations.

83 In future work I will argue, in the spirit of Toivonen (2001) but with partially different assumptions, that there are several nonprojecting categories in Hungarian, and this group includes the negative particle: preverbs in particle-verb constructions, *volna* [*irrealis* mood marker in combination with a past tense verb], *is* 'also', *-e* ['yes-no' question marker], *csak* 'only', *nem* 'not', etc. Naturally, an alternative solution, conforming to the standard phrase structural assumptions in the generative mainstream would be to assume that this element is also a phrasal category (which always happens to be realized by its head: NegP → Neg); that is why it can adjoin to an XP.

the stem of the word is the value of the PRED feature. This word is a special adjunct expressing negation, which is encoded by the (^ ADJUNCT-TYPE)= neg annotation. Consider my LFG-XLE analysis of (40) in Laczkó (2014c) in Figures 29[84] and 30.

(40) *Péter* *NEM* *A* *BARÁTJÁ-T* *hívta* *fel.*
Peter.NOM not the friend.his-ACC called up
'It wasn't his friend that Peter called up.'

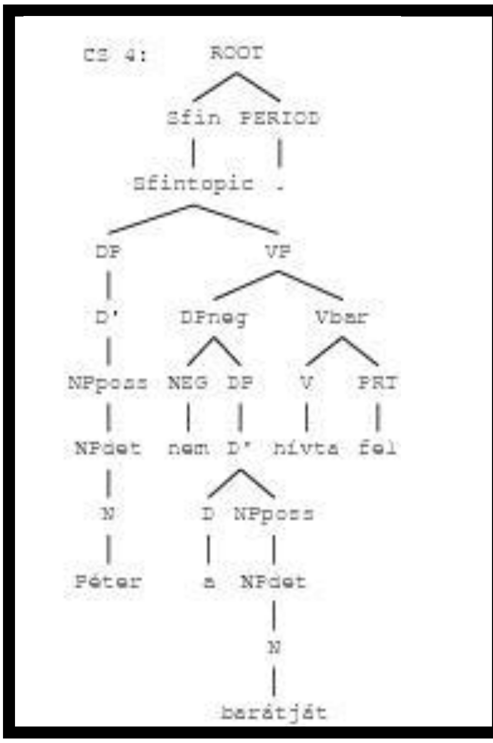

Figure 29: c-structure of (40)

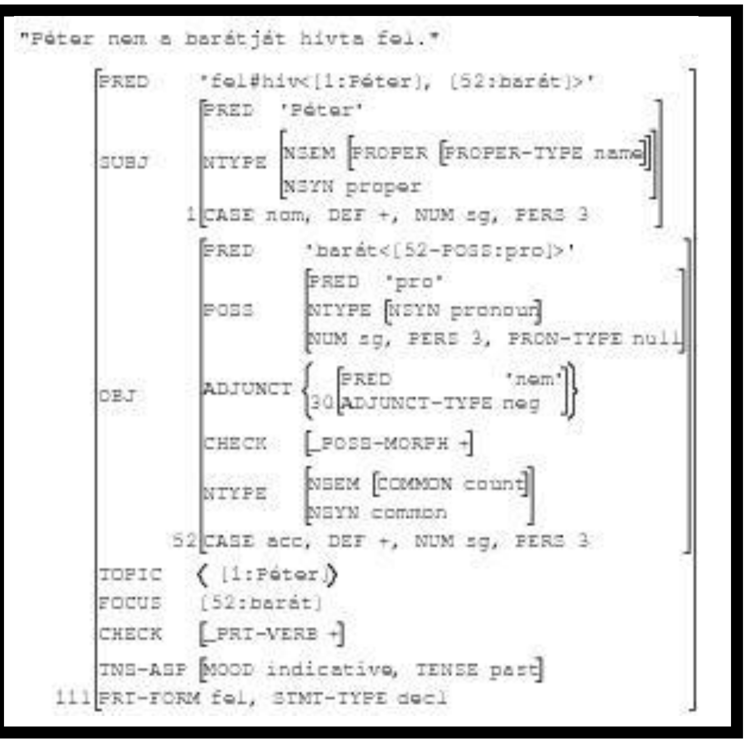

Figure 30: f-structure of (40)

In XLE, specially labelled nodes like DPneg (XPneg) are frequent: they are very useful and efficient from the perspective of both parsing and generation.[85] An alternative, more (LFG) theoretically oriented treatment would be to have a regular adjunction rule either with an adjoined maximal projection (YP) according to the standard generative view or with a nonprojecting category (Ŷ), as in my account above, see (41).

(41)
```
            XP
     ________|________
    |                 |
 YP / Ŷ              XP
```

Then this entirely generalized adjunction rule would have to be combined with special alternative (disjunctive) functional annotations (possibly supplemented with some specification in the lexical form of the negative particle) to ensure that in the case of constituent negation the whole XP must occupy the Spec,VP position, and it has the same prosodic and functional properties as ordinary (exhaustively) focused constituents.[86] The

[84] In XLE c-structures the functional annotations associated with the nodes are not represented.

[85] For some further details, see Section 1.3 in Chapter 1.

[86] This means that the categorial and annotational representation of the negated constituent creates no complication: the category is XP and all the annotations are shared with ordinary exhaustive focus.

LFG-XLE analysis shown above directly encodes this, but the cost is a categorial complication: XPneg in Spec,VP with all the exhaustive focus annotations, in addition to XP.[87]

(M31) [János]$_{\text{TOPIC}}$ [**ki-nek**]$_{\text{FOCUS}}$ mutat-t-a be Mari-t?
John.NOM *who*-DAT *introduce*-PAST-DEFO.3SG VM *Mary*-ACC
'Who did John introduce Mary to?'

Laczkó (Chapter 2)	Laczkó (here)
Spec,VP	**Spec,VP**
(↑ GF)= ↓ (↓ CHECK _VM-INTER)=c + ((↑ CHECK _VM-INTER)= +)	[↗=↙, ρ: erad] (↑ GF)= ↓ (↓ CHECK _VM-INTER)=c + ((↑ CHECK _VM-INTER)= +)

Table 9. Functional annotations for a question phrase in Spec,VP

The only difference between my previous account and my current analysis is that in the latter I also indicate the (exhaustive focus type) eradicating prosody of the constituent (and sentence). When there is a single question phrase in the sentence, occupying the Spec,VP position, it only has the first, obligatory CHECK feature annotation. The second, optional CHECK feature is needed for the treatment of multiple constituent questions, as discussed above in connection with Table 6.

(M24) **Mindenki-t** fel-hív-ott János.
everyone-ACC VM-*call*-PAST.3SG *John*.NOM
'For every *x*, *x* = person, John called *x*.'

Recall that this is Mycock's (2010) example with her representation of the particle+verb combination as a single word; and also recall that in my approach the particle is an independent word occupying the Spec,VP position, just like other VM constituents.[88] For the details of my analysis of VMs in general and particle verb constructions in particular, see Chapter 3.

Laczkó (Chapters 2 & 3)	Laczkó (here)
Spec,VP	**Spec,VP**
{ (↑ GF)= ↓ | ↑=↓ } (↓ CHECK _VM)=c +	[↗=↙, ρ: level] { (↑ GF)= ↓ | ↑=↓ } (↓ CHECK _VM)=c +

Table 10. Functional annotations for VMs in Spec,VP

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

[87] For more on this and on related issues, see Chapter 5.
[88] The universal quantifier *mindenki* 'everyone' is in the operator field in both Mycock's and my analysis.

As regards the treatment of the universal quantifier, compare my two accounts in Table 11.

Laczkó (Chapters 2 & 3)	**Laczkó (here)**
$[XP,VP]_{VP}$	**$[XP,VP]_{VP}$**
(↑ GF) =↓ (↓ CHECK _QP)=c +	[↗=↙, ρ: erad] (↑ GF) =↓ (↓ CHECK _QP)=c +

Table 11. Functional annotations for universal quantifiers in $[XP,VP]_{VP}$

In my previous analysis, the programmatic annotation is very simple and schematic. As I pointed out in the overview of this earlier analysis, the universal quantifier (or the constituent containing a universal quantifier) has some grammatical function: (↑ GF) =↓, and the constraining CHECK feature ensures that only (quantifier) elements lexically appropriately specified can appear in this position.[89] This lexical specification takes the form of the defining member of the relevant CHECK feature pair, as shown in (35) above, repeated here as (42) for convenience.

(42) L (quantifier) …
(CHECK _QP (GF*↑))= +

In the CHECK feature specification in (42) an inside-out functional uncertainty relation is encoded by (GF*↑) because even if the universal quantifier is embedded in a matrix constituent, the entire constituent will be allowed (or, rather, forced) to occur in the designated quantifier position.[90] In my new analysis, I schematically indicate the prosodic properties of the quantifier: [↗=↙, ρ: erad]. This encoding indicates that the universal quantifier gets the H+L pitch accent in this neutral construction type with VMs. In the discussion of the analysis of (M25), I will repeat the empirical generalization that even when a universal quantifier is followed by focus, it is the former that receives the H+L accent**.**

(M29) Mindenki **nem**=dicsér-t-e Anná-t.
everyone.NOM NEG=*praise*-PAST-DEFO.3SG *Anna*-ACC
'Not everyone praised Anna.'

Recall from my discussion of Table 4, comparing the crucial aspects of Mycock's (2010) and my view of the construction types under investigation, that Mycock assumes that, on the one hand, the universal quantifier in (M29) is in the operator field, and, on the other hand, the negative particle procliticizes to the verb. Mycock's representation of these assumptions in the table shows that for her this procliticization (indicated as *nem=dicsérte* in (M29)) is not only prosodic but also syntactic. By contrast, above I argued that, on the one hand, the universal quantifier has all the properties of a contrastive topic, and, thus, it occupies a position in the topic field, and, on the other hand, the negative particle is in the Spec,VP position. In addition, I argued that it does not even procliticize phonologically. See the relevant row from Table 4 below.[91]

[89] A reminder is in order here: in this dissertation I only deal with universal quantifiers. I leave the treatment of other types of quantifiers to future research.

[90] This also holds for negated universal quantifiers in the regular VP-adjoined quantifier position (when the focus position is filled by another constituent, see above). The extra option of the negated quantifier occupying the focus position is simply an instance of the general constituent negation pattern.

[91] The representation --------- (!) is meant to indicate that the QP position is empty and the universal quantifier is elsewhere in the sentence (i.e. in the topic field, which could not be represented in the table, because in the case of the other constructions all the elements crucial for our analyses are in the operator field or to its right).

Mycock (2010)			Laczkó (Chapters 2 & 3)			
QP	FOCUS	VERB	QP	Spec,VP	VERB	
∀	-------------------------	NEG+verb	--------- (!)	NEG	verb	(29)

Table 12. Comparison of Mycock's (2010) and my syntactic analysis of (M29)

As regards the treatment of the universal quantifier, it has to be associated with the functional annotations I showed in (33) above, repeated here as (43) for convenience, as part of my new analysis.[92]

(43) (↑GF)= ↓
↓ ∈ (↑ CONTR-TOPIC)
(↑ VM-FOCUS SCOPE)= wide
(↓ SCOPE)= narrow

The essence of my LFG-XLE analysis of this type of predicate (or clausal) negation in Laczkó (2014c) and in Chapter 5 is as follows. My main argument for positing that the negative particle is in Spec,VP is its complementarity with the other elements competing for this position: focused constituents, question phrases and VMs. This complementarity is most straightforward in the case of sentences containing VMs. Consider (44), for instance, in which there is a preverb as a VM, occurring postverbally.[93]

(44) *Péter* *nem* *hívta* *fel* *a* *barátjá-t.*
Peter.NOM not called up the friend.his-ACC
'Peter didn't call up his friend.'

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

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

Table 13. Functional annotations for NEG

Let me make the following comments on this table.

- In the spirit of my new analysis, these annotations have to be supplemented with the encoding of prosodic information. Given that the negative particle follows the same prosodic pattern as the "standard" (exhaustive) focus, the [↗=↙, ρ: erad] notation is appropriate here, see Table 8.
- Recall from the discussion of my treatment of constituent negation that I assume that the negative particle is a nonprojecting word with the lexical form shown in (39), repeated here as (45).[94]

[92] For details, see the discussion of (33) above.
[93] On my treatment of VMs in general and preverbs in particular, see Chapter 3.
[94] For details, see the discussion of (39) above.

(45) *nem* NEG @(PRED %stem)
(^ ADJUNCT-TYPE)= neg.

- In this version of the analysis the central idea is that the negative particle has exactly the same specifications, whether it is involved in constituent negation or predicate (clausal) negation. It modifies either a constituent or the predicate as an adjunct, and it contributes the semantics of negation. This is one of the two basic ways of treating negation phenomena in ParGram grammars, for instance, in the English grammar and in the current version of our HunGram grammar.[95]
- I also assume that NEG in Spec,VP has the FOCUS function.[96] My motivation for this is twofold. On the one hand, the negative particle's prosody is identical to that of an ordinary focused constituent.[97] On the other hand, in the current version of our HunGram grammar, the complementarity, in this construction type, of the negative particle and the VM can be captured (implemented) in a straightforward way: the general rule is that the VM targets the Spec,VP position provided that it is not occupied by a focused element, and *nem* is one such element.

Consider my HunGram analysis of (44) in Figures 31 and 32.

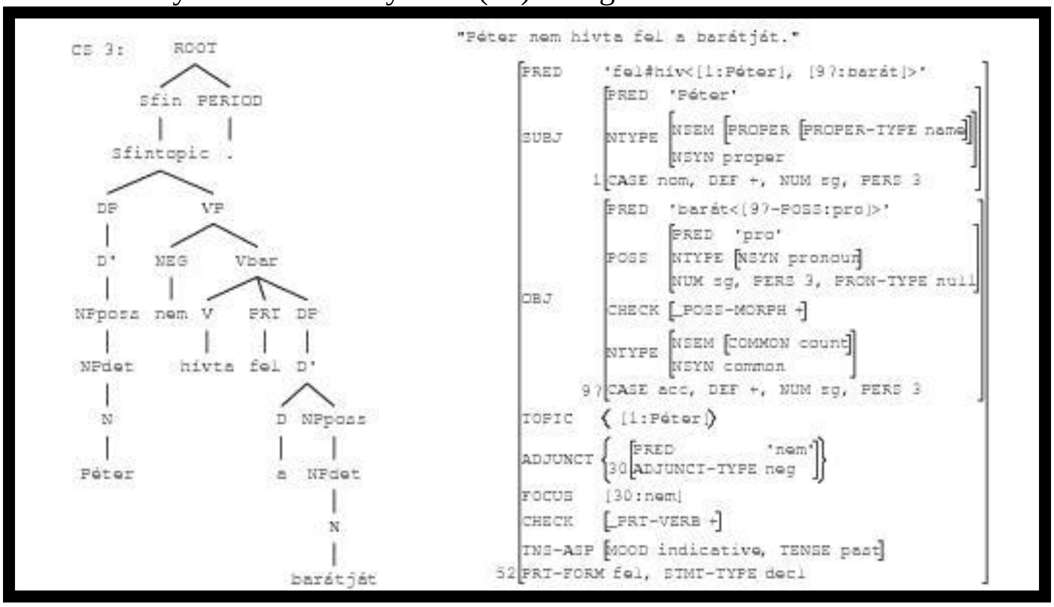

Figure 31: c-structure of (44) **Figure 32: f-structure of (44)**

In the c-structure, NEG is in Spec,VP, and in the f-structure, it is a special (negative) adjunct: ADJUNCT-TYPE neg, and, in addition, it also has the FOCUS function.

---

[95] One of the main motivations for this treatment in the ParGram community is that it makes the encoding of the scope relations of the negative particle easy. The other major XLE solution is to assume that the negative particle has no PRED feature, and, consequently, it has no adjunct function; instead, it simply and straightforwardly contributes the "NEG = +" feature-value pair to either a constituent or the predicate. For a case-study of the implementation of the combination of the ADJUNCT and the NEG feature devices in HunGram, see Chapter 5.

[96] Naturally, this view makes it necessary to augment the generally assumed inventory of focus types. I leave exploring the details and ramifications of this approach to future research.

[97] It is worth repeating part of an earlier quote from Mycock (2010) in this connection. "In terms of its prosody, an utterance involving preverbal negation shares key features with other nonneutral sentences, such as those which include a syntactically focused constituent […]. The negative particle *nem* bears Kálmán et al.'s (1986) 'eradicating stress', i.e. a sharp fall in pitch followed by a low plateau" (2010: 276). If this NEG-focus idea proves tenable in the long run then the following empirical generalization will emerge along the focus lines of the Spec,VP position: an element in this position has the focus function and prosody if it is an ordinary focused constituent or if it involves negation: either the negative particle fills the position or a negated constituent. Also see the next footnote.

(M28) **Nem**=mindenki-t hív-ott fel János.
NEG=*everyone*-ACC *call*-PAST.3SG VM *John*.NOM
[lit.] 'John called not everyone.'
('Not everyone was called by John.')

Recall that Mycock assumes that in the case of (M28) the negated universal quantifier is in its regular QP position, the focus position is empty, and, despite this fact, the VM occurs postverbally. By contrast, I argued in the discussion above that a negated universal quantifier can only occupy its canonical QP position if and only if the Spec,VP position is filled by a nonnegated focused constituent.[98,99] See the relevant row from Table 4 below.

Mycock (2010)			**Laczkó (Chapters 2 & 3)**			
QP	FOCUS	VERB	QP	Spec,VP	VERB	
NEG+∀	-------------------------	verb	----------------	NEG+∀	verb	(28)

Table 14. Comparison of Mycock's (2010) and my syntactic analysis of (M28)

From this it follows that in my approach *nem mindenkit* 'not everyone.ACC' in (M28) is analyzed in exactly the same way as *nem a barátját* 'not his friend.ACC' in (40) above is analyzed, see Figures 29 and 30.

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

Recall that this construction is analyzed in the same way syntactically by Mycock (2010) and me:

Mycock (2010)			**Laczkó (Chapters 2 & 3)**			
QP	FOCUS	VERB	QP	Spec,VP	VERB	
∀	focus	verb	∀	focus	verb	(25)

Table 15. Comparison of Mycock's (2010) and my syntactic analysis of (M25)

As has been pointed out several times above, it is a special prosodic property of this construction type that the universal quantifier "steals" the H+L pitch accent from the (exhaustive) focus. This can be captured in our system in the following way. We need to ensure that the two designated constituents "see each other" from and in their respective

[98] This immediately explains the postverbal occurrence of the VM.

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

positions. The representational strategy is the same as in my treatment of multiple questions: I use CHECK feature pairs, see the relevant part of the discussion of Table 6 above. The key idea here is that the CHECK feature in the quantifier position ensuring (constraining) that only (universal) quantifiers can occur in that position,[100] (↓ CHECK _QP)=c +, is supplemented with an optional defining CHECK feature with an up-arrow, (↑ CHECK _QP)= +, whose constraining counterpart is associated with the exhaustive focus in Spec,VP, (↑ CHECK _QP)=c +.[101]

[XP,VP]$_{VP}$		**[XP,VP]$_{VP}$**
[↗=↙, ρ: erad] (↑ GF) =↓ (↓ CHECK _QP)=c +	→	[↗=↙, ρ: erad] (↑ GF) =↓ (↓ CHECK _QP)=c + ((↑ CHECK _QP)= +)

Table 16. Functional annotations for universal quantifiers in [XP,VP]$_{VP}$ to capture the prosody of co-occurrence with exhaustive focus

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

(↑ GF)= ↓ (↑ VM-FOCUS)= ↓ (↓ VM-FOCUS-TYPE)= exh [↗=↙, ρ: erad]	→	(↑ GF)= ↓ (↑ VM-FOCUS)= ↓ (↓ VM-FOCUS-TYPE)= exh { [↗=↙, ρ: erad] │ (↑ CHECK _QP)=c + }

Table 17. Modification of prosodic annotations for the exhaustive focus preceded by a universal quantifier

The disjunction part of the annotations is to be interpreted in the following way. The first disjunct is the prosodic annotation I have used so far. The second disjunct encodes that exhaustive focus has no eradicating stress: ~[↗=↙, ρ: erad] if there is a universal quantifier in [XP,VP]$_{VP}$: (↑ CHECK _QP)=c +. In this case the quantifier will receive eradicating stress, see Table 16.

Mycock (2010) does not exemplify and analyze the "NEG+∀ focus verb" construction type. Let me show how I can treat it in my approach. Consider the example in (46), and compare it with (M28) and (M25).

(46) Nem mindenki-t János hív-ott fel.
NEG *everyone*-ACC *John*.NOM *call*-PAST.3SG VM
[lit.] 'JOHN called not everyone.'
('It doesn't hold for everyone that it was John who called them.')

---

[100] In the disjunct of annotations for quantifiers, as opposed to question phrases.

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

János 'John.NOM' is a focused constituent and it is preceded by a universal quantifier (which happens to be negated); therefore, it must be analyzed in the same way as *János* 'John.NOM' in (M25), where it is preceded by a nonnegated universal quantifier. The annotational apparatus needs to be augmented in the quantifier position to capture the fact that a universal quantifier can be negated in its canonical position iff there is a focused constituent in Spec,VP.[102] Consider the annotations I proposed above in Table 11 and the augmented version of the analysis in Table 18.

Laczkó (Table 11)	**Laczkó (augmented version)**
[XP,VP]$_{VP}$	**[XP,VP]$_{VP}$**
[↗=↙, ρ: erad] (↑ GF) =↓ (↓ CHECK _QP)=c +	[↗=↙, ρ: erad] (↑ GF) =↓ (↓ CHECK _QP)=c + ((↓ POL)=c neg (↑ VM-FOCUS-TYPE)=c exh)

Table 18. Modification of the functional annotations for universal quantifiers in [XP,VP]$_{VP}$

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

(M33) [Ki]$_{FOCUS}$ [**ki-nek**]$_{FOCUS}$ mutat-t-a be Mari-t?
who.NOM *who*-DAT *introduce*-PAST-DEFO.3SG VM *Mary*-ACC
'Who introduced Mary to who?'

Recall that Mycock (2010) and I analyze multiple constituent questions rather differently. Consider the relevant row from Table 4.[103]

Mycock (2010)				**Laczkó (Chapters 2 & 3)**			
QP	FOCUS		VERB	QP	Spec,VP	VERB	
----------	**Q1**	Q final	verb	**Q1**	Q final	verb	(33)

Table 19. Comparison of Mycock's (2010) and my syntactic analysis of (M33)

The fundamental difference is that Mycock assumes that all question phrases (forming a cluster) occupy the Spec,VP focus position,[104] while I posit that it is solely the final question

[102] It does not matter whether the focused constituent is negated: (i) or it is not negated: (46).

(i) Nem mindenki-t nem János hív-ott fel.
NEG *everyone*-ACC NEG *John*.NOM *call*-PAST.3SG VM
[lit.] 'NOT JOHN called not everyone.'
('It doesn't hold for everyone that it wasn't John who called them.')

[103] This table models the question type which contains two question phrases. If there are more than two then all the others are also represented in the same slot as Q1.

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

phrase that occurs in Spec,VP, and all the other (nonfinal) ones are in VP-adjoined quantifier positions.[105] Consider the annotations for the treatment of multiple questions in my previous analysis taken from Table 6.[106]

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

Table 20. Basic functional annotations for the treatment of multiple questions

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

Consider the last construction type in Table 4 and the comparison of Mycock's (2010) and my view of its basic syntactic properties.

(M39) [János]$_{TOPIC}$ [ki-nek]$_{FOCUS}$ nem=[Mari-t]$_{FOCUS}$ mutat-t-a be?
John.NOM *who*-DAT NEG=*Mary*-ACC *introduce*-PAST-DEFO.3SG VM
[lit.] 'Who did John introduce not MARY to?'
('Who did John introduce someone other than MARY to?')

Mycock (2010)				**Laczkó (Chapters 2 & 3)**			
QP	FOCUS		VERB	QP	Spec,VP	VERB	
----------	**Q1**	NEG+focus	verb	**Q1**	NEG+focus	verb	(39)
----------	**Q1**	NEG+focus	verb	**Q1**	NEG+focus	verb	

Table 21. Comparison of Mycock's (2010) and my syntactic analysis of (M39)

- In Section 4.2, I pointed out that although Mycock deals with this construction type in a detailed fashion, she fails to realize or mention that it contradicts one of the cornerstones of her approach: she assumes that the Spec,VP position can be filled by either a single noninterrogative focused constituent or by one or more interrogative focused constituents. Thus, the two focus types are in strict complementary distribution. This basic principle is obviously violated by this construction.
- I did not analyze this special construction earlier. In the general frame of the analysis I am developing in this dissertation, it can be treated along the following lines.

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

[105] It is the immediately preverbal (final) question phrase that receives the H+L accent, as the shading indicates.
[106] For details, see the discussion of Table 6 above.

Laczkó (Table 6)	Laczkó (augmented version)
[XP,VP]$_{VP}$	**[XP,VP]$_{VP}$**
(↑GF)= ↓ (↑CHECK _VM-INTER)=c + (↓CHECK _QP-INTER)=c + (↓SPECIFIC)=c +	{ (↑GF)= ↓ (↑CHECK _VM-INTER)=c + (↓CHECK _QP-INTER)=c + (↓SPECIFIC)=c + | (↑ VM-FOCUS-TYPE)=c exh (↑ VM-FOCUS POL)=c neg (↓CHECK _QP-INTER)=c + (↑CHECK _QP-INTER)= + (↓SPECIFIC)=c + { [↗=↙, ρ: erad] ~($\uparrow_\rho$ VM-FOCUS [↗=↙, ρ])= erad | ~[↗=↙, ρ: erad] ($\uparrow_\rho$ VM-FOCUS [↗=↙, ρ])= erad } }

Table 22. Modification of the functional annotations for question phrases in [XP,VP]$_{VP}$

Recall that in my earlier treatment of multiple constituent questions, I use the annotations shown in the left column of Table 22 (taken from Table 6). Two constraining CHECK features ensure that a question phrase can occur in this quantifier position: (↓CHECK _QP-INTER)=c +, if the Spec,VP position is occupied by another question phrase: (↑CHECK _VM-INTER)=c +. In order to cover the special construction type in (M39), this treatment needs to be augmented by the disjunction shown in the right column of Table 22. Its first disjunct is the previous set of annotations for multiple questions (see the left column again), and the second disjunct handles the special construction. The annotational strategy is basically the same here, too. A question phrase is licensed to occur in the quantifier position: (↓CHECK _QP-INTER)=c +, if the Spec,VP position is occupied by a designated constituent type. Here this designated constituent is an exhaustive focus: (↑ VM-FOCUS-TYPE)=c exh that is negated (that is, whose polarity is negative): (↑ VM-FOCUS POL)=c neg. The prosodic disjunction in this second disjunction formally captures Mycock's (2010) empirical findings: either the question phrase in the quantifier position (first prosodic disjunct) or the negated exhaustive focus in Spec,VP receives the H+L pitch accent (i.e. eradicating stress).

(ii) All this has to be coupled with a modification in the annotations associated with the exhaustive focus in Spec,VP. Recall that the exhaustive focus, as a rule, gets eradicating stress, except when it is preceded by a universal quantifier, in which case it is the universal quantifier that receives eradicating stress. I captured this by the modified annotations in Table 17. In Table 23, I modify those annotations to also cover the prosodic behaviour of the question phrase + negated exhaustive focus construction.

(↑ GF)= ↓ (↑ VM-FOCUS)= ↓ (↓ VM-FOCUS-TYPE)= exh { [↗=↙, ρ: erad] | (↑ CHECK _QP)=c + }	→	(↑ GF)= ↓ (↑ VM-FOCUS)= ↓ (↓ VM-FOCUS-TYPE)= exh { [↗=↙, ρ: erad] | (↑ CHECK _QP)=c + | (↑ CHECK _QP-INTER)=c + }

Table 23. Modification of prosodic annotations for the exhaustive focus preceded by a universal quantifier or a question word

Recall that in the case of the "universal quantifier + focus" construction type I formally encoded that the two elements "see each other" by using an optional up-arrow defining CHECK feature associated with the universal quantifier: ((↑ CHECK _QP)= +, and an obligatory constraining CHECK feature associated with the exhaustive focus, and if this feature match requirement is satisfied then the focus has no eradicating stress (and the quantifier has this stress as usual).[107] In the case of our "question phrase + negative focus" construction, I also employ an up-arrow defining CHECK feature associated with the question phrase in Spec,VP: (↑CHECK _QP-INTER)= +, but this time it is obligatory, because it appears among the annotations directly linked to a negated exhaustive focus,[108] and its constraining counterpart, (↑ CHECK _QP-INTER)=c +, is included in the prosodic disjunction of annotations associated with the focus, see the right column in Table 23. The scenario is the same: the focus has no eradicating stress, or, more precisely, it is not specified for eradicating stress here, if the Spec,VP position is filled by a question phrase (third disjunct). The distribution (i.e. alternation) of eradicating stress is encoded by the annotations associated with the question phrase in the right column in Table 22.

(iii) Above I showed the most important generalized aspects of the lexical forms of question words in my earlier analysis proposed in (36) above, which I repeat here as (47) for convenience.

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

I pointed out, among other things, that in my new analysis the annotation ~(FOCUS (GF* ↑)) would have to be deleted. Originally, the motivation for introducing it was twofold. On the one hand, I wanted to ensure that when a question phrase occurs in the quantifier position, Spec,VP should be filled by another question phrase and not a focused constituent. Although this appropriately covers the basic facts, it fails to accommodate the "question phrase + negated focus" construction type. After all, a negated focus is also a (sub)type of focus. On the other hand, I wanted to capture the complementarity of focused constituents and question phrases in Spec,VP along these lines: focus vs. question phrase. However, in my new analysis, to be fully developed in future work, I will capitalize on Mycock's (2013) system of correspondences between noninterrogative and interrogative discourse function types. The key idea in this approach is that certain question phrases correspond to foci and certain others correspond to topics. Thus, from this perspective there are ±wh foci and ±wh topics, so a question phrase itself can be one type of foci.[109]

This has been the last construction type Mycock (2010) investigated in her empirical study, included in Table 2 in Section 4.2. Let me now discuss and analyze two additional and related constructions which pose problems of various degrees for generative approaches, in general, and rather insurmountable problems for Mycock's approach, in particular.[110]

[107] See the second disjunct in the left column in Table 23.
[108] See the (↑ VM-FOCUS POL)=c neg and (↓CHECK _QP-INTER)=c + constraining equations in the right column in Table 22.
[109] In this case I plan to explore the following alternative analysis in XLE. The occurrence of a question word in [XP,VP] is made conditional on the presence, in Spec,VP, of an interrogative focus of the questioning focus type in Mycock's (2013) sense, or on the presence, in Spec,VP, of noninterrogative focus with a negative value for its polarity feature.
[110] For a detailed discussion, see point (D3) in Section 4.2.

The first additional construction type is closely related to the previously discussed type. Consider (19) from point (D3) in Section 4.2, repeated here for convenience.

(19)	Péter	miért	**Anná-t**	hívta	fel?
	Peter.NOM	why	Anna-ACC	called	up
	'Why did Peter call ANNA?'				

In Hungarian, *miért* 'why' is the only question word[111] which can precede a nonnegated focus (and it is also compatible with negated focus, like the other question words): "*miért* + (non)negated focus". For obvious reasons, this special construction, involving one particular question word, poses exactly the same fundamental problem for Mycock's approach as the general "question word + negated focus" construction discussed above. It is also obvious that the *miért* construction calls for an exceptional treatment in any approach. My analysis in the LFG approach I am developing in this dissertation is as follows.

(i) In the $[XP,VP]_{VP}$ position an additional annotational disjunct is needed. Recall that above I introduced a disjunct for handling the "question word + negated focus" construction, see the last disjunct in the right column in Table 22. Notice that this also takes care of the occurrence of *miért* in this (negated focus) construction type. Obviously, a basically similar set of annotations is needed for the *miért* + (nonnegated) focus construction. The major difference is that here the polarity of the exhaustive focus need to be constrained to the positive value. In addition, *miért* is not specific. Compare the two sets of annotations in Table 24.

$[XP,VP]_{VP}$ **for question phrases (including *miért*) + negated focus**	**$[XP,VP]_{VP}$** **for *miért* + focus**
(↑ VM-FOCUS-TYPE)=c exh (↑ VM-FOCUS POL)=c neg (↓CHECK _QP-INTER)=c + (↑CHECK _QP-INTER)= + (↓SPECIFIC)=c + { [↗=↙, ρ: erad] ~($\uparrow_\rho$ VM-FOCUS [↗=↙, ρ])= erad | ~[↗=↙, ρ: erad] ($\uparrow_\rho$ VM-FOCUS [↗=↙, ρ])= erad } }	(↑ VM-FOCUS-TYPE)=c exh (↑ VM-FOCUS POL)=c pos (↓CHECK _QP-INTER)=c + (↑CHECK _QP-INTER)= + { [↗=↙, ρ: erad] ~($\uparrow_\rho$ VM-FOCUS [↗=↙, ρ])= erad | ~[↗=↙, ρ: erad] ($\uparrow_\rho$ VM-FOCUS [↗=↙, ρ])= erad } }

Table 24. Modifications of the functional annotations for question phrases in $[XP,VP]_{VP}$

(ii) In the lexical form of *miért* it has to be encoded that, in addition to the annotations in the disjunct in the left column in Table (24), it is also compatible with those in the disjunct in

[111] As is well-known, *miért* 'why' is homonymous with *mi-ért* what-for 'for what'. Actually, the two are etymologically and, therefore, semantically related, but speakers do not seem to be aware of this. *Mi-ért* what-for 'for what' is an ordinary question word in all respects. It is a distinguishing feature of *miért* 'why' that it has an alternative phonological form, typically used in colloquial or casual speech: *mért* 'why'.

Given that *miért* 'why' can also occupy the Spec,VP position, some sentences can be ambiguous:

(i)	János	miért	fizetett	tíz dollár-t?
	John.NOM	(a) why (b) for.what	paid	ten dollar-ACC
	(a) 'Why did John pay ten dollars?' (b) 'For what did John pay ten dollars?'			

Notice that in English there is a similar kind of ambiguity when *for* and *what* are combined: *What did you come here for?*

the right column in the same table. Consider the generalized lexical form for question words in (47), which I repeat here as (48) in a modified version: on the basis of the discussion of the problematic nature of the ~(FOCUS (GF* ↑)) annotation, with respect to some additional construction types as well as a new, comprehensive view of ±wh discourse functions, I have removed it from (48).

(48) L (wh-word) …
(↑ PRON-TYPE)= interrogative
(STMT-TYPE (GF* ↑))= wh-interrogative
{ (CHECK _VM-INTER (GF* ↑))= +
| (CHECK _QP-INTER (GF* ↑))= + **}**

So (48) is a generalized lexical form for all question words including *miért*, and it will allow them to occupy the Spec,VP position, or the $[XP,VP]_{VP}$ position, and in the latter case, they can be followed by another question phrase or a negated exhaustive focus in Spec,VP. So the lexical form of *miért* also needs these annotations, but we need to add something to ensure that *miért* (and only *miért*) can also occur in with the annotations in the right column of Table 24. I propose that the regular set of annotations in (48) should be augmented in the following way in the lexical form of *miért*:

(49) *miért* …
{ (↑ PRON-TYPE)= interrogative
(STMT-TYPE (GF* ↑))= wh-interrogative
{ (CHECK _VM-INTER (GF* ↑))= +
| (CHECK _QP-INTER (GF* ↑))= +
| (CHECK _QP-INTER (GF* ↑))= +
(VM-FOCUS POL (GF* ↑))=c pos } }

I have added the disjunct in bold in (49). This constrains the insertion of *miért* in the quantifier position, (CHECK _QP-INTER (GF* ↑))= **+,** to the following setting: there is a VM-FOCUS in the sentence and its polarity value is positive: (VM-FOCUS POL (GF* ↑))=c pos.[112]

Finally, let me discuss another special construction type: "focus + question phrase + verb". Consider the following example in (14) from Section 4.2, repeated here as (50) for convenience.

(50) a. Tud-om, hogy Peter [*ki-t*] mutatott be Anná-nak …
know-PRES.1SG *that* *Peter*.NOM *who*-ACC introduced VM *Anna*-DAT
'I know who Peter introduced to Anna …'

b. … de [János]$_{FOCUS}$ [*ki-t*]$_{FOCUS}$ mutat-ott be neki?
but *John*.NOM *who*-ACC *introduce*-PAST.3SG VM *to.her*
'… but who did JOHN introduce to her?'

c. … de [*ki-t*]$_{FOCUS}$ mutat-ott be neki [János]$_{FOCUS}$?
but *who*-ACC *introduce*-PAST.3SG VM *to.her* *John*.NOM
'… but who did JOHN introduce to her?'

Recall from my discussion in Section 4.2 that Mycock (2010), on the basis of a rather general view in the literature, claims that the construction type exemplified in (50b) is ungrammatical without a special context that licenses it, see (50a). Let me make the following comments.

[112] Recall that the co-occurrence of *miért* with negated exhaustive focus is treated in the same way as in the case of all the other question words. This is the relevant annotation in its lexical form: (CHECK _QP-INTER (GF* ↑))= +, and the c-structure annotations in the left column of Table 24 apply to it.

- In Section 4.2, I also agreed that this construction needs a special context. At the same time, I pointed out that its counterpart in which the focus occurs postverbally, see (50c), and which everybody considers absolutely grammatical, is context-sensitive (or context-dependent) to exactly the same extent.
- For the above reason, if a grammar handles the postverbal focus counterpart,[113] it also has to handle this special construction.
- Given that Mycock excludes this construction from her investigation, she does not reflect on the potential problem it may pose for her general approach. However, from her representation of the relevant examples[114] it seems that this construction is problematic for her because here, too, noninterrogative and interrogative foci co-occur, contrary to her basic complementary distributional generalization.[115]

In the LFG approach I am developing in this dissertation this construction type can be analyzed in the following way. The focused constituent is in a $[XP,VP]_{VP}$ quantifier position and the question phrase is in Spec,VP. We need a set of additional disjunctive annotations for the focused constituent which, on the one hand, allow it to occupy the quantifier position, and, on the other hand, make this sensitive to, or rather dependent on, the presence of a question phrase in Spec,VP, see (51).[116]

(51) ↓ ∈ (↑ FOCUS)
(↓ FOCUS-TYPE)= exh
(↑ CHECK _VM-INTER)=c +
[↗=↙, ρ: erad]

The first annotation simply introduces a (general) focus function: ↓ ∈ (↑ FOCUS).[117] The second annotation specifies its type as exhaustive focus: (↓ FOCUS-TYPE)= exh. And this combination is dependent on Spec,VP being filled by a question phrase: (↑ CHECK _VM-INTER)=c +. As a focused element, this constituent receives its eradicating stress: [↗=↙, ρ: erad]. The basic functional annotations generally associated with the question phrase in Spec,VP do not need any modification or augmentation; however, it needs to be encoded that in this construction type the question phrase is obligatorily devoid of its eradicating stress. Recall that so far I have discussed and analyzed two constructions in which the focused phrase in Spec,VP does not receive its usual eradicating stress: (i) when it is an ordinary focused constituent and it is preceded by a universal quantifier it never gets this stress (ii) when it is a question phrase and it is preceded by another question phrase then either of them can get this stress. In the construction type under investigation the situation is the same as in (i): when a (contrastive) focus precedes the question word in Spec,VP the latter never gets

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[113] In the GB/MP literature, the treatment of the occurrence of postverbal focus has received considerable attention, see É. Kiss 1998b, for instance, and the references therein. Obviously, the "question phrase + verb + focus" configuration is one of the relevant phenomena. However, I am not aware of any fully developed GB/MP analysis of the "focus + question phrase + verb" construction. For some discussion, see Bródy & Szendrői (2011) and Horvath (2013).

[114] For instance, (50b) is her example, including the marking of FOCUS.

[115] This seems to be a problem for her analysis even if we appreciate her recent remark that in this case a special, contrastive noninterrogative focus is involved (Louise Mycock, p.c., January 2016), see my discussion above. As I pointed out in Section 4.2, this problematic structure, focus + question phrase + verb, is the mirror image of the other fundamentally problematic type discussed above: question phrase + negated focus + verb.

[116] In (51) I simply use the "exh(austive)" focus type specification, but partially on the basis of the previous footnote and on the basis of the vast amount of literature on Hungarian focusing phenomena, the augmentation of the parametric space for focus types is needed and justified, which should include information focus, contrastive focus, verum focus, etc. I will explore this research avenue in future work.

[117] Note that in my analysis, to be augmented in future work to cover the postverbal domain of Hungarian finite clauses, I will employ two generalized FOCUS function labels: VM-FOCUS, strictly associated with Spec,VP, which can be taken to be syntactic and prosodic focus marking, and FOCUS, for a prosodically marked constituent in any other position, i.e. prosodic focus marking.

eradicating stress (and it is in the scope of this focus). In my system, this can be captured in the following way. Above, I proposed the annotations in the left colum of Table 25 below for treatment of the ordinary occurrence of a question phrase in Spec,VP, see Table 20 and its discussion.

Spec,VP		**Spec,VP**
(↑GF)= ↓ (↓CHECK _VM-INTER)=c + ((↑CHECK _VM-INTER)= +) [↗=↙, ρ: erad]	→	(↑GF)= ↓ (↓CHECK _VM-INTER)=c + ((↑CHECK _VM-INTER)= +) { [↗=↙, ρ: erad] | (↑ FOCUS-TYPE)=c exh }

Table 25. Modification of functional annotations for the treatment of question phrases in Spec,VP preceded by focus

Here I follow the same strategy as in the case of the two special cases above: (i) and (ii). I include the eradicating stress prosodic annotation in a disjunction whose second disjunct requires there to be an exhaustive focus in the sentence (in which case the question phrase does not receive its usual eradicating stress, because the focus in $[XP,VP]_{VP}$ receives it). Note that the (↑ FOCUS-TYPE)=c exh annotation guarantees that the exhaustive focus will not be in Spec,VP: it will be elsewhere in the sentence, for instance in $[XP,VP]_{VP}$, see (51). Furthermore, notice that this treatment can also handle the possible postverbal occurrence of the focus, as in (50c). Technically this works in the following way. The combination of the the FOCUS discourse function and the H+L prosodic feature is optionally associated with postverbal constituents.[118]

At the end of the discussion of my proposed LFG-XLE analysis of these constructions, in Tables 26a and 26b below I present an overview of all the annotations I assume for the $[XP,VP]_{VP}$ and Spec,VP positions in the order in which I introduced them above.

$[XP,VP]_{VP}$		**Spec,VP**	
		(↑ GF)= ↓ **[1]** (↑ VM-FOCUS)= ↓ { (↓ VM-FOCUS-TYPE)= exh [↗=↙, ρ: erad] | (↓ VM-FOCUS-TYPE)= id [↗=↙, ρ: level] | (↓ VM-FOCUS-TYPE)= pres { [↗=↙, ρ: level] | [↗=↙, ρ: erad] } }	**FOC** V
		(↑ GF)= ↓ **[2]** (↑ VM-FOCUS)= ↓ (↓ VM-FOCUS-TYPE)= exh [↗=↙, ρ: erad]	**NEG-FOC** V **(+ NEG-∀** V)
		(↑ GF)= ↓ **[3]** (↓ CHECK _VM-INTER)=c + ((↑ CHECK _VM-INTER)= +) [↗=↙, ρ: erad]	**Q_{+FIN}** V
(↑ GF) =↓ **[4]** (↓ CHECK _QP)=c + [↗=↙, ρ: erad]	**∀** VM V	{ (↑ GF)= ↓ **[4]** | ↑=↓ } (↓ CHECK _VM)=c +	∀ **VM** V

Table 26a. Overview of functional annotations in $[XP,VP]_{VP}$ and Spec,VP for individual construction types

[118] Also see the previous footnote.

<table>
<tr><th>[XP,VP]$_{VP}$</th><th></th><th>Spec,VP</th><th></th></tr>
<tr><td></td><td></td><td>↓ ∈ (↑ ADJUNCT) [5]
(↑ VM-FOCUS)= ↓
(↓ VM-FOCUS-TYPE)= neg
[↗=↙, ρ: erad]</td><td>NEG V</td></tr>
<tr><td>(↑ GF) =↓ [6]
(↓ CHECK _QP)=c +
((↑ CHECK _QP)= +)
[↗=↙, ρ: erad]</td><td>∀ FOC V</td><td>(↑ GF)= ↓ [6]
(↑ VM-FOCUS)= ↓
(↓ VM-FOCUS-TYPE)= exh
{ [↗=↙, ρ: erad]
| (↑ CHECK _QP)=c + }</td><td>∀ FOC V</td></tr>
<tr><td>(↑ GF) =↓ [7]
(↓ CHECK _QP)=c +
(↓ POL)=c neg
(↑ VM-FOCUS-TYPE)=c exh)
[↗=↙, ρ: erad]</td><td>NEG-∀ FOC V</td><td>(↑ GF)= ↓ [7]
(↑ VM-FOCUS)= ↓
(↓ VM-FOCUS-TYPE)= exh
{ [↗=↙, ρ: erad]
| (↑ CHECK _QP)=c + }</td><td>NEG-∀ FOC V</td></tr>
<tr><td>(↑GF)= ↓ [8]
(↑CHECK _VM-INTER)=c +
(↓CHECK _QP-INTER)=c +
(↓SPECIFIC)=c +
([↗=↙, ρ: erad])[119]</td><td>Q$_{\text{-FIN}}$ Q$_{\text{+FIN}}$ V</td><td>(↑GF)= ↓ [8]
(↓CHECK _VM-INTER)=c +
(↑CHECK _VM-INTER)= +
([↗=↙, ρ: erad])</td><td>Q$_{\text{-FIN}}$ Q$_{\text{+FIN}}$ V</td></tr>
<tr><td>(↑ VM-FOCUS TYPE)=c exh [9]
(↑ VM-FOCUS POL)=c neg
(↓CHECK _QP-INTER)=c +
(↑CHECK _QP-INTER)= +
(↓SPECIFIC)=c +
{ [↗=↙, ρ: erad]
~($\uparrow_\rho$VM-FOCUS [↗=↙, ρ])= erad
| ~[↗=↙, ρ: erad]
($\uparrow_\rho$ VM-FOCUS [↗=↙, ρ])= erad}</td><td>Q$_{\text{-FIN}}$ NEG-FOC V</td><td>(↑ GF)= ↓ [9]
(↑ VM-FOCUS)= ↓
(↓ VM-FOCUS-TYPE)= exh
(↑ CHECK _QP-INTER)=c +</td><td>Q$_{\text{-FIN}}$ NEG-FOC V</td></tr>
<tr><td>(↑ VM-FOCUS TYPE)=c exh [10]
(↑ VM-FOCUS POL)=c pos
(↓CHECK _QP-INTER)=c +
(↑CHECK _QP-INTER)= +
{ [↗=↙, ρ: erad]
~($\uparrow_\rho$VM-FOCUS [↗=↙, ρ])= erad
| ~[↗=↙, ρ: erad]
($\uparrow_\rho$ VM-FOCUS [↗=↙, ρ])= erad}}</td><td>Q$_{\text{MIÉRT}}$ FOC V</td><td>(↑ GF)= ↓ [10]
(↑ VM-FOCUS)= ↓
(↓ VM-FOCUS-TYPE)= exh
(↑ CHECK _QP-INTER)=c +</td><td>Q$_{\text{MIÉRT}}$ FOC V</td></tr>
<tr><td>↓ ∈ (↑ FOCUS) [11]
(↓ FOCUS-TYPE)= exh
(↑ CHECK _VM-INTER)=c +
[↗=↙, ρ: erad]</td><td>FOC Q$_{\text{+FIN}}$ V</td><td>(↑GF)= ↓ [11]
(↓CHECK _VM-INTER)=c +
((↑CHECK _VM-INTER)= +)
{ [↗=↙, ρ: erad]
| (↑ FOCUS-TYPE)=c exh }</td><td>FOC Q$_{\text{+FIN}}$ V</td></tr>
</table>

Table 26b. Overview of functional annotations in [XP,VP]$_{VP}$ and Spec,VP for individual construction types

[119] At present I have no formal solution for capturing the fact that the eradicating stresses are in complementary distribution between the two positions. However, when, following Mycock (2013), I augment the space for discourse functions with a complete dimension of interrogative types in future work, this will be possible. I will be able to refer to the two question phrase types in functional terms along the following lines: INTER-TOPIC or TOPIC-TYPE: inter (Q$_{\text{-FIN}}$) and INTER-FOCUS or FOCUS-TYPE: inter (Q$_{\text{+FIN}}$), and by referring to the relevant constituents by their discourse functions I will be in a position to capture the complementary distribution of their eradicating stress. The strategy will be similar to that applied to the eradicating stress complementarity in the case of Q$_{\text{-FIN}}$ NEG-FOC V, for instance.

<table>
<tr><th>Spec,VP</th><th></th></tr>
<tr><td>(↑ GF)= ↓ [1,2,6,7,9,10]
(↑ VM-FOCUS)= ↓
{ (↓ VM-FOCUS-TYPE)= exh
{ [↗=↙, ρ: erad]
| (↑ CHECK _QP)=c +
(↑ CHECK _QP-INTER)=c + }
| (↓ VM-FOCUS-TYPE)= id
[↗=↙, ρ: level]
| (↓ VM-FOCUS-TYPE)= pres
{ [↗=↙, ρ: level]
| [↗=↙, ρ: erad] } }</td><td>FOC V
NEG-FOC V
∀ FOC V
NEG-∀ FOC V
Q-$_{\text{FIN}}$ NEG-FOC V
Q$_{\text{MIÉRT}}$ FOC V</td></tr>
<tr><td>(↑ GF)= ↓ [3,8,11]
(↓ CHECK _VM-INTER)=c +
((↑ CHECK _VM-INTER)= +)
{ [↗=↙, ρ: erad]
| (↑ CHECK _VM-INTER)=c +
([↗=↙, ρ: erad])
| (↑ FOCUS-TYPE)=c exh }</td><td>Q$_{\textbf{+FIN}}$ V
Q-$_{\text{FIN}}$ Q$_{\textbf{+FIN}}$ V
FOC Q$_{\textbf{+FIN}}$ V</td></tr>
<tr><td>{ (↑ GF)= ↓ [4]
| ↑=↓ }
(↓ CHECK _VM)=c +</td><td>∀ VM V</td></tr>
<tr><td>↓ ∈ (↑ ADJUNCT) [5]
(↑ VM-FOCUS)= ↓
(↓ VM-FOCUS-TYPE)= neg
[↗=↙, ρ: erad]</td><td>NEG V</td></tr>
</table>

Table 27. Joint functional annotations in Spec,VP

[XP,VP]$_{\mathbf{VP}}$	
(↑ GF) =↓ **[4,6]** (↓ CHECK _QP)=c + ((↑ CHECK _QP)= +) [↗=↙, ρ: erad]	∀ VM V ∀ FOC V
(↑ GF) =↓ **[7]** (↓ CHECK _QP)=c + ((↓ POL)=c neg (↑ VM-FOCUS-TYPE)=c exh) [↗=↙, ρ: erad]	**NEG-∀** FOC V
(↑GF)= ↓ **[8]** (↑CHECK _VM-INTER)=c + (↓CHECK _QP-INTER)=c + (↓SPECIFIC)=c + ([↗=↙, ρ: erad])	**Q-$_{\mathbf{FIN}}$** Q$_{+FIN}$ V
(↑ VM-FOCUS TYPE)=c exh **[9]** (↑ VM-FOCUS POL)=c neg (↓CHECK _QP-INTER)=c + (↑CHECK _QP-INTER)= + (↓SPECIFIC)=c + { [↗=↙, ρ: erad] ~($\uparrow_\rho$VM-FOCUS [↗=↙, ρ])= erad | ~[↗=↙, ρ: erad] ($\uparrow_\rho$ VM-FOCUS [↗=↙, ρ])= erad}	**Q-$_{\mathbf{FIN}}$** NEG-FOC V
(↑ VM-FOCUS TYPE)=c exh **[10]** (↑ VM-FOCUS POL)=c pos (↓CHECK _QP-INTER)=c + (↑CHECK _QP-INTER)= + { [↗=↙, ρ: erad] ~($\uparrow_\rho$VM-FOCUS [↗=↙, ρ])= erad | ~[↗=↙, ρ: erad] ($\uparrow_\rho$ VM-FOCUS [↗=↙, ρ])= erad } }	**Q$_{\mathbf{MIÉRT}}$** FOC V
↓ ∈ (↑ FOCUS) **[11]** (↓ FOCUS-TYPE)= exh (↑ CHECK _VM-INTER)=c + [↗=↙, ρ: erad]	**FOC** Q$_{+FIN}$ V

Table 28. Joint functional annotations in [XP,VP]$_{\mathbf{VP}}$

[XP,VP]$_{VP}$
{ (↑ GF) =↓
(↓ CHECK _QP)=c +
((↑ CHECK _QP)= +)
[↗=↙, ρ: erad]
| (↑ GF) =↓
(↓ CHECK _QP)=c +
(↓ POL)=c neg
(↑ VM-FOCUS-TYPE)=c exh)
[↗=↙, ρ: erad]
| (↑GF)= ↓
(↑CHECK _VM-INTER)=c +
(↓CHECK _QP-INTER)=c +
(↓SPECIFIC)=c +
([↗=↙, ρ: erad])
| (↑ VM-FOCUS TYPE)=c exh
(↑ VM-FOCUS POL)=c neg
(↓CHECK _QP-INTER)=c +
(↑CHECK _QP-INTER)= +
(↓SPECIFIC)=c +
{ [↗=↙, ρ: erad]
~(↑$_{\rho}$VM-FOCUS [↗=↙, ρ])= erad
| ~[↗=↙, ρ: erad]
(↑$_{\rho}$ VM-FOCUS [↗=↙, ρ])= erad }
| (↑ VM-FOCUS TYPE)=c exh
(↑ VM-FOCUS POL)=c pos
(↓CHECK _QP-INTER)=c +
(↑CHECK _QP-INTER)= +
{ [↗=↙, ρ: erad]
~(↑$_{\rho}$VM-FOCUS [↗=↙, ρ])= erad
| ~[↗=↙, ρ: erad]
(↑$_{\rho}$ VM-FOCUS [↗=↙, ρ])= erad }
| ↓ ∊ (↑ FOCUS)
(↓ FOCUS-TYPE)= exh
(↑ CHECK _VM-INTER)=c +
[↗=↙, ρ: erad] }

Table 29. Disjunctive representation of functional annotations in [XP,VP]$_{VP}$

Spec,VP
{ (↑ GF)= ↓
(↑ VM-FOCUS)= ↓
{ (↓ VM-FOCUS-TYPE)= exh
{ [↗=↙, ρ: erad]
| (↑ CHECK _QP)=c +
(↑ CHECK _QP-INTER)=c + }
| (↓ VM-FOCUS-TYPE)= id
[↗=↙, ρ: level]
| (↓ VM-FOCUS-TYPE)= pres
{ [↗=↙, ρ: level]
| [↗=↙, ρ: erad] } }
| (↑ GF)= ↓
(↓ CHECK _VM-INTER)=c +
((↑ CHECK _VM-INTER)= +)
{ [↗=↙, ρ: erad]
| (↑ CHECK _VM-INTER)=c +
([↗=↙, ρ: erad])
| (↑ FOCUS-TYPE)=c exh }
| { (↑ GF)= ↓
| ↑=↓ }
(↓ CHECK _VM)=c +
| ↓ ∊ (↑ ADJUNCT)
(↑ VM-FOCUS)= ↓
(↓ VM-FOCUS-TYPE)= neg
[↗=↙, ρ: erad] }

Table 30. Disjuctive representation of functional annotations in Spec,VP

4.4. Augmented concluding remarks

The concluding remarks in this section are augmented in two respects. On the one hand, my summary of the most important points in this chapter are more detailed than a typical summary. On the other hand, on the basis of this more detailed summary, I make several general theory-internal and cross-theoretical comparative comments on various aspects of competing analyses of the relevant phenomena, coupled with a brief discussion of future research avenues.

In Section 4.3, I have presented a detailed LFG-XLE analysis of eleven Hungarian construction types involving constituents in the post-topic and preverbal zone: in the $[XP,VP]_{VP}$ quantifier position and in the Spec,VP focus/VM position. In addition to the basic structures that are analyzed in all major generative approaches to this domain of Hungarian sentence structure, I also developed coherent accounts of some marked constructions that call for special treatments in all approaches. The most important aspects of my comprehensive analysis are as follows.

1) I assume that there are four major constituent types immediately preceding the verb in the Spec,VP position in complementary distribution:
    a. a verbal modifier (VM)
    b. a focused constituent (including negated constituents, which, in turn, include negated universal quantifiers)
    c. the question phrase in a single constituent question, or the final question phrase in a multiple constituent question
    d. the negative particle
2) In the case of all the four types, only a single constituent can occupy this designated position: in a multiple constituent question all the nonfinal question phrases are in quantifier positions.
3) In the basic construction types, quantifiers[120] and nonfinal question phrases occupy a (possibly iteratively) VP-adjoined position: $[XP,VP]_{VP}$.
4) I call these $[XP,VP]_{VP}$ positions the "operator field", distinct from the Spec,VP position,[121] which I consider a special designated position, typically occupied by operators, but not always: various kinds of VMs are not operators in the strict sense of the word.
5) I make a distinction between the predicate, which is the VP, obviously subsuming the Spec,VP position, and predication, which subsumes the operator field (one or more VP-adjoined constituents) and the predicate.
6) In LFG's overall nonderivational, parallel-representational framework, and in the spirit of its what-you-see-is-what-you-get principle, I assume that the aforementioned four constituents compete for the same designated Spec,VP position, and I capture their complementarity by disjunctive sets of functional annotations.
7) I also use disjunctive sets of (possibly disjunctive sets of) annotations to capture the complementarity of constituents in the $[XP,VP]_{VP}$ position. In the overwhelming majority of the constructions under investigation (universal) quantifiers and question phrases occupy this position.
8) In addition to the regular LFG(-XLE) annotational apparatus, I make crucial use of XLE's CHECK features (both in c-structures and in lexical forms) to capture the complementarity of various constituents in a particular position, on the one hand, and to encode inevitable instances of context-sensitivity, on the other hand: certain constituents need to "see each other" from and in their respective positions.

[120] In this dissertation I only deal with universal quantifiers. I leave exploring the distribution and co-occurrence properties of all types of quantifiers and operators in the quantifier zone to future research.

[121] In Mycock's (2010) approach, $[XP,VP]_{VP}$ and Spec,VP together constitute the "operator field".

9) I use exactly the same strategy and devices in the analysis of highly marked, special constructions: "question phrase + neg-focus + verb" and "focus + question phrase + verb".
10) My analysis is XLE-implementable, and this has been successfully tested in the case of the syntactic behaviour of several constructions under investigation.[122]
11) This analysis incorporates the crucial syntax-prosody interface properties of the constructions. In LFG's parallel representational model the full prosodic dimension can be formally encoded along the lines of Mycock's (2006).[123]
12) In the analysis of the (co-)occurrence of various constituents in $[XP,VP]_{VP}$ and Spec,VP in the eleven constructions above, I confined myself to formally modelling the conditions licensing their (co-)occurrence. I leave it to (immediate) future research to augment this analysis with constraints that prevent certain constituents from co-occurring with certain other constituents in the relevant positions. This requires the thoroughgoing investigation of the formal possibilities of capturing the pertinent generalizations[124] and their consequences for the overall analysis both from LFG-theoretical and XLE-implementational points of view. Let me illustrate this point with the following example. It is a well-known fact that the negative particle or a question phrase cannot be in the scope of a universal quantifier. Compare (M29) with (52), on the one hand, and (M33) with (53), on the other hand.

(M29) Mindenki **nem**=dicsér-t-e Anná-t.
everyone.NOM NEG=*praise*-PAST-DEFO.3SG *Anna*-ACC
'Not everyone praised Anna.'

(52) ***Mindenki** nem dicsér-t-e Anná-t.
everyone.NOM NEG *praise*-PAST-DEFO.3SG *Anna*-ACC
'*Everyone didn't praise Anna.'

(M29) is one of our previous examples (from Mycock 2010). I pointed out above that in this sentence the universal quantifier has the contrastive topic discourse function, which is supported by its syntactic distribution (it can be followed by elements belonging to the topic field), it has contrastive topic prosody, and, most importantly from our present perspective, it is in the scope of the negative particle, see the English translation. By contrast, it is in the $[XP,VP]_{VP}$ position in (52), it receives the H+L pitch accent, and (following from this) the intended meaning is that it scopes wider than the negative particle. This sentence is ungrammatical, just like its English counterpart on the intended reading.[125]

(M33) $[\text{Ki}]_{\text{FOCUS}}$ $[\textbf{ki-nek}]_{\text{FOCUS}}$ mutat-t-a be Mari-t?
who.NOM *who*-DAT *introduce*-PAST-DEFO.3SG VM *Mary*-ACC
'Who introduced Mary to who?'

---

[122] Currently, there is no representation of prosody in XLE.

[123] If I subscribed to the approach developed by Dalrymple & Mycock (2011) and Mycock & Lowe (2013), a partially different technical apparatus would be required, because they separate the representation of syntactic and prosodic information more strictly.

[124] I plan to wait for the complete and detailed empirical findings and generalizations of the following ongoing large scale NKFIH (*Office for National Research, Development and Innovation*) / OTKA (*Hungarian Scientific Research Fund*) project: *Comprehensive Grammar Resources: Hungarian* (grant number: NK 100804, principal investigator: István Kenesei).

[125] Note that the English translation is also grammatical with a special (contrastive-topic-like) intonation and in an interpretation in which the universal quantifier is in the scope of negation. Compare this with the Hungarian example in (M29) and its English translation.

(53)	***Mindenki**	[ki-nek]$_{\text{FOCUS}}$	mutat-t-a	be	Mari-t?
	everyone.NOM	*who*-DAT	*introduce*-PAST-DEFO.3SG	VM	*Mary*-ACC
	ca. '*Everyone introduced Mary to who?'				

Again, (M33) is one of our previous examples (from Mycock 2010), in which the preverbal question phrase is preceded by another question phrase, and the sentence is grammatical.[126] By contrast, in (53) a universal quantifier, with intended wide scope, precedes the preverbal question phrase, and the sentence is ungrammatical.

These two prohibitions on the co-occurrence of a universal quantifier with the other two elements in the given configurations and meanings can be formally captured in various ways. For instance, we can simply impose cross-linguistic scope constraints on these combinations: a universal quantifier cannot have scope over negation: (54a), or a question phrase: (54b).

(54) a. $* \forall > \text{neg}$
b. $* \forall > \text{Q}$

Alternatively, we can encode these facts in our c-structure annotations. One way of doing this in the frame of the analysis I have developed here would be as follows. Earlier I mentioned that in future work, following Mycock (2013), I will augment the classification of traditional (noninterrogative) discourse functions to the interrogative domain. Also, above I proposed a new idea (as far as I know) that when the negative particle is in Spec,VP it is focused, and its "focus type" is neg. Once the space for focus types is extended along these lines, we can directly encode the two incompatiblities in (54) in the annotations for the universal quantifier in $[\text{XP,VP}]_{\text{VP}}$.

$[\text{XP,VP}]_{\text{VP}}$		**$\text{XP,VP}]_{\text{VP}}$**
(↑ GF) =↓ (↓ CHECK _QP)=c + ((↑ CHECK _QP)= +) [↗=↙, ρ: erad]	→	(↑ GF) =↓ (↓ CHECK _QP)=c + ((↑ CHECK _QP)= +) [↗=↙, ρ: erad] ~(↑ VM-FOCUS-TYPE)= neg ~(↑ VM-FOCUS-TYPE)= inter

Table 31. A possible modification of c-structure annotations to capture some scope properties of universal quantifiers

In the right column in Table 31, the first new annotation (the last but one) prevents the clause-negating negative particle from occurring in Spec,VP, while the second new annotation (the last one) blocks the presence of a question phrase in that position.

Note that a universal quantifier is also incompatible with constituent negation (recall that negated constituents are obligatorily focused constituents in Spec,VP). Compare (52), repeated here, containing clause negation, and (55), containing constituent negation.

[126] Recall that in Mycock's (2010) analysis the nonfinal question phrase is also in Spec,VP, while in my approach it is in $[\text{XP,VP}]_{\text{VP}}$.

(52) ***Mindenki** nem dicsér-t-e Anná-t.
everyone.NOM NEG *praise*-PAST-DEFO.3SG *Anna*-ACC
'*Everyone didn't praise Anna.'

(55) ***Mindenki** nem Anná-t dicsér-t-e.
everyone.NOM NEG *Anna*-ACC *praise*-PAST-DEFO.3SG
'*Everyone praised not Anna.'

The ungrammaticality of (55) can be encoded in the same fashion as that of (53) and (52). We can add the following constraint to the previous two: ~(↑ VM-FOCUS POL)= neg.

As I have pointed out several times above, there are some special constructions in the relevant domain of Hungarian sentence structure, and, because of their marked behaviour, they need a special treatment in any generative approach to Hungarian syntax that I am aware of. In this connection, I would like to claim, and I hope to have demonstrated, that the general framework and the formal apparatus of my analysis developed here can accommodate the treatment of these special constructions in a straightforward and principled manner. Let me illustrate this through the example of the "Q$_{\text{-FIN}}$ + NEG-XP + verb" construction type from the perspective of three different approaches. Consider Mycock's (2010: 271) example in (18) from Section 4.2, repeated here as (56).

(56) [*Ki-t*]$_{\text{FOCUS}}$ nem [János]$_{\text{FOCUS}}$ hív-ott fel?
who-ACC NEG *John*.NOM *call*-PAST.3SG VM
[lit.] 'Who did not John call?'
('Who was called by someone other than John?')

My comment on this in point (D3b) in Section 4.2 was that this construction seems to pose a serious problem for one of Mycock's (2010) fundamental assumptions: interrogative and noninterrogative foci must not co-occur in Spec,VP. The negated constituent *nem János* 'not John' is unquestionably a noninterrogative focus. Naturally, it is possible to attribute something special to the presence of the NEG operator, but her fundamental assumption still needs substantial revision.

Consider Kenesei's (2009: 583) analysis of the sentence in (57)[127] in Figure 33 (next page).

(57) Ki nem a Hamlet-et olvas-ta?
who.NOM not the Hamlet-ACC read.PAST.3SG.DEF
[lit.] ca. 'Who read no HAMLET?
('Who read something other than Hamlet?')

[127] His original example number is (34).

(34) $[_{CP}\ [_{FP}\ \text{Ki}_i\ \text{F}\ [_{CP}\ t_i\ [_{NegP}\ \text{nem}\ [_{FP}\ \text{a}\ \ \text{Hamletet}_j\ \ \text{olvasta-T-C}_k\text{-F}\ [_{CP}\ t_k\ t_j\ t_i\ [_{TP}\ t_k\ [_{vP}\ t_k\ t_j\ t_i\ ]]]]]]]]$
who not the Hamlet-ACC read
'For which person *y* is it the case that the *x* that is not Hamlet such that *y* has read *x*

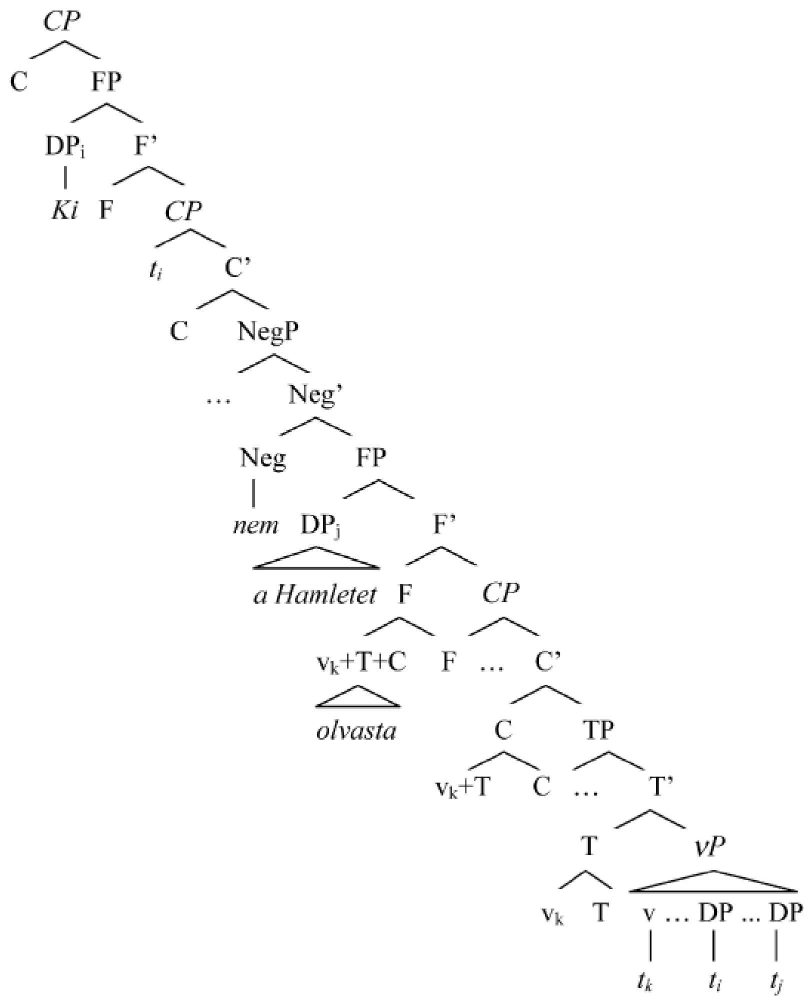
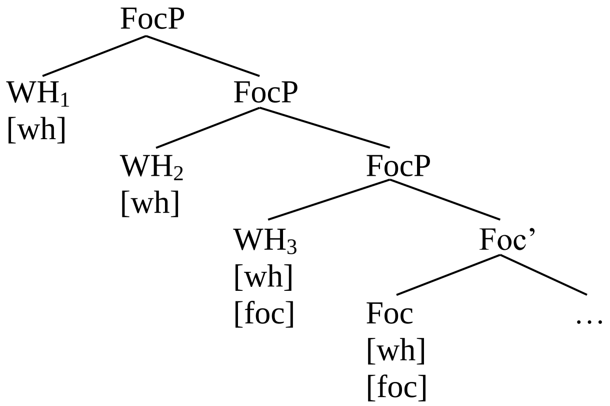


Figure 33. Kenesei's (2009) analysis of (57) *Ki nem a Hamletet olvasta?*

On this account, which I have selected for illustrative purposes, the general principles and assumptions of the cartographic version of MP force Kenesei to project multiple CPs and FPs on top of the standard CP structure to accommodate the relevant constituent types in this construction. By contrast, Surányi's (2007) alternative MP structure with possible multiple specifiers in FocP, which I showed in (12) in point (D1) in Section 4.2,[128] and which I repeat here as (58), would provide a much simpler general structural setting for analyzing this special construction type on a featural basis, if appropriately developed.

[128] In that section I drew a parallel between the multiple specifier MP approach of Surányi (2007) and the multiple specifier LFG approach of Mycock (2010).

(58)



Surányi (2011) argues against the cartographic version of MP, and presents the outlines of an interface-based MP model. I also showed his skeletal structure in (13) in point (D1) in Section 4.2, which I repeat here as (59).

(59) $[_{TP}$ **Spec*** $[\ [_{T}$ **V**$]\ [_{AspP} \ldots\ ]\ ]\ ]$

This approach does not assume functional projections like NegP and FocP; thus, in this respect it is closer in theoretical spirit to LFG.[129] Here, too, multiple specifiers are posited, this time in TP, which, again, provides a simple potential structural setting in an MP framework for an analysis of both the "regular" and the special construction types I discussed above.

I am not aware of an analysis of this particular construction type exemplified in (56) and (57) in either a Surányi (2007) or a Surányi (2011) style framework. It would be interesting to compare such an analysis with mine presented above from both theory-internal and theory-neutral perspectives. At this point, my claim is that my analysis is as simple and principled in my theoretical framework as can be with respect to both the syntactic structure it posits and the LFG-XLE devices it employs, and, thus, it would be strong LFG counterpart of a Surányi style MP account. Consider the details of my analysis from this perspective again. In Table 32 I repeat the relevant row from Table 26 presenting an overview of my treatment of all the eleven construction types.

$[XP,VP]_{VP}$		**Spec,VP**	
(↑ VM-FOCUS TYPE)=c exh **(↑ VM-FOCUS POL)=c neg** (↓CHECK _QP-INTER)=c + **(↑CHECK _QP-INTER)= +** (↓SPECIFIC)=c + **{ [↗=↙, ρ: erad]** **~(↑ρVM-FOCUS [↗=↙, ρ])= erad** **| ~[↗=↙, ρ: erad]** **(↑ρ VM-FOCUS [↗=↙, ρ])= erad}**	**Q-FIN** NEG-FOC V	(↑ GF)= ↓ (↑ VM-FOCUS)= ↓ (↓ VM-FOCUS-TYPE)= exh **(↑ CHECK _QP-INTER)=c +**	Q-FIN **NEG-FOC** V

Table 32. Overview of the functional annotations in $[XP,VP]_{VP}$ and Spec,VP for the "question phrase + neg-focus + verb construction type

[129] It is interface-based and noncartographic, but in other respects it shares the assumptions and principles of the mainstream MP architecture.

The annotations I specifically introduced for the treatment of this construction are in bold. Let me make the following comments on them.

- I capture the possibility of a question phrase occurring in the quantifier position when the focus position is occupied by a negated constituent (and not by another question phrase, which is the default case) by dint of two absolutely ordinary constraining equations in [XP,VP]$_{VP}$: (↑ VM-FOCUS TYPE)=c exh and (↑ VM-FOCUS POL)=c neg.
- All the other annotations in bold are needed to capture Mycock's (2010) experimental-empirical findings: in this construction either the question phrase or the negated focus can receive the H+L pitch accent.
    - The two members of the QP-CHECK feature pair in their respective positions simply "prescribe" the necessity of the co-occurrence of the two relevant constituent types.
    - The disjunction at the end of the annotations in [XP,VP]$_{VP}$ encodes this possibility of prosodic alternation, a dimension any approach aiming at a complex analysis also needs to capture.

Let me now make some concluding remarks on Mycock's (2010) approach to the constructions under investigation (A) and on the analysis I have developed here (B), with particular attention to the syntax-prosody interface aspects (C).

(A) On Mycock (2010)

1. Mycock's findings evidenced by her pitchtracks are of special importance for all researchers of the relevant construction types. They have enriched my analysis considerably. For instance, in point (C) below I will show how and why the alternating prosodic patterns of certain constructions attested by her research shaped my approach.
2. Mycock's fundamental claim is that prominence for expressing scope relations can be either syntactically or prosodically marked. For her, syntactic prominence means precedence, and prosodic prominence is encoded by a H+L pitch accent in the given intonational phrase.
3. She argues that LFG, with its multiple parallel levels of representation, is an appropriate framework for formally capturing the relevant facts: both c(onstituent)-structure and p(rosodic)-structure can (independently) feed s(emantic)-structure and i(nformation)-structure.
4. If the two marking strategies co-occur, they are usually aligned. When they are not aligned, prosodic marking wins out.
5. Mycock concentrates on the fundamental syntax-prosody interface issues on the basis of her findings in her experimental research, and she does not present details of either a syntactic or a prosodic analysis of the constructions under investigation; thus, this paper is rather programmatic. On the syntax side, she only makes basic word order and positional generalizations, and on the prosody side, she presents pitch tracks of the examples from her empirical investigation.
6. In the preverbal domain of Hungarian sentences, she assumes the following syntactic articulation.

<table>
<tr><td rowspan="3">Topic</td><td colspan="3">Predicate</td></tr>
<tr><td colspan="2">Operator Field</td><td rowspan="2">VERB</td></tr>
<tr><td>QP</td><td>FOCUS</td></tr>
</table>

Table 33. Mycock's articulation of preverbal sentence structure

(B) On my analyis

1. I find Mycock's (2010) experimental-empirical results especially important and seminal for any generative approach aiming at a formally adequate analysis of the construction types under investigation.
2. I subscribe to her general view of modelling prominence along two parallel and independent lines in an LFG framework; however, some crucial aspects of my generalizations and analysis differ considerably.
3. In Section 4.2, I made several critical remarks on Mycock's assumptions about the positions of certain constituents in certain constructions, see the comparative overview in Table 7 in that section.
   a. She assumes that a preverbal VM morphologically combines with the verb. I assume that all VMs occupy the Spec,VP position.
   b. She assumes that in the case of clausal negation (without a focused constituent) the negative particle procliticizes to the verb both prosodically and syntactically. I assume that this particle is in Spec,VP.
   c. She assumes that when a universal quantifier precedes a negated verb (this is the same instance of clause negation without a focused constituent) the quantifier is in its regular position $[XP,VP]_{VP}$ and the negative particle procliticizes to the verb both prosodically and syntactically. I assume that the universal quantifier is in a topic position and the negative particle is in Spec,VP.
   d. She assumes that all preverbal question phrases in multiple constituent questions make up a cluster and occupy the Spec,VP focus position. I assume that only the final, immediately preverbal question phrase occupies the Spec,VP position, and all the other (nonfinal) question phrases are in (iteratively) VP-adjoined positions: $[XP,VP]_{VP}$.
4. In Section 4.3, I offered a detailed LFG-XLE syntactic analysis of all the constructions investigated by Mycock, and I added the analysis of two further, special constructions posing fundamental problems for one of Mycock's central syntactic generalizations. In the analysis of several constructions, I made crucial use of XLE's CHECK feature device to encode obvious instances of context sensitivity with respect to the (non)co-occurrence of certain constituents.
5. I also showed schematically how the crucial prosodic aspects of a fuller analysis can be technically incorporated in this approach.
6. In the preverbal domain of Hungarian sentences, I assume the following syntactic articulation.

<table>
<tr><td rowspan="3">Topic</td><td colspan="3">Predication</td></tr>
<tr><td>Operator Field [XP,VP]_{VP}</td><td colspan="2">Predicate (VP)</td></tr>
<tr><td>QP</td><td>“FOCUS” Spec,VP</td><td>VERB</td></tr>
</table>

Table 34. My articulation of preverbal sentence structure

Recall that I postulate that VMs also occupy the Spec,VP position, see point 3a above, and it is for this reason that I use the label FOCUS between quotation marks in Table 34. I have kept the label, though, for the sake of easy comparison between the two approaches, cf. Table 33 and Table 34. Note that Mycock's Operator Field contains both the QP and the FOCUS (i.e. Spec,VP) positions, because in her approach VMs morphologically combine with their verbs under V^0; thus, for her the Spec,VP position is also an operator position. Above I have argued at length against such a treatment of VMs and for assuming their complementarity with foci. From this it follows that I cannot assume that Spec,VP is an ordinary and homogeneous part of the Operator Field. Instead, it is a Janus-faced position which can host operators as well as nonoperators, i.e. VMs.

(C) On the syntax-prosody interface

1. In Section 4.1, I pointed out, and discussed in a detailed fashion, that Mycock (2010) rejects É. Kiss's (2002) principle of Stress-Predicate Edge Alignment, which I repeat here for convenience. *The first obligatory stress, which also represents the heaviest grammatical stress in the sentence, falls on the first major constituent of the predicate.*[130] *(In Hungarian, phrasal stress – similar to word stress – falls on the left edge* (2002: 11)). Mycock argues in the following way. Although this principle correctly predicts that in a "universal quantifier + focus + verb" configuration the quantifier, being at the left edge of the predicate, will receive the H+L pitch accent and not the focus, two construction types pose problems for it. On the one hand, in multiple constituent questions this accent falls on the final (i.e. immediately preverbal) question phrase. On the other hand, when a universal quantifier precedes the negative particle involved in clause negation, it is the particle, and not the quantifier, that receives this accent.[131] In Section 4.1, I made the following comments on this argumentation. On the one hand, the prosodic behaviour of multiple questions is more complex than this, because Mycock herself has attested cases in which it is the initial question phrase that gets the H+L accent.[132] On the other hand, in the clausal negation configuration the universal quantifier is demonstrably in a topic position; thus, this construction is not at all relevant to the issue at hand.[133]
2. As regards the prosodic behavioural complexity of multiple questions and its consequences for syntax-prosody interface issues in general and Mycock's approach and my approach in particular, let me repeat here a comment I made in Section 4.1[134] on one of the footnotes in Mycock (2010).[135]

> Although it is absolutely true that her data in her examples in (33)-(36) do not support É. Kiss' (1987) claim that "all question words in a multiple CQ are assigned the highest level of stress",[136] it has to be noted that in addition to the by far most common prosodic pattern manifested by these examples, there is a significant complication, also attested by Mycock's elicited data. Consider Figure 6,[137] showing Mycock's three different pitchtracks of the sentence in example (37). (37a) shows the typical pattern with unmarked interpretation, also manifested by (the pitchtracks of) the examples in (33)-(36). (37c) seems to correspond to É. Kiss' (1987) generalization: the first question phrase receives a rise-fall and the second one receives the usual fall accent. This can be taken to prove that there may be dialectal and/or idiolectal variation in this domain.[138] In Section 4.3, I will argue that these data lend further support to my predication & predicate approach. (37b) appears to be a special mixture of the two patterns in (37a) and (37c) in that in the first question phrase it is only the question word itself that bears rise-fall and there is a shallow rise on the following noun.

[130] In this context, the predicate is understood as beginning with the operator field, see Table 33 above.

[131] For the relevant examples and pitchtracks, see Section 4.1.

[132] I will elaborate and capitalize on this issue below. In addition, it is left for future empirical research to find out whether the prosodic alternations consistently correspond to discourse-related and/or scopal differences.

[133] For further discussion and illustration, see Sections 4.1 and 4.2.

[134] In point 4a.

[135] This is Footnote 13 in that paper.

[136] Below I only repeat Figure 2 from Section 4.1 as Figure 34, showing her example (35) and its pitchtrack. The other two examples she refers to, (33), (34) and (36), follow the same pattern.

[137] Below I repeat Figure 6 as Figure 35.

[138] And maybe É. Kiss and/or her informants belong to this group of speakers. Or, alternatively, there may be i-structure differences involved. This is, again, a topic for future experimental investigation.

Mycock acknowledges these prosodic variants and leaves their investigation to future research. For my present purposes the mere existence of this variation is important.

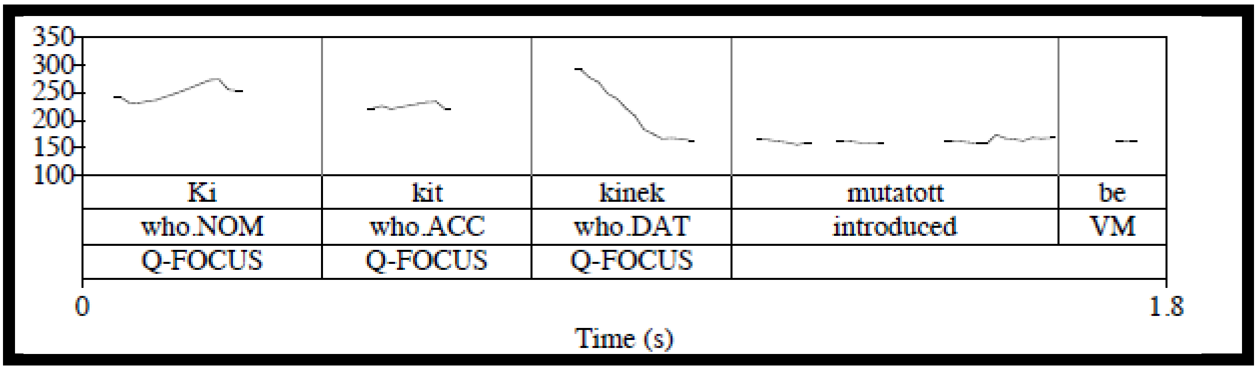


Figure 34. Pitchtrack of (35) *Ki kit kinek mutatott be?*

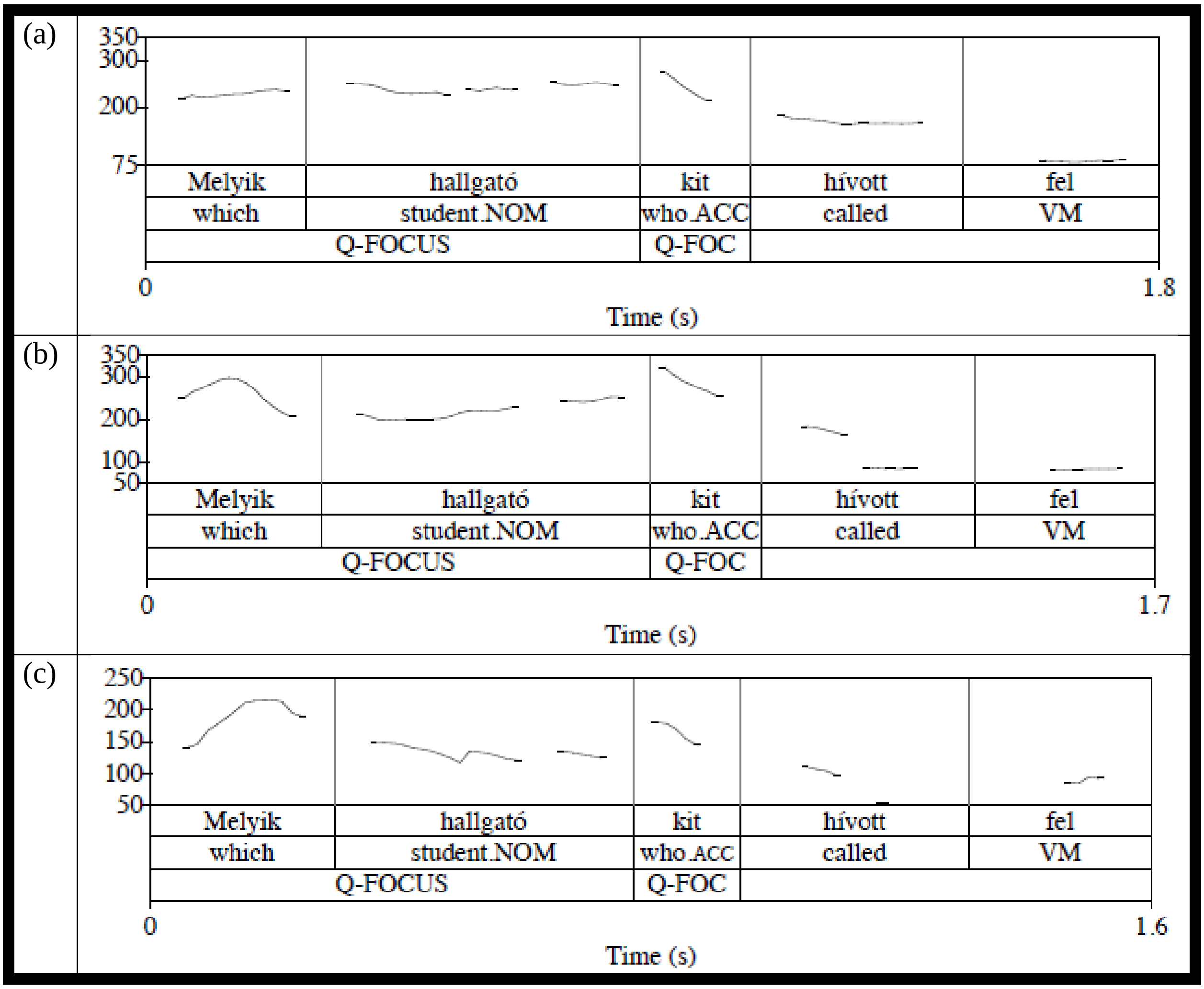


Figure 35. Three pitchtracks of (37) *Melyik hallgató kit hívott fel?*

In the spirit of my comments repeated above, I claim that my articulation of the preverbal domain of Hungarian sentence structure shown in Table 34 above provides an appropriate setting for accommodating a whole range of scope-related syntactic and prosodic facts in the preverbal domain in general and in the case of multiple constituent questions in particular. My basic idea is as follows.

3. The fundamental topic—predicate articulation is absolutely well-established and widely accepted in the Hungarian generative tradition, so, in agreement with Mycock, I also subscribe to it,[139] and I call it predication. The discourse-functional division between topic and predicate is trivial and fundamental, and the first obligatory stress requirement is also valid. However, I will argue below that the additional claim that this obligatory stress must be the heaviest, as a rule, is untenable.
4. I think my notion of predicate[140] is also fully justifiable. In my (and É. Kiss' 1992) framework it is the "core" VP, without adjoined constituents. In addition, the constituent in its specifier position always receives obligatory stress, which is required by the properties of individual verbs.[141] In neutral sentences the VM + verb combination satisfies this requirement in a level prosody environment, and in a nonneutral sentence the focus + verb combination satisfies it in an eradicating environment. Typically, the eradicating stress (i.e. the H+L pitch accent) falls on the focus in Spec,VP (i.e. the left edge of the predicate), but there are construction types in which this stress falls on the left edge of the predication. As regards the constructions under investigation, this latter prosodic pattern is obligatory when there is a universal quantifier preceding a focus, and it is optional in a question phrase + neg-focus configuration, that is, in this case either the question phrase (at the left edge of the predication) or the negated focus (at the left edge of the predicate) receives this stress. Multiple constituent questions follow a third pattern. When there are two question phrases in the sentence, there are the following two alternatives. (i) The second (final, immediately preverbal) question phrase (the left edge of the predicate) receives the heavy stress, see (37a) in Figure 35. (ii) Both the first question phrase (the left edge of the predication) and the second question phrase (the left edge of the predicate) receive this stress, see (37b,c)[142] in Figure 35.[143] In my opinion these two attested patterns considerably weaken Mycock's assumption that all question phrases make up a cluster which occupies the Spec,VP position, and significantly support my claim that the final question phrase is in Spec,VP and all the others are in (iteratively adjoined) $[XP,VP]_{VP}$. The basic question for Mycock's view is this: if the (ii) pattern is also available, why does the cluster need a highly unusual, unpredicted pattern (backward scope taking): (i). Furthermore, as I will point out below, Mycock's analysis of the scope relations of the final question phrase in the (i) pattern is not correct: it does not have scope over the preceding question phrase despite its prosodic salience; instead, it has scope over the elements on its right – just like an ordinary focused constituent. By contrast, in my analysis the two question phrases are in $[XP,VP]_{VP}$ and Spec,VP respectively. The former has scope over the latter and the latter has scope over the elements on its right. These are ordinary instances of syntactic scope taking in terms of precedence (a principle which

[139] Recall that in my LFG analysis of the preverbal domain developed here I adopt (and adapt) É. Kiss' (1992) phrase structure conception, which formally truly encodes this primary division: $[XP^* \ VP]_S$, where VP subsumes (possibly iteratively) VP-adjoined constituents, belonging to the operator zone proper.

[140] Note that this notion of mine is different from the category of PredP (predicate phrase) in several MP approaches, see É. Kiss (2002), for instance. The fundamental difference is that my VP predicate subsumes both VMs and foci, while in the relevant MP approaches focused constituents are higher up in the structure in other projections. Again, let me emphasize the fact that É. Kiss' (1992) VP (i.e. my VP and my predicate) also subsumes focus.

[141] The relevant well-known empirical generalizations, couched in an É. Kiss (1992) style structural setting, are as follows. There are verbs that take ordinary word initial stress in neutral sentences, in which case they are the first, left-most elements in the VP. There are also many verbs that want to "avoid" stress. They require a designated element to precede them in neutral sentences. This element occupies the Spec,VP. When there is an element to be focused in the sentence, the neutral sentence requirements of the verb are overwritten, and the focused constituent occupies the preverbal, Spec,VP position, irrespective of the verb's basic needs in neutral sentences.

[142] The minor prosodic difference between (37b) and (37c) is irrelevant for us here.

[143] On Mycock's comments on the prosodic alternations she has attested, including this one, and on my remarks on these notes, see point xh below.

Mycock also subscribes to). In addition, my predication vs. predicate distinction is further supported by the pattern in (ii): both the left edge of the predication and the left edge of the predicate are potential loci for the H+L pitch accent, and occasionally this can happen simultaneously, as in this case.

5. As I discussed in Section 4.2, the crucial aspects of Mycock's (2010) proposal are as follows.
    a. Scope can be encoded either syntactically or prosodically by dint of precedence relations or H+L pitch accent assignment, respectively.
    b. The two encoding strategies may co-occur.
    c. They typically align.
    d. When they do not align, i.e. when they are in conflict, prosody wins out: prosody determines the relevant scope relation.
    e. LFG's modular, parallel representational, nonderivational architecture provides an appropriate framework for adequately capturing scope relations in a principled fashion.

I fully agree with all these points except for point d. I see this issue radically differently. First of all, we need to make a fundamental distinction between two domains: it is a decisive factor whether scope is to be encoded preverbally or postverbally. If syntax and prosody compete in scope marking preverbally then, contrary to Mycock's assumption, it is syntax that gets the upper hand: syntax determines the relevant scope relation.[144] By contrast: postverbal prosodic prominence beats syntax, in accordance with Mycock's assumption.

Let me elaborate on and argue for my first claim by discussing Mycock's (2010) central construction type: multiple constituent questions. Consider one of her examples and its pitchtrack in Figure 21 in Section 4.2, repeated here as Figure 36.[145]

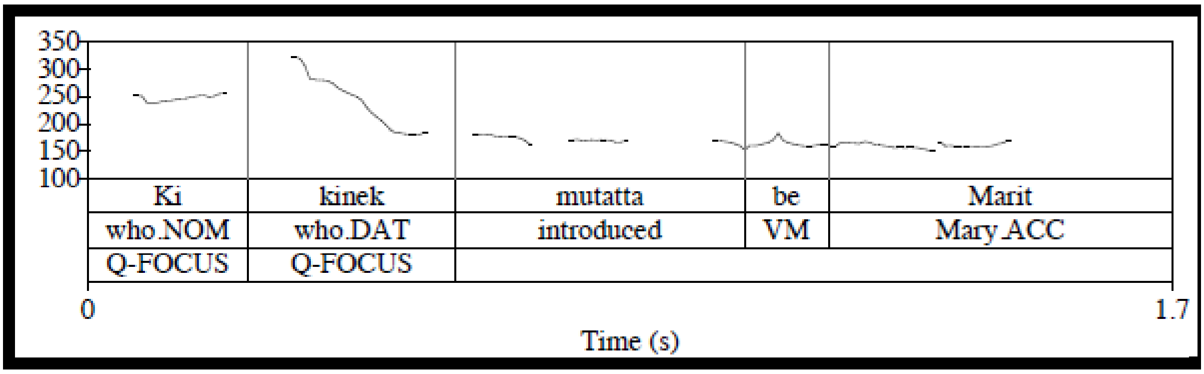


Figure 36. Pitchtrack of (33) *Ki kinek mutatta be Marit?*

Recall that the most important aspects of her analysis are as follows.

(i) The question phrases make up a cluster and occupy the Spec,VP focus position, that is why both of them are marked as FOCUS in (33).

(ii) Given that the second, preverbal question phrase receives the H+L pitch accent, and given Mycock's assumption that prosody is dominant in marking scope, it takes scope over all elements in its Intonation Phrase (IntP), which includes the first, prosodically less salient question phrase in the cluster as well.

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[144] The only significant exception I am aware of is the inverse (narrow < wide) scope relation between a contrastive topic and the focus. But this requires a special treatment in any approach, see point 6b below.

[145] In my discussion, given that the relevant example contains two question phrases, I will to them as the first and second, but the generalizations I will be making are as follows: the "second" question phrase is the "final" question phrase, and the "first" question phrase stands for ***all*** nonfinal question phrases in multiple questions.

(iii) The semantic, discourse-functional correlate of this is that according to Mycock it is the prosodically salient preverbal question phrase that is interpreted as the sorting key, encoding "aboutness".[146]

Let me make the following (opposing) claims.

(i) As I argued above, the first question phrase is in $[XP,VP]_{VP}$ and the second is in Spec,VP.

(ii) In the syntax-prosody conflict, syntax wins, because we are in the preverbal domain, i.e. the first question phrase has scope over the second. This is supported by discourse-functional considerations.

(iii) Agreeing with Surányi (2006, 2007) and Gazdik (2012), I assume that it is the first question phrase (and not the second) that has the "aboutness" sorting key function. Notice, first of all, that when a question like (33) is answered, it is the topic of the answer sentence that corresponds to the first question phrase, and it is the focus of this sentence that corresponds to the second question phrase:

(60)	János	Feri-nek	mutat-t-a	be	Mari-t.
	John.NOM	*Feri*-DAT	*introduce*-PAST-DEFO.3SG	VM	*Mary*-ACC
	'John introduced Mary to FERI.'				

As the term itself suggests, aboutness is topicality; therefore, the sorting key, corresponding to the topic in the answer is the first question phrase.[147] As regards the status of the second question phrase, it is rather the questioning focus in Mycock's (2013) terms, because it corresponds to the focus of the answer sentence.[148] Mycock writes:

> [t]he sorting key is one question phrase that is distinguished from the rest in multiple CQ in terms of its precise information-structural status. The sorting key communicates how the questioner expects information in any answer to be organised, and thus is an important factor in determining whether a response is felicitous (2010: 287),

and, by saying this, she means to characterize the role of the second question phrase. I agree that it (also) has a precise information-structural status, but this status is not that of a sorting key (encoding aboutness). Instead, what it specifically and uniquely communicates is that it expects exhaustive information in the answer, otherwise it will not be felicitous, see É. Kiss (1992) and Bródy & Szendrői (2011), among others.

(iv) Note that in a sentence like (60) the topic (*János* 'John.NOM') has scope over the focus (*Ferinek* 'Feri.DAT'). Now, on the basis of the discourse functional parallel between the two corresponding constituents in (33) and (60) we have every reason to assume that the first question phrase has scope over the second in (33). From this we can conclude that here syntax (and not prosody) marks scope.[149]

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[146] She writes: "[t]he native speakers I consulted identify the final question word in a regular multiple CQ as being the most important one – the one that the question is 'about' in the sense of being the information gap that is of primary concern" (2010: 287).

[147] The following legitimate question arises here. If the nonfinal question phrases have a "topic" interpretation, and they themselves trigger topic responses in the answer, why do they not occupy the regular topic positions. I think the answer is that they are interrogative operators, and, as such, they are confined to operator positions.

[148] On Mycock's (2013) discourse-functional classification of question phrases, based on English data. In this classification she draws direct and intuitively very appealing parallels between widely accepted types of noninterrogative discourse functions and their interrogative counterparts. I readily subscribe to her distinction between the sorting key and the questioning focus in principle, but I am convinced that in the Hungarian construction under investigation the first question phrase is the sorting key and the second one is the questioning focus.

[149] Let me also note in this connection that the aforementioned parallel between (33) and (60) lends some additional support to my claim that the first question phrase is not in a cluster with the second; instead, it is higher up in the structure.

(v) As I discussed in point 4 above, Mycock (2010) has attested a second prosodic pattern in multiple constituent questions, at least in the case of sentences with two question phrases: both question phrases my receive the H+L pitch accent, see (37b,c) in Figure 35. This constellation can be described along the following lines. The two question phrases are on a par prosodically, and syntax encodes the wide scope of the first question phrase, so, in a significant sense this is a more unmarked scenario than the more common version in (37a) in Figure 35, where there is a syntax-prosody mismatch (with syntax taking the upper hand). Note that this dual H+L pitch accent seems to pose a serious problem for Mycock's approach under her assumption: (a) the second question phrase has wider scope (b) prosody is stronger than syntax in determining scope. The problem is that in this case prosody cannot determine scope. The assumed (obligatory) wide scope of the second question phrase does not follow. Notice that here Mycock cannot invoke syntax as the second best, auxiliary principle, because the assumed narrow scope constituent precedes the assumed wide scope constituent.[150] Also notice that this situation, under Mycock's assumptions, is different from the general situation in the postverbal domain. As I discuss in the next paragraph, the basic empirical generalization is that in this domain only prosodic marking encodes scope. Therefore, if there are two prosodically salient constituents postverbally, their scope relations are ambiguous. Either can be in the scope of the other. However, this is not the case in our construction under discussion.

My second claim above, namely that in the postverbal domain it is prosody that marks scope relations, simply expresses that I subscribe to a well-established generalization, see Hunyadi (1986), É. Kiss (1992, 1994), among others. Consider the following examples from É. Kiss (1994: 74-75).[151]

(61) [$_{\text{VP}}$ *KÉT TÁRGY-BÓL* [$_{\text{V'}}$ *bukott meg mindenki*]]
two subject-from failed VM everybody.NOM
'Everybody foiled in two (potentially different) subjects.'

(62) [$_{\text{VP}}$ *KÉT TÁRGY-BÓL* [$_{\text{V'}}$ *bukott meg* ***'mindenki***]]
two subject-from failed VM everybody.NOM
'It was two subjects in which everybody failed.'

(63) [$_{\text{VP}}$ ***Két tárgy-ból is*** [$_{\text{VP}}$ *meg* [$_{\text{V'}}$ *bukott* ***'mindenki***]]]
two subject-from even VM failed everybody.NOM
a. 'In two subjects, everybody failed.'
b. 'Everybody failed in two (potentially different) subjects.'

Intuitively, this configuration corresponds to, but is not identical to, the widely assumed (asymmetrical) hierarchical relation between the noninterrogative topic and the focus in (60).

[150] Compare this with my assumption about the scope relations of the two constituents and the straightforward way in which my approach can handle this.

[151] I represent these examples following my glossing conventions.

(64) [$_{\text{VP}}$ *Meg* [$_{\text{V'}}$ *bukott* ***'mindenki*** ***'két*** ***tárgy-ból*** ***is*** **]]**
VM failed everybody.NOM two subject-from even
a. 'In two subjects, everybody failed.'
b. 'Everybody failed in two (potentially different) subjects.'

(65) [$_{\text{VP}}$ *Meg* [$_{\text{V'}}$ *bukott* ***'két*** ***tárgy-ból*** ***is*** ***'mindenki*** **]]**
VM failed two subject-from even everybody.NOM
a. 'In two subjects, everybody failed.'
b. 'Everybody failed in two (potentially different) subjects.'

The relevant generalizations are as follows.

(i) When there is a focused constituent in Spec,VP and an operator in the postverbal domain does not receive H+L prosodic prominence, the latter is obligatorily in the scope of the former, see (61).

(ii) When, in the same configuration, the postverbal operator receives the H+L pitch accent, it will obligatorily take wide scope over the focused constituent, see (62).

(iii) When there is a preverbal operator in the operator field and there is a postverbal operator with the H+L pitch accent, the sentence is ambiguous: either operator can be interpreted as taking wide scope over the other, see (63).

(iv) When two operators, both receiving the H+L pitch accent, occur postverbally, we get the very same scope ambiguity, irrespective of their syntax (i.e. relative order), see (64) and (65).

(v) From (ii)-(iv) the following conclusion suggests itself: in the postverbal domain only prosody marks scope, and this extends even to the preverbal domain, and syntax does not have a role here.

6. It is also important to investigate, in the operator field, constituents other than universal quantifiers. Recall that Mycock's (2010) fundamental claims are as follows: (i) scope can be marked either syntactically (i.e. by means of word order) or prosodically (i.e. by means of the H+L pitch accent); (ii) the two strategies usually align; (iii) when they do not, prosody wins out. She supported her claims, in part, by the interaction of a universal quantifier and a focused constituent. Her view is this. The universal quantifier sits in the same (VP-adjoined) quantifier position, and when it has scope over the focused constituent it receives the H+L pitch accent, when it does not have scope over the focused constituent, it is this focused element that gets the H+L accent. My comments on this approach, partially repeating my earlier remarks from a partially different perspective, are as follows.
   a. When the universal quantifier receives the H+L accent and the focus does not, see (the discussion of) (M25) above, Mycock's generalization is correct: the quantifier has scope over the focus, and this is encoded both syntactically (precedence) and prosodically (H+L pitch accent).[152]
   b. When the universal quantifier is not heavily stressed and it is in the scope of the heavily stressed negative particle expressing clause negation, see (the discussion of) (M29), Mycock's generalization is not correct for the following reason. There is empirical evidence that in this case the quantifier is not in the operator zone; instead, it is in the topic field. It receives the ordinary prosody of contrastive topics, and from this its narrow scope immediately follows. Furthermore, and even more importantly, the two elements are not in the same intonation phrase,[153] so this

[152] It is a possible partial explanation (motivation) for this prosodic pattern that if the universal quantifier is not heavily stressed, it can be easily (mis)interpreted as a contrastive topic with narrow scope. See point b. below.

[153] For instance, the quantifier can intermingle with other (ordinary and/or contrastive) topics.

construction type is not relevant to the issue under investigation: this is just an instance of the general behaviour of contrastive topics. Of course, the appropriate formal treatment of contrastive topics is an independent and substantial challenge in and by itself. In this case, too, (further) empirical and experimental research would be necessary. It is also true that in this case it seems that prosody is the dominant encoder of scope, given that the narrow scope constituent precedes the heavily stressed wide scope element. However, in the same syntactic configuration (one element in the topic field and another in focus) ordinary topics behave in the opposite way: although they do not receive the H+L pitch accent either, they, as a rule, have scope over a (heavily stressed) focused constituent. So the following basic informal generalization suggests itself for the description of scope relations in a topic/contrastive topic + focus syntactic configuration. In the case of ordinary topics, the regular pattern works: topics (in independent intonation phrases), as a rule, have wide scope over the heavily stressed focused constituent (and the rest of the VP); thus, in an important general sense the syntactic encoding determines scope relations. In the case of contrastive topics, there is a special interplay of syntax and prosody. On the one hand, we need the topic (position)—focus syntactic configuration, but here a special prosodic marking in the independent contrastive topic intonation phrase (rising tone plus pause) overrides the fundamental syntactic encoding of scope.

c. If we consider the relationship between a focused constituent and quantifiers other than the universal quantifier in the operator field, it turns out that in these other cases syntax beats prosody in the encoding of wide scope. Compare (M25) repeated here for convenience with (66) and (67).

(M25) **Mindenki-t**	[János]$_{\text{FOCUS}}$	hív-ott	fel.
everyone-ACC	*John*.NOM	*call*-PAST.3SG	VM

‘For every *x*, *x* = person, JOHN called *x*.’

(66) Sok nő-t	[János]$_{\text{FOCUS}}$	hív-ott	fel.
many woman-ACC	*John*.NOM	*call*-PAST.3SG	VM

‘For many *x*, *x* = woman, JOHN called *x*.’

(67) Anná-t is	[János]$_{\text{FOCUS}}$	hív-ta	fel.
Anna-ACC also	*John*.NOM	*call*-PAST.3SG.DEF	VM

‘It holds for Anna, too, that it was John who called her.’

Kálmán (2001) distinguishes three basic types of quantifiers in the operator field which come in the following strict order.[154]

(68)	IS-position	EVERY(THING)-field	SOK-position
	Anná-t is	mindenki-t	sok nő-t
	Anna-ACC also	*everyone*-ACC	*many woman*-ACC

The first type is a constituent combined with the particle *is* ‘also’, which encliticizes to it. Typically, only one such constituent can occur in this preverbal field.[155] The

[154] As I pointed out above, in this dissertation, of the major quantifier types, I only concentrate on universal quantifiers, and leave the detailed formal analysis of the other types (including their co-occurrence possibilities and constraints) to future work.

[155] Further *is*-constituents must occur postverbally.

second type is the category of universal quantifiers, and there can be several of them preverbally, hence the term: “field”. The third type is represented by its prototypical member: *sok* ‘many’, and this is also a single position.

First of all, note that neither the *sok*-type, exemplified in (66), nor the *is*-type, exemplified in (67), follows the prosodic pattern of the universal quantifier, exemplified in (M25). In the case of these other two major types, the focused constituent has its usual heavy stress, but it is still in the scope of the *sok*-type or *is*-type quantifier. Thus, here the syntactic encoding of scope gets the upper hand.[156]

Secondly, when there is a *sok*-quantifier between the universal quantifier and the focus, as in (69) below, it is the focus that is heavily stressed.[157]

(69)	Mindenki	sok nő-t	[tegnap]$_{\text{FOCUS}}$	hív-ott	fel.
	everyone.NOM	*many woman*-ACC	*yesterday*	*call*-PAST.3SG	VM
	‘It was yesterday that everybody called many women.’				

Thirdly, it seems to me, but this would also require empirical-experimental research, that when there is more than one universal quantifier preceding the focus, as in (70) below, the prosody is the same as in the case of the universal quantifier + *sok*-quantifier + focus combination in (69).

(70)	Mindenki	mindenki-t	[tegnap]$_{\text{FOCUS}}$	hív-ott	fel.
	everyone.NOM	*everyone*-ACC	*yesterday*	*call*-PAST.3SG	VM
	‘It was yesterday that everyone called everyone.’				

From all this we can conclude that (i) in the case of quantifier (+ quantifier) + focus combination (when the quantifier is in the operator field), scope is encoded syntactically in the overwhelming majority of cases (in conflict with prosodic marking) (ii) the only exception is when a single universal quantifier immediately precedes the focus, in which case it is heavily stressed, and thus syntax and prosody get aligned.

7. Let me now discuss the prosodic alternations in the case of several construction types, attested by Mycock’s (2010) experimental research.
   a. *Multiple questions*
   In point 5 above I showed the variation in (37) in Figure 35 with its three alternative pitchtracks taken from Mycock (2010), and I made several critical remarks concerning her approach[158] and explained how and why my approach can handle this variation on solid empirical grounds and in a principled manner.
   b. *Q +* NEG*-focus*
   Above, I have pointed out several times the fundamental problem that the mere existence of this construction type poses for Mycock’s approach.[159] On the fact that either the question phrase or the negated focus can receive the H+L pitch accent Mycock writes:

[156] While in the case of the universal quantifier + focus combination, as I have pointed out several times, syntax and prosody are aligned.

[157] At least in my idiolect. This construction type would also need empirical-experimental investigation.

[158] Recall that the crucial aspects of my criticism were as follows: (i) the final question phrase is not the sorting key; (ii) it does not have scope over the preceding question phrases (iii) the double H+L pitch accent pattern manifested in two versions in (37b) and (37c) causes an insurmountable problem for Mycock.

[159] Her basic assumption is that a noninterrogative focus, as rule expressed by a single constituent, and possibly multiple interrogative foci are in complementary distribution. This assumption is clearly violated by this construction type.

> [t]his indicates that a CQ need not include a prosodically prominent question phrase for the sentence to be interpreted as an interrogative, i.e. Prosody–Scope Correspondence […] does not necessarily mark the extent of interrogative scope (2010: 293).

This remark seems to admit that when the negated focus receives the H+L pitch accent, Mycock's basic principle of the marking of interrogative scope in constituent questions is violated. Then Mycock adds that the two patterns in multiple questions and the two patterns in the question phrase + negated focus construction type are consistent with the NonNeutral Predicate Tune (employing the H+L pitch accent). She writes:

> "[t]he variation does not seem to correlate with a major difference in meaning, though the possibility that the different prosodic patterns correlate with more subtle interpretational differences and/or phonological features requires further investigation. One hypothesis to test in future work is that the source of the variation is contrast […] one way in which contrast can be achieved prosodically is by 'shifting' the point of prominence (i.e. the H+L accent) from its expected position in the nonneutral predicate to the contrasted item" (2010: 293).

In order to support this idea, she compares her examples in (26) and (49), associated with their respective pitchtracks. Compare Figure 1 from Section 4.1, which I repeat here as Figure 37 for convenience, and Figure 38.

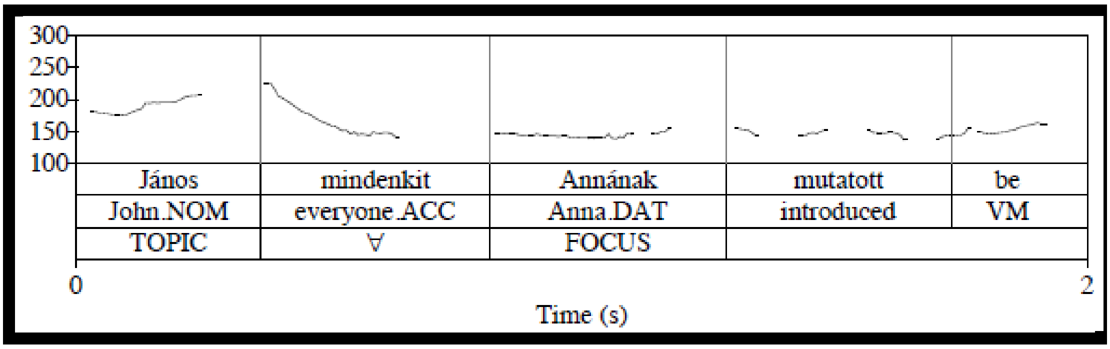


Figure 37. Pitchtrack (A) of (M26) *János mindenkit Annának mutatott be.*

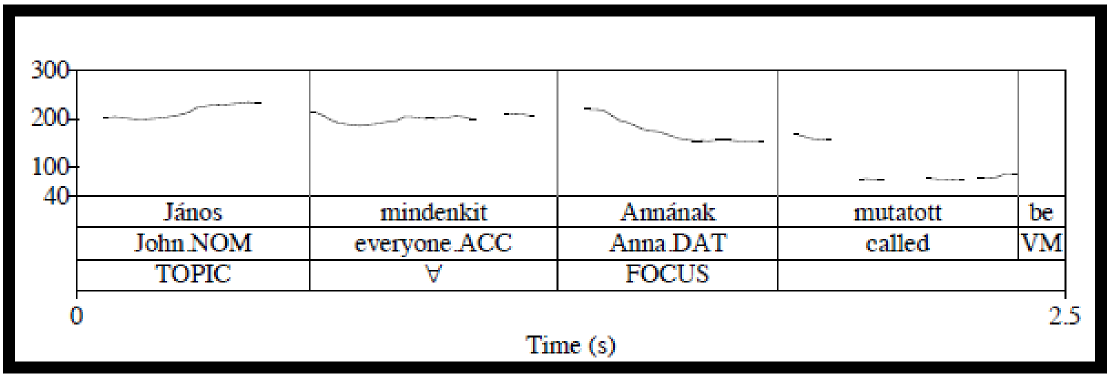


Figure 38. Pitchtrack (B) of (M49) *János mindenkit Annának mutatott be.*

Mycock's take on this variation is as follows. (i) Figure 37 represents the default prosodic scenario. (ii) In both cases, the universal quantifier is in the operator field. (iii) Figure 38 models the marked scenario where the speaker shifts the H+L accent to the focus for the purpose of expressing a contrast in which this constituent is involved.

My comments are as follows. (i) I agree that Figure 37 shows the default scenario. (ii) On the basis of my analysis of the ∀ + NEG-verb construction type above, my claim is that in this ∀ + focus + verb construction, too, when the universal quantifier is heavily stressed (as opposed to the focused constituent), it is in the operator field and it has wide scope, while when the focused constituent is heavily stressed, the universal quantifier is in the topic field, it has contrastive topic prosody and, as a rule, it is in the scope of the focus. (iii) My view of the contrast issue is as follows. (a) If a focused constituent as such is successfully identified (whether heavily stressed or not), it is already in contrast. This follows from the widely accepted notion of preverbal focus in Hungarian: this focus is exhaustive, i.e. it expresses identification with exclusion (which is a contrastive situation by definition). (b) The prosodic alternative in Figure 38 is associated with a different syntactic structure, see (ii) above. (c) I agree that this change in prosody (and, in my analysis, in syntax, too) has to do with expressing contrast. However, in my opinion, this alternative syntactic structure associated with this alternative prosody is used for encoding an additional contrast: the universal quantifier is also in contrast, which is straightforwardly expressed by its discourse functional label: contrastive topic.

On the basis of her analysis of her examples in (26) and (49), Mycock speculates about the Q + NEG-focus type in the following way: "[t]he possibility of 'shifting' the NonNeutral Predicate Tune […] for the purposes of contrast, as illustrated by (49), could be the reason for variation in the prosody of CQs […] in cases where *nem* bears the H+L accent the negated constituent is contrasted with its nonnegated counterpart" (2010: 294). That is, for her the default prosodic scenario is the one on which the question phrase is heavily stressed and the negated focus is not, and the 'shift' takes place for the sake of contrasting the negated focus. My comments are as follows. I agree that the default scenario is when the question phrase gets the H+L accent. In my system, this is the default case because here syntax and prosody are aligned for the encoding of scope (the question phrase has wide scope over the negated focus), and if the negated focus can also be identified as focus then its (contrastive) focus interpretation also follows. When the heavy accent "shifts" to the negated focus, my view is that the wide scope of the question phrase is still forcefully encoded syntactically,[160] and the heavy stress on the negated focus creates the standard ("eradicating") prosody for the focused constituent itself. So my generalization is that in this construction type syntax appropriately encodes scope relations in both alternatives, and the difference is that in the default case prosody aligns with syntax (the question phrase has scope over the negated focus) and in the marked case it does not (from the perspective of the question phrase). By contrast, in the marked case the heavy stress on the negated focus creates syntax-prosody alignment for this constituent. And, in a sense, this alignment makes the negated focus more salient, and its "built-in" contrastive feature also becomes more salient. Thus, my analysis and Mycock's contrast-encoding idea converge on this point (although from partially different perspectives).

As regards the double-H+L-accent alternative in multiple constituent questions, Mycock only observes that in this case there is no tune shift; instead, there are "two pitch movements, one on each question word", and she leaves the

[160] Given that in my approach in the preverbal domain syntax is responsible for encoding scope (except for the special case of contrastive topics).

investigation of this pattern to future research with particular attention to the types of question phrases. In my opinion, the mere existence of this double-H+L-accent alternative poses a serious problem for Mycock's basic approach: if all the question phrases make up a cluster in Spec,VP and if it is the final question phrase that has scope over the rest of the cluster to mark the wide scope of all the question phrases, this double heavy accent is not easy to explain. By contrast, in my approach only the final (i.e. immediately preverbal) question phrase is in Spec,VP and all the others are iteratively VP-adjoined. My story then, as I pointed out above, is as follows. These question phrases have scope over one another from left to right, and syntax takes care of encoding this. It seems that in the unmarked case, i.e. when only the immediately preverbal question phrase is heavily stressed, there is no syntax-prosody alignment. And the reason for this is that that question phrase has a very special status. Although it is in the scope of all the other preceding question phrases, it corresponds to the single focus constituent in a noninterrogative sentence, which is typically an answer to this particular question configuration.[161] This is the basic pattern to be encoded. And when additional preceding question phrases are also heavily stressed, this can be taken to be an instance of aiming at syntax-prosody alignment higher up, which is a marked option.

8. Finally, let me make some comments on the two exceptional construction types that call for a special treatment in any approach. Consider (M39), repeated here as (71), and (50b), repeated as (72b).[162]

(71)	[János]$_{\text{TOPIC}}$	[ki-nek]$_{\text{FOCUS}}$	nem=[Mari-t]$_{\text{FOCUS}}$	mutat-t-a	be?
	John.NOM	*who*-DAT	NEG=*Mary*-ACC	*introduce*-PAST-DEFO.3SG	VM

[lit.] 'Who did John introduce not MARY to?'
('Who did John introduce someone other than MARY to?')

(72)	a.	Tud-om,	hogy	Peter	[*ki-t*]	mutatott	be	Anná-nak …
		know-PRES.1SG	*that*	*Peter*.NOM	*who*-ACC	introduced	VM	*Anna*-DAT

'I know who Peter introduced to Anna …'

b.	… de [János]$_{\text{FOCUS}}$	[*ki-t*]$_{\text{FOCUS}}$	mutat-ott	be	neki?
	but John.NOM	*who*-ACC	*introduce*-PAST.3SG	VM	*to.her*

'… but who did JOHN introduce to her?'

a. Both constructions are special in the sense that they need an appropriate context, and they are always based on a particular presupposition. For instance, (71) presupposes that John introduced more than one person, including Mary, to more than one person, and the questioner inquires to whom John introduced one person or several people other than Mary. The presupposition in (72) is that John introduced someone to Anna, and the questioner inquires who that person is.
b. (71) is also exceptional in that it cannot be answered with a sentence following its structure, see (73).[163] This must be captured appropriately, and in my analysis I have done so by employing the necessary constraining apparatus.

161 For an MP approach based precisely on this constituent question–focused constituent configuration correspondence, see Bródy & Szendrői (2011).
162 I have kept Mycock's [topic] and [focus] labels in these examples.
163 It does not work either to use either of the two foci postverbally. A negated constituent can never occur postverbally, and it is also infelicitous to put the other focus in a postverbal position. Obviously, the tension here is that the answer would

(73)	*[János]$_{\text{TOPIC}}$	[Kati-nak]$_{\text{FOCUS}}$	nem=[Mari-t]$_{\text{FOCUS}}$	mutat-t-a	be.
	John.NOM	*Kate*-DAT	NEG=*Mary*-ACC	*introduce*-PAST-DEFO.3SG	VM

[lit.] 'John introduced not MARY to KATE.'
('It was Kate to whom John introduced someone other than Mary.')

c. (72b) can be answered by making the noninterrogative focus the topic of the reply, see (74). The exceptional focus + question phrase configuration in (72b) is also appropriately captured and constrained in my analysis above. And the answer in (74) follows an ordinary (nonneutral) pattern.

(74)	[János] $_{\text{TOPIC}}$	[Kati-t] $_{\text{FOCUS}}$	mutat-ta	be	neki.
	John.NOM	*Kate*-ACC	*introduce*-PAST.3SG.DEF	VM	*to.her*

'John introduced KATE to her.'

d. In my analysis of both these special constructions above I use the same overall structure: the two positions involved are the customary [XP,VP]$_{\text{VP}}$ and Spec,VP positions, and the technical apparatus is also the same as in my analysis of the other construction types: I employ CHECK features and constraining equations. This means that I have augmented my overall approach to the relevant set of construction types by making optimally minimal changes: adding appropriate disjunctive annotations. This fact can be considered an advantageous aspect of my LFG approach.

strictly require two constituents in the single Spec,VP position: a focused constituent responding to the question focus, and the negated constituent, which cannot occur elsewhere, either. Thus, the only felicitous answer must take the form of a cleft sentence, which can accommodate two focus positions:

(i)	[Jóska]$_{\text{FOCUS}}$	volt	az,	[aki-nek]	János	nem=[Mari-t]$_{\text{FOCUS}}$	mutat-t-a	be.
	Joe.NOM	*was*	*that*	*who*-DAT	John.NOM	NEG=*Mary*-ACC	*introduce*-PAST-DEFO.3SG	VM

'It was Joe to whom John didn't introduce MARY.'

Chapter 5. Negation from an XLE perspective

In an LFG-XLE setting, a natural course of the analysis of a particular phenomenon is as follows: we make the pertinent empirical generalizations → we develop an appropriate LFG-theoretic account → we implement this account in XLE. A successful implementation is a very reliable test for the tenability and feasibility of the analysis. There is, however, an alternative scenario, too. After making the relevant generalizations, we can start by capturing them in our XLE grammar. When this is successfully completed, we can formally/technically "convert" the XLE implementation into an "ordinary" LFG analysis that only uses devices that have been adopted in the LFG paradigm outside XLE as well.[1] This chapter can be taken to be a case study in the sense that it demonstrates the first two stages of this alternative route: empirical generalizations → implementation. The motivation for this direction was that in HunGram the treatment of negation was the next and most urgent task, so I developed this new part of our XLE grammar.[2] At the same time, handling negation was (and still is) one of the most debated and unsettled issues in the ParGram community.[3] I leave the XLE → LFG "conversion" to future research. One of the main reasons for this postponement is that I want to wait for the completion of the negation chapter in the CGRH project,[4] which I mention at various points in this dissertation. In the present chapter I only concentrate on the basic facts of negation in Hungarian. I capitalize on É. Kiss' (1992) insightful empirical generalizations and several aspects of her GB analysis. As I will remark below, current MP analyses partially differ from É. Kiss' (1992) and my empirical generalizations, and, consequently, from our accounts. It may well be the case that there are also dialectal contrasts involved. This is why I want to wait for the results of the CGRH project before I set out to develop a comprehensive LFG-theoretic analysis capitalizing on my current XLE results.

The structure of this chapter is as follows. In Section 5.1, I discuss general issues pertaining to the most important types of negation, and I outline an XLE framework for their treatment.[5] In Section 5.2, I develop a detailed XLE grammar for the two negative particles, *nem* and *sem*, and for their interaction with negative polarity items. I posit all this in the context of ParGram approaches to various types of negation across (and within) languages.[6] In Section 5.3, I make some concluding remarks.

5.1. General issues

In Section 5.1.1, I present the basic facts and empirical generalizations pertaining to negation. In Section 5.1.2, I show why it is untenable in LFG to assume a GB/MP style NegP functional projection. At the same time, the discussion in these sections will make it possible for me to present the most important aspects of É. Kiss' (1992, 1994) classical NegP-less GB treatment

[1] As I pointed out in Section 1.3 in Chapter 1, XLE uses several "implementation-specific" devices to enhance parsing and generation speed and efficiency.

[2] See Laczkó (2014c), Laczkó (2015a) and Laczkó (2015c).

[3] "The novel discussion at the ParGram meeting 2015 in Warsaw, which was substantiated by a talk by Tibor Laczko on Hungarian negation, lead (sic!) to the insight that maybe what one should do is to adopt the differentiated treatment put forward by the Hungarian grammar. The slides by Tibor are attached (laczko_negation_ParGram_Warsaw_140204.pdf)", http://typo.uni-konstanz.de/redmine/projects/pargram/wiki/Negation. This presentation is Laczkó (2015a) in the references.

[4] Comprehensive Grammar Resources: Hungarian, NKFIH (formerly: OTKA) NK 100804, principal investigator: István Kenesei.

[5] This section is a considerably modified and augmented version of Laczkó (2014c).

[6] This section is a revised and extended version of Laczkó (2015c).

of negation[7] and É. Kiss' (2002) analysis of negation capitalizing on MP's notion of NegP as a functional projection. In Section 5.1.3, I discuss Payne and Chisarik's (2000) Optimality Theoretic account of negation (and focus) phenomena. This is the only LFG-compatible analysis of negation in Hungarian that I am aware of.[8] In Section 5.1.4, I develop my general LFG-XLE framework for the analysis of negation, which will be filled with details in Section 5.2, concentrating on both negative particles, *nem* and *sem*, and their relations to negative polarity items.

5.1.1. The basic facts

In this section, I present and exemplify the basic empirical generalizations that need to be captured in a theoretically oriented approach. I rely heavily on É. Kiss' (1992) overview of the relevant facts.[9]

A) There are two types of negation: constituent negation and predicate (sentence) negation.

B) When an ordinary constituent is negated, it must obligatorily occupy the preverbal focus position. Such a constituent cannot occur anywhere else in the sentence.

C) When a universal quantifier (UQ) is negated, there are two scenarios.
   a. When there is no (other) focused constituent in the sentence, the negated quantifier constituent must occupy the Spec,VP position (just like any ordinary negated constituent).
   b. When there is a focused constituent in the sentence, the negated quantifier constituent has to be left-adjoined to the VP, just like ordinary nonnegated quantifiers.

D) Sentence (predicate) negation has two varieties.
   a. The negative particle (NMR)[10] immediately precedes the verb, and the particle may or may not be preceded by a focused constituent. If it is preceded by a focused constituent, that constituent may or may not be negated.
   b. The NMR precedes a focused constituent.

E) Double or even treble negation is also possible.

Consider the following examples, illustrating these construction types. The sentences contain a particle (= preverb) to demonstrate the fact that when a negated constituent immediately precedes the verb, it (at least in descriptive terms) occupies the customary focus position (because foci and particles are in complementary distribution preverbally).[11]

[7] As I will emphasize several times, I find É. Kiss' (1992, 1994) approach very convincing theory-neutrally. It is for this reason that I have adapted several crucial aspects of it in my implemented LFG treatment of negation phenomena.

[8] And I am aware of no LFG analysis of negation in Hungarian other than my own work: Laczkó (2014c) and Laczkó (2015c), on which this chapter is based.

[9] As I will point out subsequently, especially in Section 5.1.2, in later work, e. g. in É. Kiss (2002) and É. Kiss (2015), some aspects of her empirical generalizations and theoretical views were modified.

[10] In Hungarian the negative particle is *nem* 'not'. In order to avoid confusion with verbal particles (= preverbs), following Payne & Chisarik's (2000) terminology (see Section 5.1.3), I refer to it as *negative marker*, abbreviated as NMR.

[11] FOCUSED constituents are in SMALLCAPS.

(1) ***neutral affirmative sentence***

Péter	*fel*	*hívta*	*a*	*barátjá-t.*
Peter.NOM	up	called	the	friend.his-ACC

‘Peter called up his friend.’

(2) ***nonneutral affirmative sentence (with focus)***

Péter	*A BARÁTJÁ-T*	*hívta*	*fel.*
Peter.NOM	the friend.his-ACC	called	up

‘It was his friend that Peter called up.’

(3) ***ordinary constituent negation***

Péter	*NEM*	*A*	*BARÁTJÁ-T*	*hívta*	*fel*
Peter.NOM	not	the	friend.his-ACC	called	up

(, hanem	*ÉVÁ-T*	*(hívta*	*fel)).*
but	Eve-ACC	called	up

‘It wasn’t his friend that Peter called up (but it was Eve that he called up)).’

(4) ***UQ negation without focus (= ordinary constituent negation)***

Péter	*NEM*	*MINDENKI-T*	*hívott*	*fel.*
Peter.NOM	not	everybody-ACC	called	up

‘It wasn’t everybody that Peter called up.’

(5) ***UQ negation with focus***

Nem	*mindenki-t*	*PÉTER*	*hívott*	*fel.*
not	everybody-ACC	Peter.NOM	called	up

‘It is not true for everybody that it was Peter that called them up.’

(6) ***predicate negation, without focus, the NMR precedes the verb***

Péter	*nem*	*hívta*	*fel*	*a*	*barátjá-t.*
Peter.NOM	not	called	up	the	friend.his-ACC

‘Peter didn’t call up his friend.’

(7) ***predicate negation, with focus, the NMR precedes the verb***

PÉTER	*nem*	*hívta*	*fel*	*a*	*barátjá-t.*
Peter.NOM	not	called	up	the	friend.his-ACC

‘It was Peter who didn’t call up his friend.’

(8) ***predicate negation, with focus, the NMR precedes the focus***

Péter	*nem*	*A*	*BARÁTJÁ-T*	*hívta*	*fel*
Peter.NOM	not	the	friend.his-ACC	called	up

(, hanem	*AZ*	*APJÁ-NAK*	*küld-ött*	*email-t).*
but	the	father.his-DAT	send-PAST.3SG.INDEF	email-ACC

‘It is not true that it was his friend that Peter called up.’

É. Kiss (1992) emphasizes the fact that this is a very special construction type: two VPs with their respective foci are contrasted, and the first VP is negated.

(9) ***double negation: constituent & predicate***

Péter *NEM A BARÁTJÁ-T nem hívta fel.*
Peter.NOM not the friend.his-ACC not called up
'It wasn't his friend that Peter didn't call up.'

(10) ***treble negation: UQ, constituent & predicate***

Nem mindenki-t NEM PÉTER nem hívott fel.
not everybody-ACC not Peter.NOM not called up
'It is not true for everybody that it wasn't Peter that didn't call them up.'

On the basis of (3) and (8), the word order of certain sentences can be ambiguous between ordinary constituent negation and (VP-type) predicate negation, respectively. This ambiguity is typically resolved prosodically. In VP-type predicate negation, the NMR is unstressed, as a rule. In the case of constituent negation in focus, the default prosodic pattern is that the NMR carries the main stress of the constituent.[12]

It is important to note at this point that É. Kiss (1992) (also) makes these basic generalizations about (3) and (8); however, in later work, for instance in É. Kiss (2002, 2015), she subscribes to the by now apparently generally held MP view to the effect that there is no constituent negation in the focus position. Instead, in the case of (3) a NegP dominates an FP, and the NMR occupies the Neg head position and it takes the FP as its complement, and the focused constituent sits in Spec,FP. Thus, the NMR and the focus do not make up a constituent.[13] By contrast, in the case of (8) the assumption is that the FP is not dominated by a NegP; instead, a NegP is adjoined to it. Practically, this is another instance of constituent negation.

É. Kiss (2002) presents the following arguments for assuming that there is no constituent negation in the focus position. I make some comments on these arguments from an LFG perspective.

(i) Szabolcsi (1980, 1981a) pointed out that the unstressed verb after the focused constituent does not necessarily express presupposed information. É. Kiss (2002) gives an example similar to (8).[14] Naturally, I agree that (8) should be analyzed in such a way that the entire verbal constituent containing the focus is negated (whether this constituent is an FP, see É. Kiss (2002) or a VP, see É. Kiss (1992) and my LFG analysis in Section 5.1.4). However, I think that (3) is best analyzed along the lines of É. Kiss (1992), by assuming constituent negation in the focus position (which I also subscribe to in Section 5.1.4) for the following reasons. ***(a)*** This analysis neatly captures the fact, even in terms of the classical c-command relations, that in (3) it is only the negated constituent that is in the scope of the negative particle, whereas in (8) the entire FP/VP is in its scope. ***(b)*** I think the behaviour of the negated universal quantifier provides an extremely strong argument for assuming constituent negation in the focus position, see (4) and (5). The most plausible empirical generalization is that universal quantifier negation is always constituent negation. When there is no (other)

[12] The widely held empirical generalization is that in the case of (3) it is always the negative particle that receives the heavy stress and the focused constituent is unstressed, see É. Kiss (2002), Mycock (2010) and Surányi (2011), for instance. Mycock (2010) also presents the pitchtrack of a relevant example, see Figure 11 in Section 4.2 in Chapter 4. Let me point out, however, that at least for some speakers, myself included, (3) can have an alternative stress pattern as well: the NMR is unstressed and the constituent following it is stressed. Naturally, this can be taken to be a "blend" of the two distinct patterns of (3) and (8). In this case a genuine ambiguity may arise, but the context usually disambiguates.

[13] For further details, see Section 5.1.2.

[14] Compare (8) with (3). In the latter, the verb does express presupposed information.

focused element in the sentence, it must occupy the focus position, which is the only option for ordinary negated constituents, see (4). When the focus position is filled, the negated universal quantifier can occupy its regular quantifier position, see (5). The main point here is that it does not seem feasible to analyze (4) in such a way that the (nonnegated) universal quantifier is in the focus position (separated from the negative particle) and the particle is the head of the NegP, taking the FP as its complement. The reason for this is that (positive) universal quantifiers are banned from the focus position.[15]

(ii) Olsvay (2000) claimed that if we assumed that the negative particle + focused element made up a single (focused) constituent, just like ordinary (nonnegated) foci and 'wh'-constituents, we could not explain why an ordinary focused constituent or a 'wh'-constituent can stay behind the verb in multiple focus or multiple 'wh'-sentences, while a negated ("focus") constituent cannot. I think this is a purely MP-theory-internal argument. Moreover, even in this status, it is not particularly strong, because in this framework it is legitimate (and very often desirable) to assume combinations of features for the satisfaction of several requirements.[16] At a later stage in MP the [+neg] feature was also introduced, and if it is assumed that a negated constituent has both [+foc] and [+neg] features to check, and this is only possible in Spec,FP then there is a feasible theory-internal solution to the problem.[17]

(iii) É. Kiss (2002) claims that the strongest argument is as follows.

> The clearest evidence for the negative head status of the focus-negating particle is that it shares crucial properties of the VP-negating particle, analyzed as the head of NegP. First, it licenses the same type of negative pronominal elements beginning with the morpheme *se*-. Compare:[18]
>
> (11) a. *Senki* *nem* [$_{VP}$ hívta fel a feleségét]
> nobody not called up his wife
> 'Nobody called up his wife.'
> b. *Senki* *nem* [$_{FP}$ A FELESÉGÉT hívta fel]
> nobody not his wife-ACC called up
> 'Nobody called up HIS WIFE.'
>
> When immediately preceded by a *se*-pronoun, both the focus-negating *nem* and the VP-negating *nem* can apparently alternate with a *sem* particle:
>
> (12) a. *Senki* *sem* [$_{VP}$ hívta fel a feleségét]
> nobody not called up his wife
> 'Nobody called up his wife.'
> b. *Senki* *sem* [$_{FP}$ A FELESÉGÉT hívta fel]
> nobody not his wife-ACC called up
> 'Nobody called up HIS WIFE.'
>
> The negative particle negating a prefocus universal quantifier, e.g. that in (1d) or in (13a) below, on the other hand, does not license a negative pronoun, and does not alternate with *sem*:

---

[15] Interestingly, É. Kiss (2002) herself postulates that negated universal quantifiers, in the absence of an ordinary focused constituent, occupy the Spec,FP position, see the final part of the discussion in (iii) below.

[16] Here are two random examples. (A) É. Kiss (2002) assumes that negated universal quantifiers have both the [+distributive] and the [+focus] features, see (iii) below. (B) Surányi (2007) proposes that a 'wh'-constituent checks both its [+wh] and [+foc] features in Spec,FocP (2007: 237).

[17] See a discussion of Surányi's (2002) analysis along these general lines in Section 5.2.

[18] I keep É. Kiss' (2002) examples and glosses intact, except that I change her example numbers to conform to the example numbers in this chapter. My (11) is her (10), etc.

(13) a. Nem **mindenki** A FELESÉGÉT hívta fel.
not everybody his wife-ACC called up
'Not everybody called up HIS WIFE.'
b. **Soha nem* **mindenki** A FELESÉGÉT hívta fel.
never not everybody his wife.ACC called up
'Never did everybody call up his wife.'
c. **Soha sem* **mindenki** A FELESÉGÉT hívta fel.

These facts suggest that the negation of the universal quantifier is of a different kind than the negation of VP and FP. Whereas the negative particle negating the FP, as well as that negating the VP, sit in the head positions of NegP projections, the negative particle negating *mindenki* 'everybody' represents constituent negation, with *nem* adjoined to the quantified noun phrase (É. Kiss 2002: 133-135).

Let me make five comments on these claims.

(1) As regards the parallels between (11a) and (11b), on the one hand, and (12a) and (12b), on the other hand, an alternative generalization for capturing them can be that *senki nem/sem* 'nobody not' are special negated constituents that occupy the same Spec,FP or Spec,VP position (the choice depending on the overall (functional) categorial assumptions of our approach.

(2) It is true that the negative particle *nem* negating a universal quantifier does not alternate with *sem*, and it does not license a negative polarity item (NPI) preceding it. It is also feasible to assume (with É. Kiss 2002) that in this case we are dealing with the constituent negation of the universal quantifier. However, the relevant facts can also be interpreted in the following way. Both *senki nem/sem* 'nobody not' and *nem mindenki* 'not everybody' are manifestations of constituent negation fundamentally, and they behave similarly but not in exactly the same way. In the presence of an ordinary focused constituent they are in the regular quantifier position and they are pure instances of constituent negation. In the absence of an ordinary focused constituent they occupy the Spec,FP/VP position, and they behave partially differently. They are similar in that they express constituent negation, and they differ in that *senki nem/sem* 'nobody not' can also license negative polarity items, while *nem mindenki* 'not everybody' cannot.

(3) From the previous point it also follows that the negative particles *nem* and *sem* have partially different roles in (11a) and (12a), on the one hand, and in (11b) and (12b), on the other hand. As these examples show, they can license one or more negative polarity items to their left in both construction types, but it is only in the (11b)-(12b) type that they can also license negative polarity items to their right. Compare the examples in (14) and (15) in which I have added negative polarity items to É. Kiss' sentences in (11) and (12), respectively.

(14) *Senki nem/sem* [$_{VP}$ hívta fel a feleségét soha senkitől]
nobody not called up his wife never nobody.from
'Nobody ever called up his wife from anybody's place.'

(15) *Senki nem/sem* [$_{FP}$ A FELESÉGÉT hívta fel *soha *senkitől]
nobody not his wife-ACC called up never nobody.from
'Nobody ever called up HIS WIFE from anybody's place.'

From LFG's what-you-see-is-what-you-get perspective the simplest and most straightforward empirical generalization is that in (11a), (12a) and (14) the string *senki* *nem/sem* is in the focus position,[19] and it is the occurrence of the negative particle in the focus position that enables it to license negative polarity items to its right. This is related to my assumption, to be explicated in Section 5.1.4.3 below, that in the case of predicate negation without a focused constituent, see (6) above, the negative particle occupies the Spec,VP position.

(4) It is a very important additional fact that ordinary (i.e. nonnegative-polarity) constituents can also be combined with *sem* (and only with *sem*, *nem* is excluded), and, as a result, *sem* turns an ordinary constituent into an NPI, with roughly the same distribution as *NPI* + *sem* combinations.[20] Compare (12a,b) with (16a,b).

(16) a. *Péter* *sem* [$_{VP}$ hívta fel a feleségét]
Peter not called up his wife
'Peter didn't call up his wife, either.'

b. *Péter* *sem* [$_{FP}$ A FELESÉGÉT hívta fel]
Peter not his wife-ACC called up
'Peter didn't call up HIS WIFE, either.'

From an LFG perspective, again, the simplest and most feasible generalization is to assume that in both examples *Péter sem* is a constituent having the NCI status, thanks to the presence of *sem*.[21] Notice that in the case of (16) it would be highly counterintuitive to take *sem* to be a VP or FP negating particle that licenses the occurrence of an ordinary constituent (*Péter* 'Peter') in a quantifier position. Another solution would be to assume that initially we have the following string of elements: *Péter is nem* 'Peter also not', where *Péter is* is a constituent in the quantifier field and *nem* is the "standard" VP/FP negating particle, and the two particles get merged morphologically in the course of the derivation. A third possible treatment is to assume a *Péter sem nem* 'Peter also not' sequence and then to delete *nem* on account of haplology.[22] Such assumptions and analyses would be definitely untenable in our LFG framework, and not very plausible from a relatively theory-neutral perspective.[23] If, in the spirit of LFG, we assume that *Péter sem* is a constituent, then in our approach the best generalization is that in the case of (16b) it occupies a VP-adjoined quantifier position, while in (16a) it is a focused constituent in Spec,VP. Furthermore, if we treat the construction types in (16) along these lines, then it stands to reason that *NCI* + *nem/sem* combinations can be analyzed similarly in the name of uniformity and economy of analytical devices. This is what I will present in Section 5.2.

(5) Interestingly, É. Kiss (2002) herself makes the following assumptions about nonnegated and negated universal quantifiers. A nonnegated universal quantifier fills the Spec,DistP position. When there is a focused constituent in the sentence, the negated universal quantifier occupies the same position. By contrast, in a sentence without a focused

[19] Which is Spec,VP in our approach, see Chapter 2.

[20] For a detailed discussion, see Section 5.2.

[21] As I will discuss in a detailed fashion in Section 5.2, the difference between *nem* and *sem* is that the former is the simple negative particle 'not', while the latter has an additional meaning component: 'also': *sem* = 'also + not' (contrary to É. Kiss' glossing of *sem* as "not" in (12). In other words, *sem* is the negative counterpart of *is* 'also'. The particles *is* 'also' and *sem* 'also.not' enable an ordinary constituent to occur in the quantifier field. This is the reason why *sem* has the potential of converting an ordinary constituent into an NPI.

[22] For a discussion of some MP analyses, supplemented with diachronic facts, see Section 5.2.

[23] But, as I keep emphasizing, everything depends on the architecture and the principles of the theory one works in.

constituent the negated universal quantifier is in Spec,FP. Consider her examples and representations (2002: 135).[24]

(17) a. [$_{\text{DistP}}$ **Mindenki** [$_{\text{AspP}}$ fel hívta a feleségét]]
everybody up called his wife
'Everybody called up his wife.'

b. [$_{\text{FP}}$ Nem **mindenki** hívta fel a feleségét]
not everybody called up his wife

c. *[$_{\text{DistP}}$ Nem **mindenki** [$_{\text{AspP}}$ fel hívta a feleségét]]

d. [$_{\text{DistP}}$ Nem **mindenki** [$_{\text{FP}}$ A FELESÉGÉT hívta fel]]
'For not everybody was it his wife that he called up.'

In her analysis, the negated universal quantifier has both the [+focus] and the [+distributive] features, and it checks that feature overtly which is closer to its base generated position. Thus, if there is no focused constituent in the sentence, it can land in Spec,FP; otherwise it overtly ends up in Spec,DistP. The bottom line here is that even in É. Kiss' (2002) approach universal quantifier negation is always constituent negation, and in focusless sentences the whole negated constituent occupies the focus position (practically, it is the focused constituent). I think this aspect of her analysis would automatically justify the assumption that ordinary negated constituents occupy the same position (along the lines of É. Kiss' (1992) analysis, for instance).[25] This would make the treatment of constituent negation one degree more uniform.

In this section in general and in points (i)-(iii) in particular, I made basic empirical generalizations about negation from my LFG perspective. In Section 5.1.4 I will develop my LFG-XLE analysis by relying on these generalizations. In Section 5.2 I will augment this by a proposal for treating NPIs in this approach.

5.1.2. On functional categories and NegP: LFG-theoretic considerations

In current versions of MP, additional functional projections for quantifiers (DistP) and negation (NegP) are also standardly assumed. These categories are also alien to the general spirit of LFG. Basically, in accordance with fundamental views in the MP tradition, they are employed to encode operator properties by syntactic (cartographic) means. If we take a closer look at these functional projections in É. Kiss (2002), for instance, from an LFG perspective, then we can make the following observations. DistP would be incompatible with the relevant LFG assumptions, given the fact that MP postulates an obligatorily covert Dist head and posits quantified expressions in Spec,DistP; see my discussion of Börjars et al. (1999) on the justification for functional projections in LFG in Section 2.4.1.2 in Chapter 2. The treatment of negation is more complex. É. Kiss (2002), for example, assumes a NegP which can perform VP-negation, focus negation (FP-negation) or quantifier-negation (DistP-negation), and two (or, as an extreme case, all the three) negation types can co-occur in a single clause, which means two (or three) NegP projections headed by the negative particle *nem* 'not',

[24] Again, I keep all the details intact.

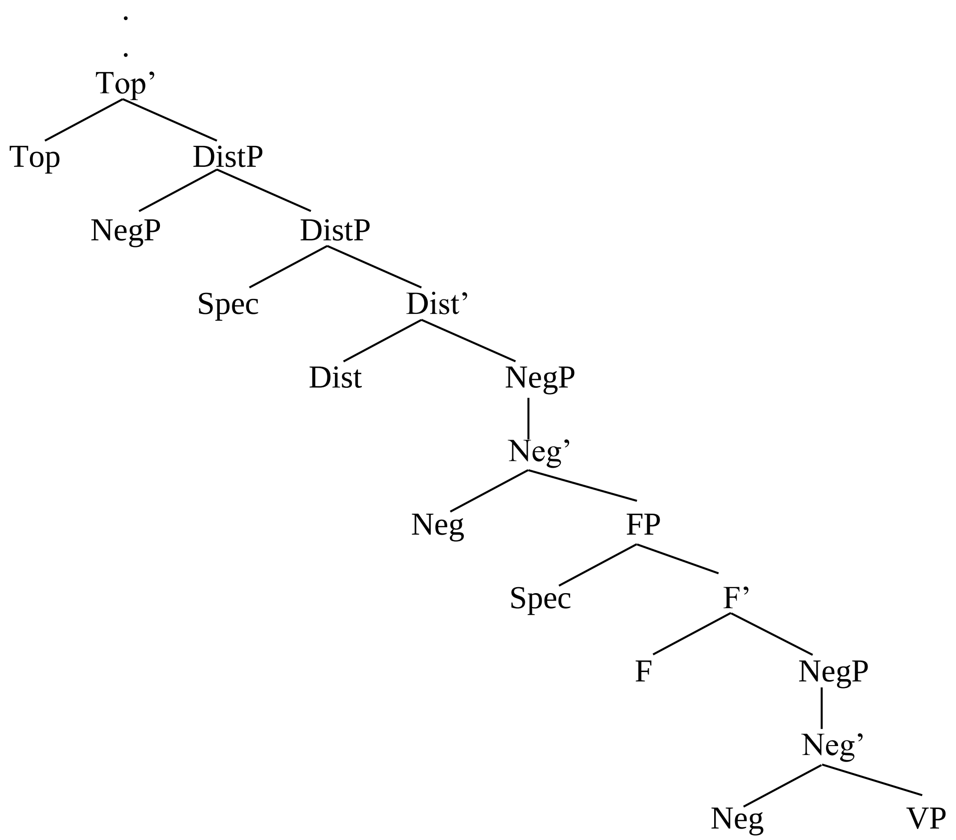
[25] Of course, an appropriate featural mechanism would be necessary, but it seems to me that it could be straightforwardly accommodated in this framework. For instance, as I pointed out in (ii) and Footnote 16 above, Surányi (2007) assumes that both [+foc] and [+wh] are checked in Spec,FocP. It could be a logical augmentation to assume that a [+neg] feature is also checked in that position.

taking one of the aforementioned functional projections as a complement in each Neg projection. The overt head criterion is satisfied here; however, I am not aware of a single LFG analysis of negation in any language employing the NegP functional projection, although at first sight this could be made to work. At closer examination, however, it turns out that no matter to what extent and in what particular way we try to accommodate MP's functional projection(s) approach in the treatment of negation, it will always remain incompatible with LFG's architecture. Consider the following discussion of possible alternatives for the sake of argument and comparison, crucially based on very important claims and assumptions in Börjars et al. (1999).

(i) As a "null-hypothesis starter", the first attempt could be to import the MP-style multiple functional head c-structure in (19) (in the spirit of É. Kiss (2002), for instance) for the modelling of a sentence with triple negation (quantifier, focus and predicate (VP) negation). This structure would handle the following sentence (the example is from É. Kiss 2002: 131).[26]

(18) *Nem* mindenki *nem* A FELESÉGÉVEL *nem* táncolt.
not everybody not his wife-with not danced
'It wasn't true for everybody that it wasn't his wife that he didn't dance with.'

(19)



As this representation shows, in the case of FP and VP negation É. Kiss assumes a dominating NegP in which the Neg head takes these constituents as its complements. By contrast, she handles (universal) quantifier negation in the form of constituent negation, in which the NegP adjoins to DistP.

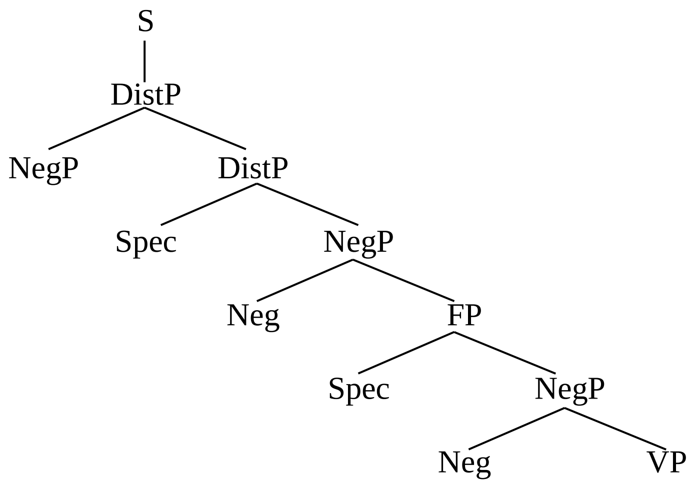
In accordance with one of the classic LFG views presented in Börjars et al. (1999), the justification for the three functional projections in (19) varies to a great extent if it is

[26] This is my structural representation in accordance of É. Kiss' (2002) assumptions, because she does not analyze this particular example structurally.

dependent on the existence of a free morpheme as a (functional) head. NegP is perfectly justified: it can be taken to be headed by the negative particle *nem* ‘not’, in other words, it can be assumed that this word projects a functional phrase and takes an XP as its complement. The other extreme in this pool of potential functional projections is DistP: it can never be headed by an overt element if, following the MP treatment, we assume that quantifier expressions, as a rule, occupy the Spec,DistP position. To put it very simply: there is no morpheme (not even a bound morpheme!) present in Hungarian that could be taken to occupy the Dist head position (which is not at all a (theory-internal) problem for MP, but it is an insurmountable problem in this classical LFG view). The status of FP (short for focus phrase) is a more complex issue. On the one hand, strictly speaking, there is no morpheme in this case, either, whether free or bound, that could be taken to head this functional projection. In other words, in Hungarian there is no evidence whatsoever for the existence of a focus marker, whether a free or bound morpheme. On the other hand, it is rather customary in LFG to identify a constituent as having a designated discourse function in the specifier position of a justifiable functional projection, typically and admittedly: IP and CP, see the discussion in Section 2.4.1.2 in Chapter 2. However, in Section 2.4.1.3, I argued that although at first sight Hungarian seems to provide evidence for IP (in addition to DP and CP), because there are a few auxiliaries in this language as well, a careful examination of the relevant facts does not support the postulation of this functional category in this language. My claim is that FP is not even identical to IP in Hungarian. At this stage of the discussion, we can state that in terms of being headed by an overt element, NegP is fully justified, DistP is never justified, and FP is dubious (it is never justified as a focus projection, and although it appears justifiable as an inflectional projection (IP), which could have a discourse functional specifier, there are serious arguments against such an (LFG) approach).

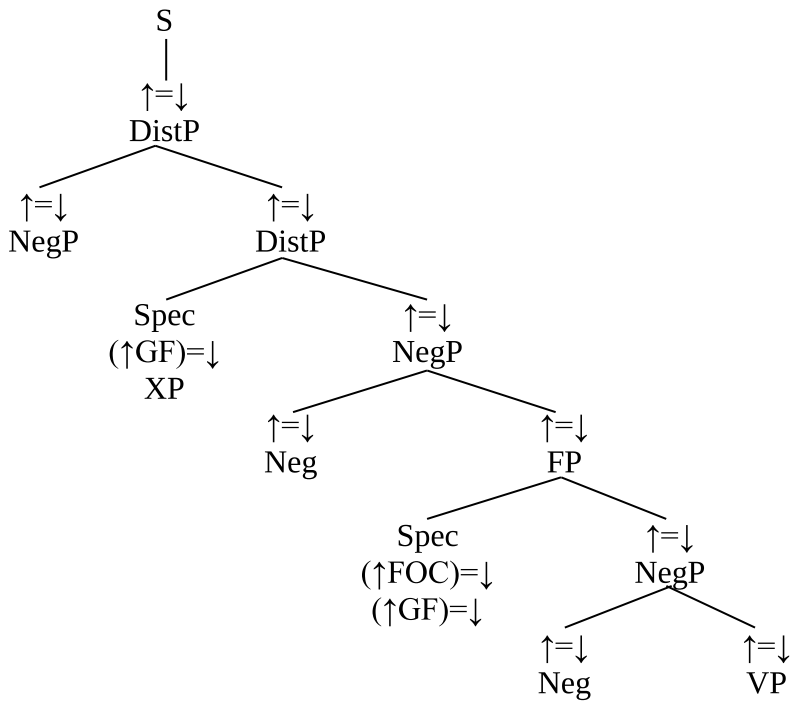
(ii) Börjars et al. (1999) also emphatically point out that LFG’s principles of Specialization and Economy allow functional projections justified by the (discourse) function of the constituent that occurs in their specifier position (without any free or bound morphological support/evidence from the potential head position). At the same time, they seriously warn against this line of analysis, pointing out that it can easily lead to a proliferation of functional projections reminiscent of those in MP. If, for the time being and for the sake of argument, we disregard this extremely significant warning, which I find absolutely crucial, and we assume that the filling of the specifier position of a hypothesized functional projection justifies the existence of that projection, then the structure in (19) can be modified as in (20). (In this representation, I have omitted superfluous X’ nodes in the spirit of LFG’s economy principle.)

(20)



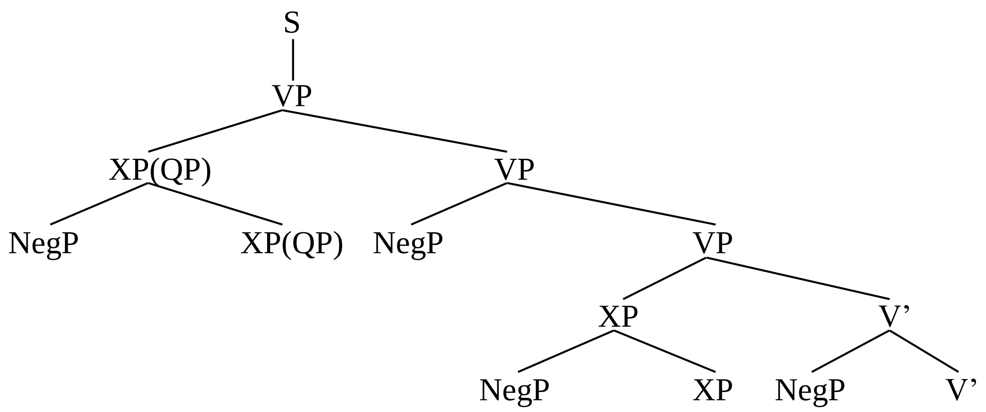
Thus, “in theory” this could even be a reasonable LFG c-structure representation, provided that we endorse the licensing of a functional projection on the basis of the mere existence of a potential constituent type targeting the specifier position of the hypothetical functional projection. However, if we take a closer look at how the nodes in this representation can be associated with functional annotations, it turns out that the entire approach along these lines is simply incompatible with LFG’s (otherwise carefully developed, principled and widely attested) representational and annotational apparatus. Consider the most like annotations to be associated with the relevant nodes in (21).

(21)



Before I make my LFG-specific comments, in (22) I show the most likely analysis of (18) in É. Kiss’(1992) GB framework. This is the “most likely” analysis, because É. Kiss does not analyze complex examples like (18). The reason why I present these details and my remarks here is that the account I will develop in my LFG approach will be very close in spirit to É. Kiss’ (1992) analysis, which I find (theory-neutrally) much more intuitive than É. Kiss’ (2002) MP analysis, among other MP analyses.

(22)



1. The most important difference between É. Kiss (1992) and É. Kiss (2002) is that the former does not employ NegP as a customary functional projection.[27]
2. É. Kiss (1992) assumes that the negative particle (Neg) always projects a phrase: NegP.
3. She sharply distinguishes sentence (or predication) negation and constituent negation.
4. In both types of negation, the NegP is adjoined to a phrasal constituent: an XP or an X'.
5. NegP always has scope over the sequence it c-commands.
6. Sentence negation comes in two varieties: (i) the NegP can be adjoined to V' (whether the Spec,VP position is filled or not); (ii) it can be adjoined to VP when the Spec,VP position is filled by a focused constituent.
7. In the case of ordinary constituent negation NegP is adjoined to the constituent involved, and this combination obligatorily occupies the Spec,VP position as a focused constituent.
8. Although É. Kiss (1992) does not discuss quantifier negation, it is clear that in her framework this has to be treated as a special case of constituent negation in the following sense: when there is no (other) focus constituent in the sentence, the negated quantifier constituent must occupy the Spec,VP position (just like any ordinary negated constituent), and when there is (another) focused constituent in the sentence, the negated quantifier constituent has to be adjoined to the VP, just like ordinary nonnegated quantifiers.
9. É. Kiss (1994) is a modified version of É. Kiss (1992). The only difference between them is that the former head-adjoins the negative particle to the verb in the (i) type of sentence negation as opposed to NegP adjunction to V' as in the latter (see point 6 above).
10. On É. Kiss' (1992) account the classic scope–c-command relations are neatly captured, see (22). In the case of constituent negation (whether ordinary or quantifier negation) it is only the constituent involved that is c-commanded by the NegP and only this constituent is in the scope of negation. The rest of the sentence is outside its scope. In the case of sentence negation it is always the portion of the sentence following the NegP and, at the same time, c-commanded by the NegP, that is in the scope of negation. That is, when the NegP is adjoined to VP, the entire VP (including the focused constituent in Spec,VP) is in the scope of negation, and when the NegP is adjoined to V', it is only this V' constituent that falls in the scope of negation – for instance, the focused constituent in Spec,VP, which c-commands the NegP, is outside the scope of negation. On É. Kiss' (1994) head-adjunction to the verb account, it has to be assumed (additionally) that this head-adjunction enables the Neg head to have the same c-commanding potential as the verb head.
11. É. Kiss' (1992) explanation for the fact that a nonfocused VM (e.g. a coverb or a bare noun) cannot occupy the Spec,VP position when the NegP is adjoined to V' is that these elements need to be in the scope of negation (NegP), that is, in its c-command domain. (When they are focused, they can occupy the Spec,VP position, just like any focused constituent, in which case they have NegP and the rest of the sentence in their scope.)

My comments on (21) are as follows.

1) I think it is not only an LFG-specific c-structure representational problem that the phrase structure rules required for (21) would lead to massive overgeneration, unless appropriately constrained (stipulated), for the following reasons. (i) To begin with: there are two strictly different NegPs: one for (ordinary and universal) quantifier negation, which always consists of the negative particle head, and another having the classical functional category status: it must be the complement of another (functional) projection and it itself must have a designated complement type, cf. (19). It is easy to see that the É. Kiss (1992, 1994) style GB analysis does not have to face this challenge. It assumes a

[27] As I showed in Section 2.1.1. in Chapter 2, É. Kiss (1992) does not even postulate an IP or a FocP in Hungarian.

single NegP type, and fundamentally all types of negation are instances of constituent negation. In the case of ordinary constituent negation, NegP is left-adjoined to a constituent, and only this constituent is in the (c-commanded) scope of negation; while in the case of predicate negation it is left-adjoined to a VP or a V' constituent, and, therefore the entire VP or V' is in its (c-commanded) scope.

2) The constituent negation of the DistP in (19) is fundamentally similar to É. Kiss' (1992) constituent negation.
3) The functional annotations in the c-structure demonstrated in (21) are the most feasible ones if we want to get a valid f-structure representation. As a rule, the Neg heads require the functional head annotation. The functional projections (NegP, DistP, FP) also need the functional head annotation in order for the grammatical and/or discourse functional annotations of the constituents they contain to be properly mapped into f-structure. Given these functional annotational necessities, the negative polarity feature encoded by each distinct Neg head "percolates up" (by the transitivity of these functional annotations) to the overall f-structure of the sentence. Practically, if the sentence contains more than one NegP then its f-structure is provided by more than one negative polarity value. I can see two rather insurmountable and related problems with this scenario. (i) In LFG, features like polarity values are unifiable, which means that even if two (or more) negative polarity values "percolate up", they get unified and the f-structure of the sentence will be left with a single (unified) value, i.e. one (or more) value will be "lost".
4) From an LFG perspective, the combination of DistP as a functional projection with its constituent negation treatment is also untenable in MP's strictly hierarchically embedded arrangement of functional projections. The only feasible LFG alternative for handling these functional categories (if they were admitted by the theory) would be to assume that DistP and the other functional projection NegP or FP were not in a subordinate structural relation, and DistP was not the functional head of the sentence; instead, it had its own grammatical function.
5) É. Kiss (2002) analyzes the sentence in (18) as containing FP negation and VP negation (in the relevant sense, two varieties of sentence negation). By contrast, when I develop my LFG analysis of negation in Hungarian I will point out that a sentence like (18) is better analyzed in the spirit of É. Kiss (1992, 1994). Depending on the context, the negation in the middle can be treated in two different ways: either as constituent negation in É. Kiss' (2002) Spec,FP or É. Kiss' (1992, 1994) Spec,VP or as sentence negation (taking the form of FP negation in É. Kiss' (2002) framework or VP negation, with the NegP adjoined to it, in É. Kiss' (1992, 1994) framework).

5.1.3. On Payne & Chisarik (2000)

Adopting the basic representational assumptions and ideas of Börjars et al. (1999), in their OT framework,[28] Payne & Chisarik (2000) develop an analysis of Hungarian preverbal syntactic phenomena: the complementarity of constituent question expressions, focused constituents, NMR and verbal modifiers.[29]

After presenting the basic empirical facts, they give a critical overview of three major types of approaches in the GB/MP tradition: (A) a VP analysis without functional projections like F(oc)P, see É. Kiss (1992, 1994), for instance; (B) unarticulated FP analysis, with a single

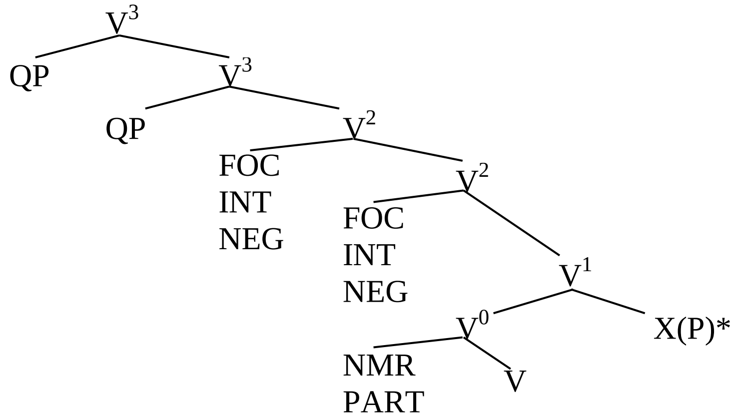
[28] Although OT is compatible with a variety of generative frameworks, including LFG and GB/MP, the authors claim that their preferred model is LFG (2000: 206, Footnote 10). This makes the discussion of their analysis here all the more important and at the relevant points I will compare their account with my approach from this perspective.

[29] In Chapter 3, I offered a critique of several aspects of their approach mainly pertaining to their treatment of focusing and VMs. Here I concentrate on their account of negation facts.

functional projection, see Brody (1990, 1995), for instance; (C) articulated FP analysis, with multiple functional projections, see Puskás (1994, 1998), for instance.[30] Then they present their OT approach.

The essence of Payne & Chisarik's (2000) analysis is as follows. They assume the overall structure in (23) for the relevant portion of a Hungarian sentence.[31]

(23)



They do not postulate an ordinary VP constituent; instead, following Börjars et al. (1999), they employ a multilevel projection of the verb. In agreement with É. Kiss (1994), among others, they assume free word order in the postverbal domain (regulated, to a considerable extent, by semantic, prosodic and information structure factors in the form of tendencies). They write:

> The assumption we shall make in this paper is that, from a purely syntactic point of view, the order of postverbal constituents is essentially free. This then entails an alternative account of the preverbal INT > FOC > NEG hierarchy (2000: 200).

They propose the following ranking of OT constraints with respect to the preverbal position.

(24) ALIGN INT > ALIGN FOC > ALIGN NEG > {ALIGN NCI, IN SITU}[32]

This analysis captures several basic Hungarian syntactic facts.

(i) If there is a question phrase in the sentence then it will occupy the designated preverbal position, and not a focused constituent or a negative phrase.[33] Compare the examples in (25) and (26).

(25)	*Melyik könyv-et*	*olvasta el*	*CSAK JÁNOS?*	**INT-FOC**
	which book-ACC	read.PAST VM	only John.NOM	
	**CSAK JÁNOS*	*olvasta el*	*melyik könyv-et?*	**FOC-INT**
	only John.NOM	read.PAST VM	which book-ACC	

'Which book did ONLY JOHN read?'

---

[30] For details, see their paper.

[31] As a reminder from Chapter 3: They use the following abbreviations: FOC = positive or negative focused phrase, INT = interrogative phrase, NEG = negative phrase, NMR = negative marker, PART = (aspectual) particle (representing the entire class generally referred to as verbal modifiers (VMs)). NEG subsumes the following four types:[31] INQ = inherently negative quantifier (e.g. *kevés* 'few'), INA = inherently negative adverb (e.g. *ritkán* 'seldom'), NUQ = negated universal quantifier (e.g. *nem mindenki* 'not everyone'), NCI = negative concord item (e.g. *senki* 'nobody/anybody'). NCIs are also frequently called negative polarity items or n-words.

[32] The {ALIGN NCI, IN SITU} part of the ranking is intended to capture the generalization that, among the NEG types, NCIs only optionally compete for the verb-adjacent position.

[33] A reminder: in their analysis, a negative phrase (NEG) has four types: INQ, INA, NUQ and NCI. In these examples an NCI is used.

(26) *Melyik könyv-et nem olvasta el senki?* **INT-NCI**
which book-ACC not read.PAST VM nobody.NOM

*Senki nem olvasta el melyik könyv-et? **NCI-INT**
nobody.NOM not read.PAST VM which book-ACC

'Which book did nobody read?'

(ii) If a focused constituent and a negative phrase compete, the former wins out, cf.:

(27) *CSAK EZT KÖNYV-ET nem olvasta el senki.* **FOC-NCI**
only this book-ACC not read.PAST VM nobody.NOM

*Senki nem olvasta el CSAK EZT KÖNYV-ET. **NCI-FOC**
nobody.NOM not read.PAST VM only this book-ACC

'Nobody read ONLY THIS BOOK.'

The alignment ranking in (24) is proposed to capture the complementarity of INT, FOC and NEG below V^2 in Payne & Chisarik's (2000) structure in (23). They treat the NMR *nem* 'not' and verbal modifiers separately in the following way.

6. They assume that both NMR and VMs are morphologically incorporated into the verb when they precede it. The authors take preverbs (particles) to be the prototypical representatives of this categorially heterogeneous class,[34] and they use the PART label for them.
7. NMR and PART are also in complementary distribution in a position dominated by V^0, see (23), and the former is stronger in the competition.
8. In order to capture the word order facts also involving the V^0 domain, Payne & Chisarik (2000) augment the constraint hierarchy in (24) in the following way.

(28) ALIGN INT > ALIGN FOC > ALIGN NEG > {ALIGN NCI, IN SITU} >

ALIGN V^0 > ALIGN NMR >ALIGN INCORP > {ALIGN V | *INCORP}

The extension aligns V^0 first if there are not stronger candidates in the preceding portion of the hierarchy, and the priority of the negative marker over the VM is encoded by the ALIGN NMR >ALIGN INCORP order.[35]

My remarks on Payne & Chisarik's (2000) analysis are as follows.

6. Agreeing with both Börjars et al. (1999) and Payne & Chisarik (2000), I share the LFG-style rejection of functional categories like F(oc)P and TopP.[36]
7. On the basis of the argumentation and considerations in Section 2.4 in Chapter 2, I maintain that the postulation of a VP constituent with a single specifier position is tenable (and useful), and the relevant phenomena can be captured in a fully LFG framework, see Chapters 2 and 3, and it could also be captured in an OT (or OT-LFG) approach.
8. The NEG label very strongly invokes the notion of genuine (syntactic and/or morphological) negation. However, Payne & Chisarik's (2000) NEG basically subsumes "semantic negation": INQ, INA and negative concord elements (NCIs). In this group, NUQs are formally (and semantically) really negated elements (and they are substantially different from all the other elements in this group in their distributional properties). Thus, this NEG label is rather misleading here. Moreover, if morpho-syntactic negation is taken seriously, the authors' INT > FOC > NEG hierarchy calls for some clarification and

[34] On the basis of É. Kiss (1994), they mention the following additional VM types: postpositions, bare nonreferential nouns, bare resultative adjectives and bare infinitives.

[35] INCORP stands for the preverbal morphological incorporation of VMs.

[36] See the discussions in Section 2.2 in Chapter 2 and Section 5.1.2 in this chapter.

explanation. The reason for this is that an ordinary negated constituent has priority over an ordinary focused constituent, cf.:

(29) *NEM A KÖNYV-ET olvasta el CSAK JÁNOS.*
not the book-ACC read.PAST VM only John.NOM

**CSAK JÁNOS olvasta el NEM A KÖNYV-ET.*
only John.NOM read.PAST VM not the book-ACC

ca. 'It wasn't the book such that it was only John that read it.'

Naturally, NEG in this OT hierarchy can be used in the way the authors do (with appropriate remarks); however, the contrast in (29) has to be captured in this framework as well.[37]

9. I think the most serious problem with Payne & Chisarik's (2000) analysis is their treatment of VMs (and, to a smaller extent, the treatment of NMR) for the following reasons.
   i) Referring to É. Kiss (1994), they assume that both VMs and NMR are morphologically incorporated into the verb optionally.[38] First of all, É. Kiss (1994) only assumes semantic incorporation of VMs even when they are preverbal, and she claims that even preverbally they are syntactically separate elements (occupying the Spec,VP position in her system). Secondly, É. Kiss (1994) does not incorporate the negative marker morphologically, either. Instead, she adjoins it to the verbal head.[39]
   j) Of course, morphological incorporation could be an alternative solution, but this would require argumentation and supporting evidence. In Chapter 3, I argued in a detailed fashion against the incorporation analysis of VMs in general.[40]
   k) Even if we accept the morphological incorporation treatment, it raises a conceptual problem: Payne & Chisarik's (2000) alignment rules mix two dimensions, a syntactic level and a morphological level. This is a rather marked solution the nature of which would call for some independent support, on the one hand, and it would be an appealing alternative if no other (less marked) solution was available. And this latter requirement does not seem to be satisfied, see the next point.
   l) Even if we disregard the syntax-morphology-mix issue and accept the analysis, it is important to see that Payne & Chisarik (2000) do assume two distinct positions for VMs and FOC et al. From this it follows that there is no radical conceptual difference between their idea and the (un)articulated GB/MP style FP analyses they criticize. They explicitly state that their alignment hierarchy has been designed to capture the preverbal complementarity of INT, FOC, NEG ***and*** VMs in such a way that VMs are the weakest candidates. Then it is rather questionable why VMs are assumed to occupy a different position at a distinct level of representation.

5.1.4. Towards an XLE analysis of negation

In Section 5.1.4.1, I point out to what extent Laczkó & Rákosi's (2008-2013) XLE grammar can handle negation. In Section 5.1.4.2, as a reminder, I briefly present the relevant details of the general sentence structural approach I propose in Chapter 2, and in Section 5.1.4.3, I outline my analysis of negation in this model.

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[37] In the authors' approach, both *nem a könyvet* 'not the book' and *csak János* 'only John' in (29) are treated as FOC elements, and this ±neg dimension in this domain is not at all addressed.

[38] When they are left-adjacent to the verb, they are incorporated, and elsewhere they are independent syntactic elements.

[39] By contrast, É. Kiss (1992) left-adjoins her NEG to V'. Obviously, É. Kiss' (1994) solution is an instance of head-adjunction, and É. Kiss' (1992) treatment is phrasal adjunction.

[40] See point 5 below.

5.1.4.1. On Laczkó & Rákosi (2008-2013)

In our XLE grammar, we have not yet implemented the analysis of negation to a satisfactory extent: basically, we only have a rudimentary treatment for testing purposes. The current state of affairs is as follows.

(A) Negation is neither uniformly nor consistently treated in various ParGram grammars. One of the central (and controversial) issues is the contribution of the negative marker (whether a bound or a free morpheme) to the f-structure of a sentence. The two basic options are as follows: *(i)* the negative marker is treated as an adjunct encoding negation *(ii)* the negative marker contributes a feature value: NEG +.[41] In our grammar, we employ the first option (just like the English grammar, among others). We have the following lexical form for the negative marker *nem* 'not'.

(30) *nem* ADV XLE @(PRED %stem)
(^ ADJUNCT-TYPE)= neg.

The relevant portion of the f-structure of the sentence containing the negative marker looks like this.

(31)
$$\text{ADJUNCT} \left\{ \begin{bmatrix} \text{PRED} & \text{'nem'} \\ \text{ADJUNCT-TYPE} & \text{neg} \end{bmatrix} \right\}$$

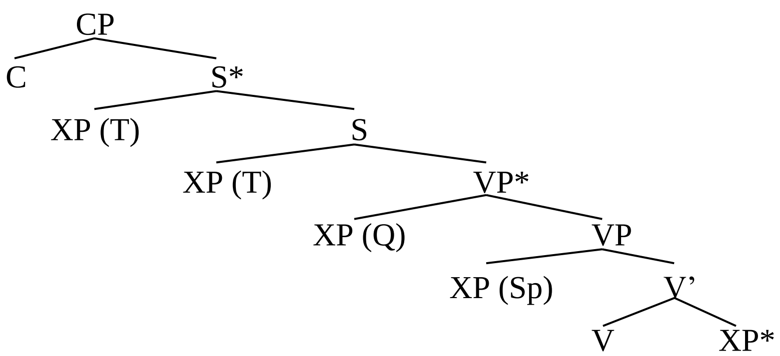
(B) Given the preliminary nature of our treatment of negation, the grammar gives a good parse for only one of the seven types of negative constructions presented in Section 5.1.1: predicate negation, without focus, the NMR precedes the verb, see the example in (6). Even in this case, however, the system yields 13 parses (most of them being due to independent unconstrained aspects of the grammar), and only two are appropriate.

(C) It seems that one of the problems causing "overgeneration in parsing" is that we assume that the category of *nem* 'not' is ADV, see (30), and its use is not constrained enough in the current version of the implemented grammar. For instance, in one of the parses it treats the negative marker as an OBL.

5.1.4.2. My sentence structure in Chapter 2

This is just a brief reminder. In the spirit of Laczkó & Rákosi (2008-2013) and also partially inspired by É. Kiss (1992), in Chapter 2 I assume the following skeletal sentence structure.[42]

(32)



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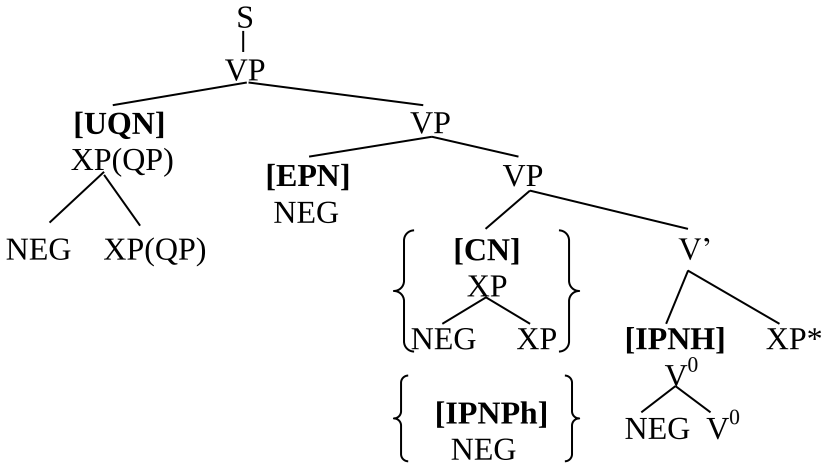
[41] For details and discussion, see the following web page and the documents there: http://typo.uni-konstanz.de/redmine/projects/pargram/wiki/Negation/9.

[42] S* and VP* encode the possibility of multiple left-adjunction. The abbreviations are as follows: T = topic field, Q = quantifier field, Sp = Spec,VP position. For further details, see Chapter 2.

5.1.4.3. Outlines of an account of negation

In my analysis, I basically adopt É. Kiss' (1994) structural approach to negation (in her GB framework), see the schematic representation in (33).

(33)



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

B) The four negation positions are empirically justified; however, all the four cannot be simultaneously filled. Double negation is quite frequent, treble negation is very rare, quadruple negation is nonexistent.[43]

C) As I pointed out above, É. Kiss' (1992) analysis is different in one significant respect: it assumes that in the case of [IPN], a NegP is adjoined to V'. This approach is more uniform in the sense that it posits a phrasal status for the negative marker in all the positions it occurs in. It does not seem to be possible to choose between the two adjunction strategies in the [IPN] type on an empirical basis. Below I discuss some LFG-specific considerations that favour the head-adjunction analysis in the spirit of É. Kiss (1994), which allows the use of the negative marker as either a Neg or a NegP, see the next point.

D) LFG's flexible assumptions about categories and their potential phrasal vs. nonphrasal status allow for the following three scenarios in the analysis of the negative marker in Hungarian. *(i)* It uniformly projects an XP (= NegP). This would be in accordance with É. Kiss' (1992) account. *(ii)* It can be used in the syntax as either an X^0 or an XP category; and, thus, it can be either head-adjoined or phrase-adjoined. This would be in the spirit of É. Kiss (1994) in GB and Toivonen (2001) in her treatment of particles in LFG. *(iii)* It can be assumed to be a uniformly nonprojecting word (capable of occurring in both X^0 and XP positions), cf. the treatment of particles in English, German and Hungarian in Forst et al. (2010). Given the fact that this Hungarian negative marker does not exhibit any phrasal behaviour in its own right, i.e. it can never be modified, I adopt the third treatment here (and this is what I implemented when I tested my analysis, for details, see below). I hasten

[43] The main reason for these facts has to do with the increasing difficulty of processing multiple negation. Given that the adjunction of the negative marker to a VP with an obligatory focus is relatively rare, the combination of this construction type with a (preceding) VP-adjoined negated universal quantifier would be even more marked. So far, I have not come across any attested example of this kind. For this reason, I have simplified the phrase structure rules of my implemented grammar in such a way that the two VP-adjoined negative constituents are in complementary distribution. However, the efficient implementation of their noncomplementary relation would not cause any technical problems, either.

to add that nothing crucial hinges on this particular aspect of my account, and both of the other solutions are fully tenable both (LFG-)theoretically and implementationally (I have also tested their implementability). My choice of option *(iii)* was simply motivated by economy considerations: there is no empirical evidence for a phrasal projection of the negative marker. In future work, I plan to develop an LFG analysis of several Hungarian "small categories" that are arguably best treated as nonprojecting words along these lines: verbal particles (aka verbal prefixes or coverbs), *csak* 'only', *ne* 'not' in prohibitions, *nem* 'not', *is* 'also', *sem* 'also not', *volna* (the marker of irrealis mood), *-e* (the yes-no question marker), etc.

E) In my implemented rules, I use the NEG category label (as opposed to Laczkó & Rákosi's (2008-2013) ADV), which contributes greatly to parsing parsimony.

F) As (33) shows, in my analysis NEG can occupy three major types of syntactic positions: it can be in Spec,VP and it can also be either head-adjoined or phrase-adjoined.

G) In all the three cases, it has the ADJUNCT annotation.

H) My lexical form for the negative marker is as follows. Compare this with (30).[44]

(34) *nem* NEG * @(PRED %stem)
(^ ADJUNCT-TYPE)= neg.

I) The special NEG category, the specific phrase structure rules and the functional annotations in this analysis jointly ensure full parsing efficiency. The implemented grammar only produces the expected parses in the case of all the negated constructions under investigation.

Let us now see the details of the analysis of each construction type. For convenience, below I repeat the relevant examples from Section 5.1.1.

5.1.4.3.1. Constituent negation

As has been demonstrated in Section 5.1.1, standard constituent negation targets the preverbal position (Spec,VP in É. Kiss' (1992, 1994) and my analysis), see [CN] in (33) and the relevant example in (3). If an ordinary constituent is negated, this is the only syntactic position available for it.

(3) ***ordinary constituent negation***

Péter	*NEM*	*A*	*BARÁTJÁ-T*	*hívta*	*fel.*
Peter.NOM	not	the	friend.his-ACC	called	up

'It wasn't his friend that Peter called up.'

In my analysis of this construction type, I use the following c-structure rules. I augment the { XP | PRT } disjunction with the following disjunct for the Spec,VP position.

(35) XPneg: (^ GF)=! (^ FOCUS)=!

In addition, I have the following rule for negated constituents.

[44] In (30) the lexical form contains XLE after the category specification. This prompts Laczkó & Rákosi's (2008-2013) implemented grammar to use the information provided by the fst morphological analyzer. In this case it will utilize the +Adv tag for *nem* coming from the fst. By contrast, the * symbol in (34) blocks the fst, and the grammar only uses the information included in the lexical form of the given word. This is the simplest way of introducing a special category. The fact that the fst cannot "see" it is no problem at all, given that this word has only a single morphological form.

(36) XPneg --> NEG: @ADJUNCT;
XP.

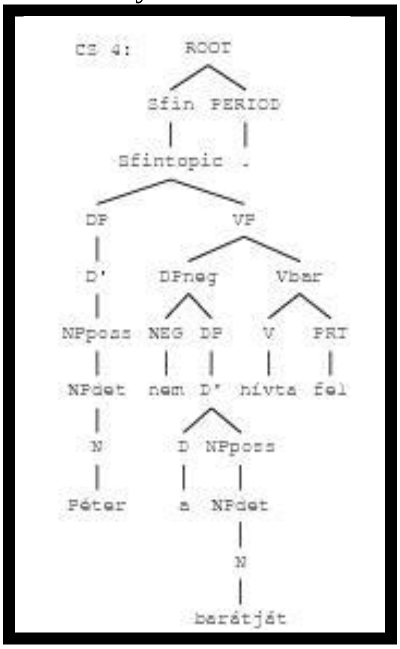
Consider the XLE c-structure and f-structure of (3) in Figures 1 and 2. As Figure 2 shows, only the negated OBJ DP is in the scope of the negative marker: the marker is represented as the negative adjunct of the OBJ. The negated constituent has the FOCUS DF, which is an empirically correct generalization. As (4) demonstrates, a negated universal quantifier can also occur in this position.

(4) ***UQ negation without focus (= ordinary constituent negation)***

Péter	*NEM*	*MINDENKI-T*	*hívott*	*fel.*
Peter.NOM	not	everybody-ACC	called	up

ca. ‘It doesn’t hold for EVERYBODY that Peter called them up.’

The analysis is the same.[45]



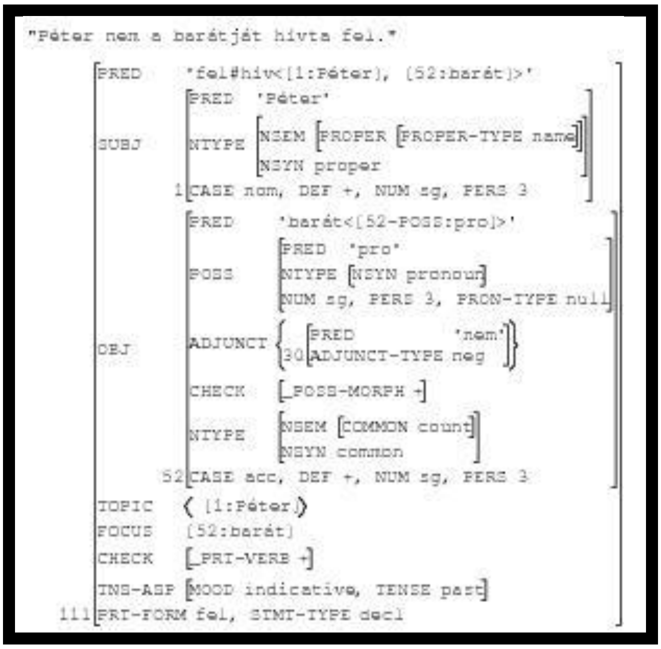


Figure 1: c-str. of (3) **Figure 2: f-str. of (3)**

When there is an ordinary focused constituent present (which obligatorily fills the Spec,VP position), the negated universal quantifier can (or, rather, must) occupy a VP-adjoined position in the “quantifier zone”, see [UQN] in (33) and the example in (5).

(5) ***UQ negation with focus***

Nem	*mindenki-t*	*PÉTER*	*hívott*	*fel.*
not	everybody-ACC	Peter.NOM	called	up

‘It is not true for everybody that it was Peter that called them up.’

I employ the following VP-adjunction rule.

(37) VPneg --> XPneg: (^ GF)=!
(^ FOCUS)
(! QUANT-TYPE) =c universal;
VP.

[45] It has to be constrained, though, that nonnegated universal quantifiers are banned from this position.

The annotations associated with XPneg capture the relevant empirical generalizations. Only negated universal quantifiers can be adjoined to the VP, and the VP has to contain a focus. Consider the c-structure and f-structure of (5) in Figures 3 and 4.

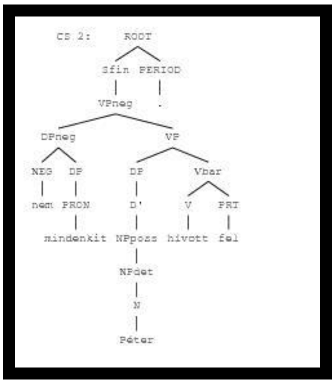


Figure 3: c-str. of (5)

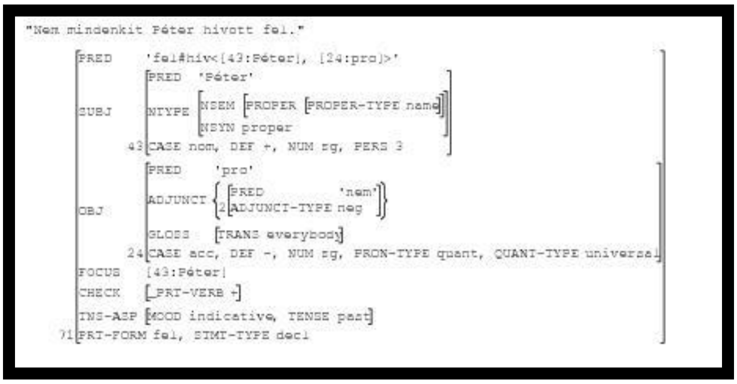


Figure 4: f-str. of (5)

5.1.4.3.2. Predicate negation

As I demonstrated in Section 5.1.1, when there is a focused constituent in a sentence, there are two varieties of negation: *(i)* the negative marker precedes the focused constituent *(ii)* the negative marker follows the focused constituent.

Structurally, I treat *(i)* as É. Kiss (1992, 1994): I assume that NEG is adjoined to VP, see the [EPN] constituent in (33) and the example in (8).

(8) ***predicate negation, with focus, the NMR precedes the focus***

Péter	*nem*	*A*	*BARÁTJÁ*-*T*	*hívta*	*fel.*
Peter.NOM	not	the	friend.his-ACC	called	up

'It is not true that it was his friend that Peter called up.'

I use the following phrase structure rule in this case.[46]

(38) VPneg --> NEG: @ADJUNCT (^ FOCUS);
VP.

Consider the c-structure and f-structure of (8) in Figures 5 and 6 (next page).

[46] As I pointed out above, although it is possible, in principle, to have the combination of VP-adjoined universal quantifier negation and VP-adjoined predicate negation, no real examples have been attested; therefore, in the current version of my implemented grammar I use the two VP-adjunction rules in complementary distribution by collapsing (37) and (38) disjunctively:

(i) VPneg --> { NEG: @ADJUNCT (^ FOCUS)
| DPneg: @DP-GF (^ FOCUS) (! QUANT-TYPE) =c universal }
VP.

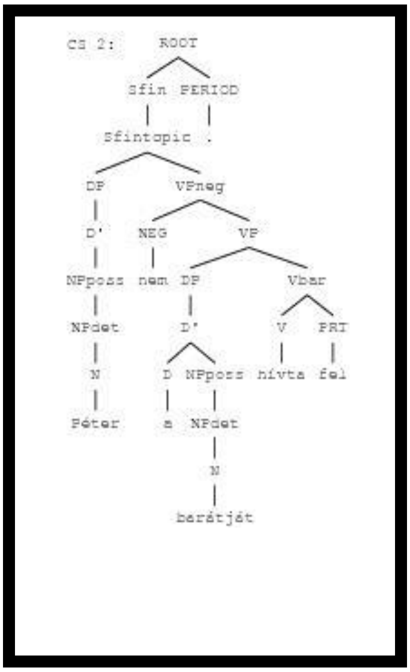


Figure 5: c-str. of (8)

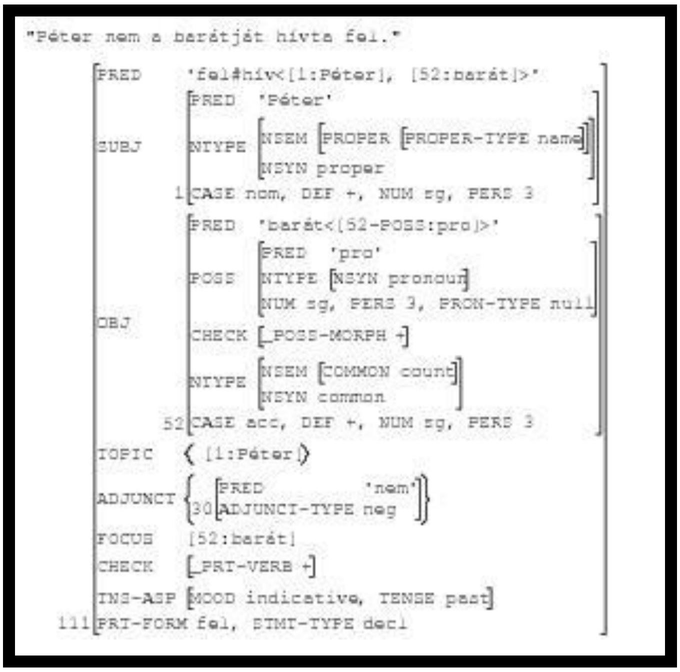


Figure 6: f-str. of (8)

Notice that in the f-structure representation the sentence is in the scope of the negative marker (neg ADJUNCT).[47]

I handle the *(ii)* predicate negation type illustrated in (7) as É. Kiss (1994), contra É. Kiss (1992).

(7) ***predicate negation, with focus, the NMR precedes the verb***

PÉTER	*nem*	*hívta*	*fel*	*a*	*barátjá-t.*
Peter.NOM	not	called	up	the	friend.his-ACC

'It was Peter who didn't call up his friend.'

É. Kiss (1994) head-adjoins Neg^0 to V^0, and here I make the same assumption, see the [IPNH] constituent in (33). Let me add that the adjunction of NegP to V' would also be an absolutely legitimate solution;[48] moreover, it can even be someone's preferred solution in LFG if, in cases like this, they reject the idea of head-adjunction in general and the notion of nonprojecting words in particular.

My head-adjunction rule is as follows.

```
(39)  Vneg -->    NEG: @ADJUNCT
                        (^ FOCUS);
                  V.
```

Consider the structures for (7) in Figures 7 and 8 (next page).

---

[47] As I pointed out in Section 5.1.1, a sentence can be ambiguous between ordinary constituent negation and the VP-adjunction type of predicate negation, cf. (3) and (8).

[48] It is noteworthy that in the GB/MP tradition the status of the two solutions in É. Kiss (1992) and É. Kiss (1994) has kept changing. Originally both were legitimate in their respective GB contexts. Later adjunction was only acceptable as either head (X^0) adjunction or maximal projection (XP) adjunction. In this new light É. Kiss' (1992) solution would have been out. In the MP paradigm of functional projections, both adjunction treatments are outdated. The current standard approach is the postulation of a NegP whose Neg head takes the constituent to be negated as its complement, see É. Kiss (2002), for instance.

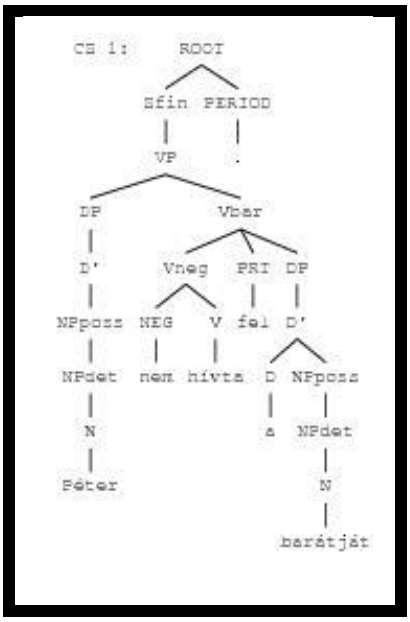


Figure 7: c-str. of (7)

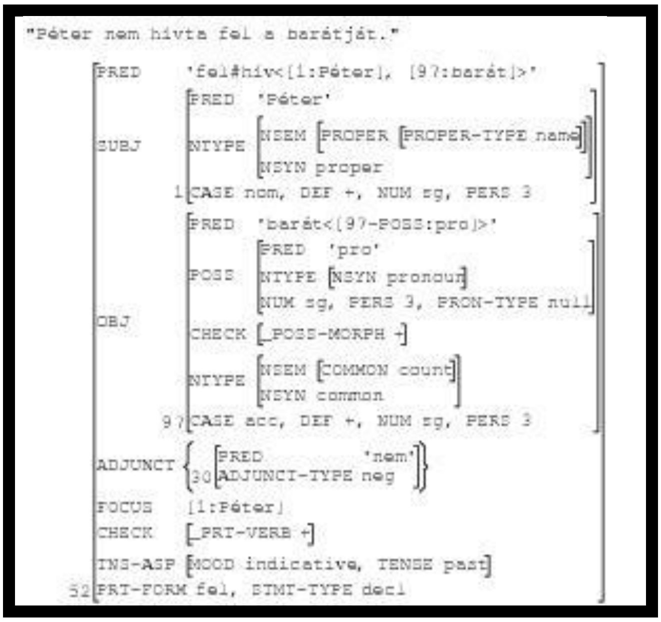


Figure 8: f-str. of (7)

The third type of predicate negation is when (at least in descriptive terms) the negative marker seems to be in complementary distribution with VMs and other Spec,VP elements (i.e. focused constituents and 'wh'-phrases): there is no focused constituent or 'wh'-phrase in the sentence, the negative marker precedes the verb and the VM must occur postverbally, see the example in (6).

(6) ***predicate negation, without focus, the NMR precedes the verb***

Péter	*nem*	*hívta*	*fel*	*a*	*barátjá-t.*
Peter.NOM	not	called	up	the	friend.his-ACC

'Peter didn't call up his friend.'

For É. Kiss (1992, 1994) this is the same case as *(ii)* above: the Spec,VP position is not filled (by either a focused constituent or a 'wh'-phrase), and NegP/Neg is adjoined to V'/V^0. É. Kiss claims that the reason why a VM occurs (i.e. remains) in its base-generated postverbal position is that it has to be in the scope of negation. Although this solution could be accommodated in my LFG account, here I propose that in these constructions the NegP occupies the Spec,VP position. My main motivation for this treatment is that it most straightforwardly captures the complementarity of all the four major types of preverbal constituents, which is in full accord with LFG's what-you-see-is-what-you-get principle.

The relevant rule is very simple. I augment the Spec,VP functional annotational disjunction with the following disjunct: NEG: @ADJUNCT (^ FOCUS)=!. The resulting disjunction (simplified for our present purposes) is as follows.

(40) { PRT
| XP (^ GF)=! (^ FOCUS)=!
| XPneg: (^ GF)=! (^ FOCUS)=!
| NEG: @ADJUNCT (^ FOCUS)=!}

Consider the structures for (6) in Figures 9 and 10 (next page).

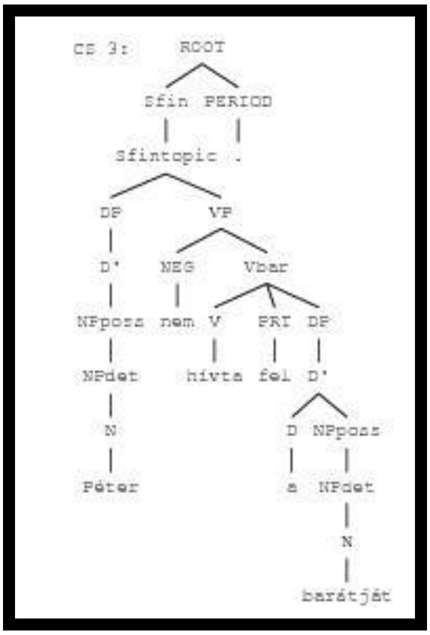


Figure 9: c-str. of (6)

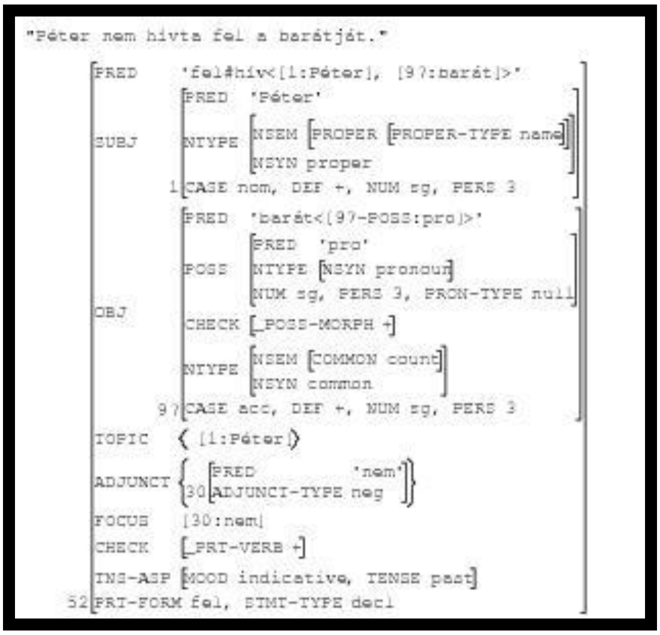


Figure 10: f-str. of (6)

Notice that in this case I assume that NEG in Spec,VP is focused. On the one hand, I think this is plausible intuitively (NEG typically gets heavy stress),[49] and, on the other hand, I need this specification for the proper treatment of the postverbal occurrence of VMs.

5.2. Negative particles and negative polarity items

In Section 5.1.4, I outlined an LFG analysis of constituent and predicate negation in the LFG-XLE model I am developing in this dissertation. I focused on c-structural, functional and lexical representational issues, and I deferred the development of further aspects of the analysis to this section. So here I (i) develop an account of the special uses of negative particles, (ii) capture their interaction with negative polarity items (n-words), (iii) present 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.

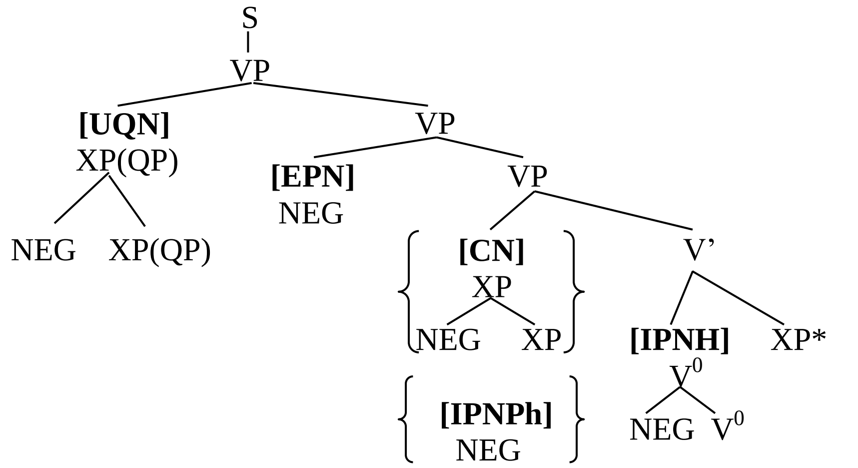
In my analysis in Section 5.1.4, I capitalized on É. Kiss' (1994) structural approach to negation (in her GB framework). As a reminder, consider the schematic representation of the five major types of negation in (33), repeated here as (41) for convenience.[50,51]

[49] For a discussion of experimental evidence provided by Mycock (2010), see Chapter 4.

[50] A further reminder: 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].

[51] I also repeat the most important comments on (33) in Section 5.1.4.

(41)



A) In my implemented rules, I use the NEG category label (as opposed to Laczkó & Rákosi’s (2008-2013) ADV, for instance), which contributes to parsing parsimony to a great extent.
B) I assume NEG to be a uniformly nonprojecting 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.
C) As (41) 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.

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

5.2.1. On *nem, sem* and negative polarity items

In this section, first I present some fundamental facts (5.2.1.1), then I briefly discuss a few GB/MP approaches that are directly relevant for the purposes of this chapter (5.2.1.2), and finally I make my XLE style empirical generalizations to be formally captured in Section 5.2.2 (5.2.1.3).

5.2.1.1. Some basic facts

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

- 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.
- 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 (43) and (44), illustrating the basic Hungarian facts.

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

(44) *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 (43) and (44). As the customary **(nem)* representation indicates, (43) 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,[52] 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*[53] and *se*.[54] The two forms have exactly the same 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.

5.2.1.2. On some GB/MP approaches

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. Here I only concentrate on É. Kiss (2011), because it is directly relevant to my analysis to be developed in this chapter in several respects.

É. Kiss (2011) discusses *sem* from both diachronic and synchronic perspectives. She claims that neither traditional descriptive works nor generative approaches have provided a

[52] In Section 5.2.2 I will point out the challenge this poses for a formal analysis, and then I will present my solution.

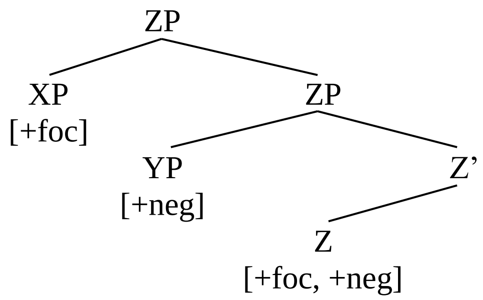
[53] This variant transparently reflects the relationship between the meaning and the etymology of this particle: ***iS*** 'also' + ***nEM*** 'not' → ***SEM***. É. Kiss (2011) points out that the original forms of the two elements were *es* and *nem*, and they got merged. The former later developed into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

[54] 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.

satisfactory analysis. In the latter domain, she offers a critical overview of previous accounts in É. Kiss (1983, 1992, 1998), Olsvay (2000, 2006) and Surányi (2002). As regards É. Kiss (1983, 1992, 1998) and Olsvay (2000), their central idea is haplology: under certain circumstances *nem* is deleted. Surányi (2002) makes the following two main critical remarks on haplology approaches in general. (i) They cannot explain why in the preverbal domain there cannot be more than one *sem* expression, while this is possible postverbally. (ii) Haplology does not work in the same configuration when *sem* is used as a conjunction.

Next, I summarize É. Kiss' critique of Surányi (2002) at greater length, as this discussion is very important for the purposes of this chapter. Surányi assumes that *sem* (as opposed to pronouns like *senki* '#nobody'and *soha* '#never') has a negative force, because historically it contains *nem* 'not'. Both *sem* and *nem* compete for the same specifier position in the functional projection ZP, which hosts both focus and negation. If the Z head has both [foc] and [neg] features then ZP has two specifiers:

(45)



Consider the following examples from É. Kiss (2011).

(46) [$_{ZP}$ JÁNOS$_{foc}$ [$_{ZP}$ nem$_{neg}$ [$_{Z'}$ aludt]]]
John.nom not slept
'It was John who didn't sleep.'

In this sentence *nem* checks the [neg] feature of Z[55] and the focused constituent preceding it checks the [foc] feature of Z.

(47) *[$_{ZP}$ CSAK MA$_{foc}$ [$_{ZP}$ senki sem$_{foc,\ neg}$ [$_{Z'}$ jött]]]
only today #nobody also.not came
'It was only today that nobody came.'

(48) [$_{ZP}$ Senki sem$_{neg}$ [$_{ZP}$ MA$_{foc}$ [$_{Z'}$ jött]]]
#nobody also.not today came
'It was today that nobody came.'

In (47) *senki sem* checks both features of Z; therefore, no other focus can precede this constituent; hence the ungrammaticality of this sentence. By contrast, if the focus immediately precedes Z, it checks Z's [foc] feature and the *sem* expression, preceding the focus, can check Z's [neg] feature, as in (48). In Surányi's approach *sem* expressions in the postverbal domain must form a chain with negation in Spec,ZP encoded by either *nem* or a *sem* expression, they cannot occur there on their own.

É. Kiss makes the following critical remark on Surányi (2002). It cannot handle double negation, i.e. cases when a negated verb is preceded by a negated focus, because (45) allows

[55] Recall that in my analysis in Section 5.1.4.3 I assume that in this construction type the focused constituent is in Spec,VP and the negative particle is head-adjoined to the verb. É. Kiss (1994) has a similar account.

only one focus and one negative expression. According to Surányi, in constructions exemplified in (49a) and in (50a) focus negation is metanegation. However, É. Kiss claims that this view is hardly tenable because the constituent preceding the focus behaves in exactly the same way in the case of double negation as it does in the case of single negation: for instance, the negative particle can be replaced by *sem* in this case, too. Compare (49a) with (49b) and (50a) with (50b).[56] É. Kiss points out that on Surányi's account in (49a) and in (50a) Z's [neg] feature is checked by *nem* and its [foc] feature is checked by the focused constituent; and, thus, there is no explanation for the occurrence of the *sem* expression preceding the focus.

(49) a. János-t sem [$_{ZP}$ KATI$_{foc}$ [$_{ZP}$ nem$_{foc}$ [$_{Z'}$ látja meg]]]
John-ACC also.not Kate.NOM not sees VM
'It doesn't hold for John, either, that it is Kate who does not catch sight of him.'

b. János-t sem [$_{ZP}$ KATI$_{foc}$ [$_{Z'}$ látja meg]]]
John-ACC also.not Kate.NOM sees VM
'It doesn't hold for John, either, that it is Kate who catches sight of him.'

(50) a. Senki-t sem [$_{ZP}$ KATI$_{foc}$ [$_{ZP}$ nem$_{foc}$ [$_{Z'}$ lát meg]]]
#nobody-ACC also.not Kate.NOM not sees VM
'It doesn't hold for anybody, that it is Kate who does not catch sight of them.'

b. Senki-t sem [$_{ZP}$ KATI$_{foc}$ [$_{Z'}$ lát meg]]]
#nobody-ACC also.not Kate.NOM sees VM
'It doesn't hold for anybody, that it is Kate who catches sight of them.'

On the basis of the testimony of Hungarian codices, É. Kiss (2011) describes the development of (the functions of) postmodifying *sem* in the following steps (after the *es+nem* merger).

(51)	a.	sem XP	VM	V		
	b.	sem XP	VM nem	V		
	c.	sem XP	nem	V	VM	
	d.	XP	sem	V	VM	
	e.		nem	V	VM	XP sem

(51a): originally, *sem* premodified the constituent it combined with, and this combination could function as a focus phrase. In the case of indefinite pronouns a further merger took place, see the negative polarity items in Table 1. (51b): after a while the negative force of *sem* got lost and was reinforced by the negative particle preverbally, and the verbal modifier (VM) preceded this sequence. (51c): the negated verb and the VM reversed their order. (51d): *sem* became a postmodifying element, and its preverbal position coincided with the preverbal position of the negative particle, cf. (51c) and (51d). É. Kiss claims that *sem* in (51a) and in (51d) has the function of a negative particle, in addition to its minimizing particle function, whereas in (51b,c,e) it is solely a minimizing particle. (51d) represents the current situation.

É. Kiss (2011) points out that all the following properties of *sem*[57] can be inferred from its history depicted in (51).

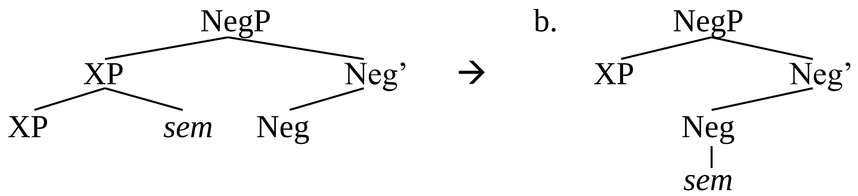
[56] For reasons of space, I use different (shorter) examples.

[57] These properties are reiterated in É. Kiss (2015).

- As a minimizing particle, *sem* has three roles.
    - It is the counterpart of *is* ‘also’ in a negative environment.
    - It is an obligatory particle of indefinite expressions in the scope of negation (*egy ember sem* ‘not a (single) man’, *egyszer sem* ‘not (even) once’).
    - It is an optional particle of *se*-pronouns, see the negative polarity column in Table 1.
- It is a “modifying particle”, hence its unstressed clitic status.
- It is licensed by a negative particle to its left. Given the characteristics of Hungarian sentence structure, from this it follows that it can only occur postverbally.
- In the preverbal domain, an expression can be modified by *sem* if *sem*, keeping its minimizing particle status and it prosody, can occupy the position of the negative particle (*nem*), in which case *sem* (additionally) acquires the function of a negative particle, thereby making the presence of the negative particle (*nem*). When there is a string of *se*-pronouns in the preverbal domain, this reanalysis as a negative particle is only available to a single occurrence of the minimalizing particle *sem*: in a position adjacent to the Neg head (practically always at the right edge of the *se*-pronoun string).

Consider the (generalized) representation in (52) in the spirit of É. Kiss (2011).

(52) a. b.



In É. Kiss’ (2011) view then the enclitic *sem* of a *sem* phrase “gets associated” with the head of a focus negating or verb negating NegP.[58] In a footnote É. Kiss raises the question of why this is not possible simultaneously, that is, why can’t two *sem* phrases co-occur preverbally (one associated with the focus negating NegP and the other associated with the verb negating NegP). Consider her examples in (53).

(53) a. *Senki sem János-t sem hívta meg.
#nobody.NOM also.not John-ACC also.not called VM
‘It holds for nobody that it wasn’t even John that they invited.’

b. *János-t sem senki sem hívta meg.
John-ACC also.not #nobody.NOM also.not called VM
‘It doesn’t hold for even John there was nobody who invited him.’

É. Kiss’ explanations are as follows. (A) (53a) is ungrammatical because *sem* in *Jánost sem* [John.ACC also.not] is the negative counterpart of *is* ‘also’; therefore, this phrase can only occupy an *is*-position in the quantifier zone preceding the focus. (B) Probably the problem with (53b) is the fact that *senki sem* [#nobody also.not] was in the scope of verb negation, then it was raised into focus, and it cannot be negated twice, that is, it cannot be in the scope of double negation.

Let me make the following comments on these explanations. (A) I think this is not the correct empirical generalization, because when *senki sem* [#nobody also.not] does not precede *Jánost sem* [John.ACC also.not], but follows it in the postverbal domain, the construction is

[58] É. Kiss (2015) informally describes the nonoccurrence of *nem* in the following way. “When *sem* appears in an immediately preverbal […] or prefocus […] position, the negative particle licensing it is not spelled out (or, putting it differently, it merges into *sem*), as a consequence of which *sem* is interpreted as the negative particle” (2015: 221).

grammatical. The crucial point here is that if, taking É. Kiss' explanation at its face value, we assume that the *sem*-phrase of the *Jánost sem* type is obligatorily in an *is*-type quantifier position, we cannot explain why the VM follows the verb. Compare (53a) with (54).

(54)	János-t	sem	hívta	meg	senki	(sem).
	John-ACC	also.not	called	VM	#nobody.NOM	also.not
	'It holds for John, too, that nobody invited him.'					

(B) I think in this case, too, the same kind of counter-argument can be raised as in the case of (A). If we leave out the *Jánost sem* constituent in (53b) or we insert it postverbally, as in (55), the construction will be grammatical.

(55)	Senki	sem	hívta	meg	János-t	sem.
	#nobody.NOM	also.not	called	VM	John-ACC	also.not
	'It doesn't hold for anybody that they didn't invite even John.'					

Notice that É. Kiss' explanation only concentrates on the "focusing" of *senki (sem)*, and the presence or absence of *Jánost sem* is not presented as a relevant factor. Consequently, this explanation is not feasible.

My general remark on both constructions and both explanations is that the ungrammaticality of these construction types does not call for any special or additional explanation. The fundamental fact is that it is ungrammatical for two *sem*-phrases to co-occur preverbally, whether one of them is or both of them are NCI-s or ordinary constituents combined with the enclitic particle *sem*. These four possibilities are jointly illustrated by É. Kiss' examples in (53a,b) and my additional examples in (56a,b).

(56)	a.	*Senki	sem	senki-t	sem	hívott	meg.
		#nobody.NOM	also.not	#nobody.ACC	also.not	called	VM
		'It holds for nobody that nobody invited them.'					
	b.	*Kati	sem	János-t	sem	hívta	meg.
		Kate.NOM	also.not	John-ACC	also.not	called	VM
		'It doesn't hold even for John that not even Kate invited him.'					

These facts mean that the explanation for the unacceptability of (53a,b) must be the same as the general/uniform explanation for the ungrammaticality of (56a,b). My proposal is that syntax would allow the co-occurrence of two *sem*-phrases; however, there are some semantic constraints that block the co-occurrence of these phrases. Given the fact that in this dissertation I concentrate on the (morpho-)syntax of Hungarian finite sentences in the preverbal domain, I leave it to future research to explore what uniform semantic explanation can be offered for these facts. At the same time, already at this stage, I would like to point out a parallel that may be of special importance in this connection. A negated universal quantifier and a *sem*-phrase in the quantifier position seem to have the same distribution. Both of them allow a positive focused constituent and both of them reject a focused *sem*-constituent, see (57a) and (58a), on the one hand, and (57b) and (57b), on the other hand.

(57) a. Senki sem János-t hívta meg.
#nobody.NOM also.not John-ACC called VM
'It holds for John that nobody invited him.'

b. *Senki sem János-t sem hívta meg.
#nobody.NOM also.not John-ACC also.not called VM
'It doesn't hold for John, either, that nobody invited him.'

(58) a. Nem mindenki János-t hívta meg.
not everybody.NOM John-ACC called VM
'It holds for John that not everybody invited him.'

b. *Nem mindenki János-t sem hívta meg.
not everybody.NOM John-ACC also.not called VM
'It doesn't hold for John, either, that not everybody invited him.'

5.2.1.3. XLE style empirical generalizations

My basic generalizations about the distribution of the negative particles and negative polarity items are as follows.[59] These generalizations observe the standard what-you-see-is-what-you-get principle of LFG and XLE.[60]

- The ordinary negative particle *nem* precedes the constituent that it combines with (by being left-adjoined to it): **nem^XP**),[61] see (33) in Section 5.1.4.3.
- *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><th>VP-adjoined</th><th>Spec,VP</th><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

- 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 (43).

[59] I will give the relevant examples when I present my analysis in Section 5.2.2.

[60] It is for this reason that I assume that the *NW^sem* and *NW^nem* strings are two versions of the same constituent type and they occupy the same syntactic positions preverbally.

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

- 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 (43) 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,[62] 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 (nonn-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').[63]
- 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 nonn-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. 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 nonnegated) intrinsic n-words: NW* YPsnem$_{[NW]}$.

5.2.2. An 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 (59).

- As these examples and (43) 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 (59a) and (59b).
- Only *sem* can right-adjoin to an intrinsic n-word in this domain, and *nem* cannot be used: (59c).[64]
- An intrinsic n-word can be used on its own (without being combined with a right-adjoined negative particle): (59d).

The sentences in (43) and (59) 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 nonprojecting word capable of occupying head-adjoined and phrasal positions. In Section 5.1.4.3, 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

[62] Recall from Section 5.1 that in ordinary constituent negation (including the negation of the universal quantifier) *nem* 'not' is employed, and it left-adjoins to the target constituent.

[63] Also see Footnote 53.

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

that *János* 'John.NOM' is in a topic position, and the negative particle is in Spec,VP.[65] See the schematic structural representation in (33) in Section 5.1.4.3.

<table>
<tr><td>(59)</td><td></td><td></td><td></td><td></td><td>(a)</td><td>egy</td><td>lány-t.</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>a</td><td>girl-ACC</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>(b)</td><td>egy</td><td>lány-t</td><td>sem.[66]</td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>a</td><td>girl-ACC</td><td>also_not</td><td></td><td></td></tr>
<tr><td></td><td>János</td><td>*(nem)</td><td>lát</td><td>meg</td><td>(c)</td><td colspan="2">senki-t</td><td>sem</td><td>/</td><td>*nem.</td></tr>
<tr><td></td><td>John.NOM</td><td>not</td><td>sees</td><td>VM</td><td></td><td colspan="2">#nobody-ACC</td><td>also_not</td><td></td><td>not</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>(d)</td><td colspan="2">senki-t.</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="2">#nobody-ACC</td><td></td><td></td><td></td></tr>
<tr><td></td><td colspan="4">'John doesn't catch sight of</td><td>(a)
(b)
(c)
(d)</td><td colspan="5">a girl.' [+specific]
a girl, either.' [–specific]
anybody at all.'
anybody.'</td></tr>
</table>

Nem in Spec,VP and *nem* in the V^0-adjoined position manifest the default, basic configurations for the licensing of n-words.[67] The simplest case of this is when an intrinsic n-word occurs postverbally on its own. Recall that in Section 5.1.4.3 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.[68] 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

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

[66] É. Kiss (2015) points out that constructions like (59a) and (59b) 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:* (59b). Otherwise it will be interpreted as a [+specific] indefinite noun phrase: (59a).

[67] Below I will show that, as I briefly mentioned in Section 5.2.1.3, 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 nonn-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*.

[68] For detailed discussions, see Rákosi (2013) and Laczkó (2015c).

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 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 Section 5.1.4. Interestingly, the Polish ParGram grammar (in its 2014 version) employed the NEG+ implementational option.[69]
- 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 Section 5.1.4 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 Section 5.1.4, it has a constituent negating function. When it is left-adjoined to a nonverbal 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,[70] it has the n-word licensing potential.
- In Section 5.1.4 I distinguish a third type of predicate negation: VP negation, when the negative particle left-adjoins to a whole VP. Note, however, that the particle in this use is not an n-word licensor. Compare (60) with (59b), for instance. (In (60) a verbal particle, i.e. a VM, occupies the Spec,VP position.)

[69] For a modified analysis, see Przepiórkowski & Patejuk (2015).

[70] See the relevant configurations in (41).

(60) *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[71] 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 (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.

(61) *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.'

- 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.[72] I also think that the NEG+ device is most felicitously used for affixal negation, as in the Turkish ParGram grammar. I would find it

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

[72] 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).

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 Section 5.1.4 as regards its lexical representation, see (42) in that section.
- 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 (62a) and (62b) below.

(62) 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 Section 5.1.4,[73] 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 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 (59b), (59c) and (59d), respectively. In the current version of HunGram I have implemented the first two cases by the following two phrase structure rules.

(63) Vbar → V

YPsem: @YP-GF[74]
(↑ POL) =c negative.[75]

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 generation 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.

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[73] A reminder: the @ADJUNCT template introduces the following annotation: ↓ ∈ (↑ ADJUNCT).

[74] 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.

[75] In this analysis I only cover negative polarity in finite clauses and leave developing an account of negation in nonfinite (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. 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.

(64) 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 (65).[76]

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

It is worthwhile comparing the rules and representations of ordinary constituent negation with the *nem* particle in my analysis in Section 5.1.4 and those of this special constituent negation with *sem*. At the beginning of Section 5.4 I gave the lexical form for *nem* in (42), which I repeat here as (66) for convenience.

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

And my phrase structure rule for constituent negation in Section 5.1.4 is given in (67) below.

(67) XPneg → NEG: @ADJUNCT;
XP.[77]

The formal parallels between (64) and (67), on the one hand, and between (65) and (66), on the other hand, are straightforward. In addition, they are also similar semantically: they are used to express constituent negation in these configurations.[78]

As (59d) 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.

(68) 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.

(69) 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 simultaneously filled by the negative

[76] 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.
[77] XP here ranges over all the major nonverbal categories: DP, PP, AP and ADVP.
[78] For further details of their similarities and differences, see below.

particle.[79] The constraint in the third line encodes the fact that in this configuration Spec,VP cannot be occupied by an n-word.[80] And the equation in the fourth line introduces the negative polarity domain.

Consider the examples in (71) and (72).

(70) *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.'

(71) *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).'

(72) *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 (70).
- 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 (71)
- In the VP-adjoined domain a *sem/nem*-negated intrinsic n-word can be preceded by one or more other (strictly nonnegated) intrinsic n-words: NW* $\text{YPsnem}_{[\text{NW}]}$, see (72).

My rules for the treatment of (70) and (71) are as follows.

(73) 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.[81] The only annotation associated with YPsnem is the

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[79] 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.

[80] 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.

[81] 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, in the light of the results of the CGRH project. I will present distributional, functional, and prosodic arguments. In this spirit, at this point my main preliminary motivations for an approach along these "isomorphic structure" lines are as follows.

(i) From an LFG what-you-see-is-what-you-get perspective, the two constructions can be taken to occupy the same two preverbal positions: the Spec,VP focus position and the VP-adjoined quantifier position. A plausible marking of the negative polarity domain. All the other aspects are encoded in the c-structure rule for YPsnem in (74).

(74) 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. nonn-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.

The relevant c-structure rule for (72) is as follows.

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explanation for why *XP^sem* and *NW^sem* can occur postverbally and *NW^nem* cannot is that the latter is fundamentally an ordinary instance of constituent negation, due to the presence of *nem*, and pure constituent negation is strictly and generally excluded from the postverbal domain. By contrast, *sem* fundamentally has a minimizing particle (quantifier-licensing or quantifier-creating) status. That is why a constituent it postmodifies as an enclitic (whether it is an n-word or an ordinary constituent) can occur postverbally, provided that it is in the scope of (preverbal) negation.

(ii) Both constituent types, i.e. both *senki sem* '#nobody also_not' and *senki nem* '#nobody not', can be assumed to express constituent negation in both the VP-adjoined position and the Spec,VP position. In addition, both of them also encode clause (or predicate) negation in Spec,VP.

(iii) As I pointed out in Section 5.1.1, it is an apparently widely accepted generalization in MP approaches that in the case of what É. Kiss (1992) analyzed as constituent negation in the focus position, that is, the negative particle and the modified expression make up a constituent in the focus position, focus phrase (FP) negation takes place. The negative particle projects a NegP, and it takes the FP as its complement, and the particle sits in the Neg head position and the negated constituent is in Spec,FP. It is an additional empirical generalization that it is the particle that carries the main stress (and the focused constituent is stressless, i.e. they make up a phonological word), see Footnote 12. I find it a very important fact that when a focused constituent is preceded by an *NW+nem* combination, *nem* is obligatorily unstressed, just like *NW+sem* and *XP+sem* in this configuration (and in all their other occurrences). Consider a shorter version of (15) from Section 5.1.1, repeated here as (i) for convenience.

(i) *Senki* *nem/sem* [$_{FP}$ A FELESÉGÉT hívta fel]
nobody not/also_not his wife.ACC called up
'Nobody called up HIS WIFE.'

In my opinion this lends considerable prosodic support to the claim that *nem* makes up a constituent with NW, and in this *NW+nem* combination it has the same enclitic particle status as *sem* in *NW+sem*.

(75) 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. nonpronominal) or nonderived 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.[82]

Now consider the example in (76) and its c-structure representation in Figure 11 (next page).

(76) *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.'

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*.

[82] 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, 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 (at least in the version of Hungarian I am modelling, which I also speak). This fact may yield independent motivation for treating this case differently.

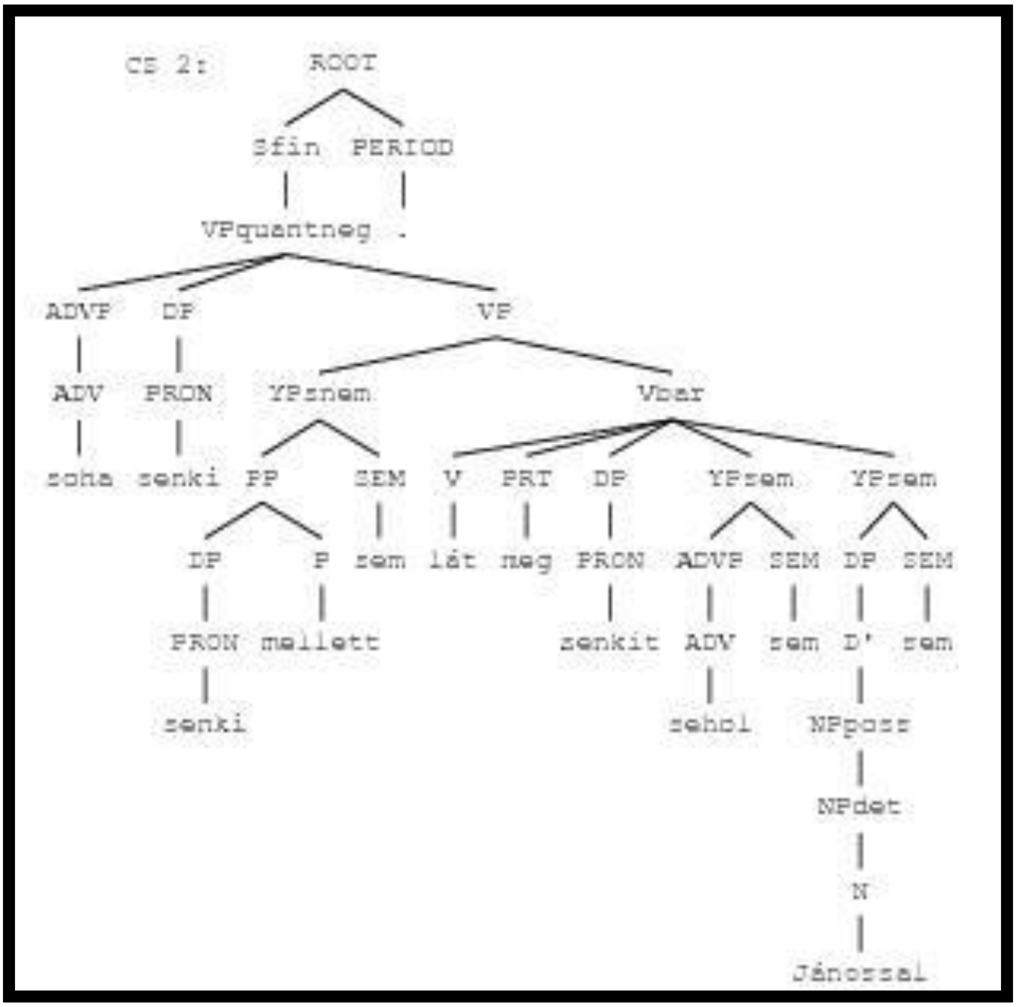

Figure 11. The c-structure of (76)

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[83] 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.

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

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

(79) *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 (77) 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 sentence. (78) demonstrates the fact that the constituent preceding *sincs* must be interpreted as the focus. (79) illustrates the fact

[83] In the existential, locative and possessive uses of the copula.

that an n-word can be combined with either *nincs* or *sincs*, cf. its combinability with either *nem* or *sem*. I only show the c-structures of (78) and (79) in Figure 12. In the latter, I present the *nincs* version.

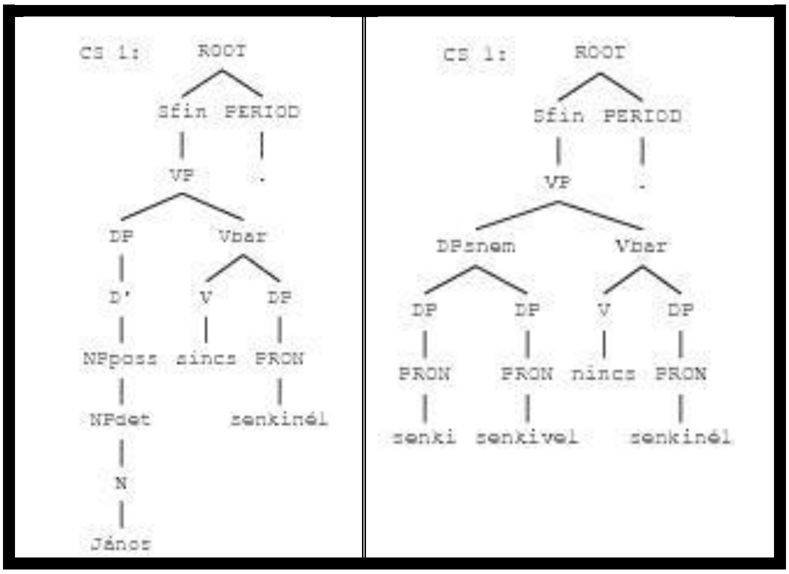

Figure 12. The c-structures of (78) and (79)

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

(80) *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 focused element: an n-word or an ordinary constituent; thus, instead of the disjunction in (80) 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.

(81) 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.

5.3. Conclusion

In this chapter, after presenting the basic negation facts in Hungarian and discussing some salient nonLFG generative approaches (5.1.1-5.1.3), I proposed a general LFG-XLE framework for the treatment of the fundamental types of negation (5.1.4) by capitalizing on É. Kiss' (1992) empirical generalizations and on the key structural aspects of her GB analysis. Then in Section 5.2, I modified and augmented this LFG-XLE analysis 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 generation efficiency, I made use of the standard XLE devices: special syntactic categories: NEG and SEM, and specifically labelled phrasal projections: YPsnem and YPsem.

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

In the spirit of Forst et al. (2010) and Laczkó & Rákosi (2011), in my analysis I use the nonprojecting 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 nonprojecting variants. The nonprojecting 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 nonprojecting word. Moreover, technically it would also be possible to do without the nonprojecting 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'.[84]

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

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

assume that negative particles are adverbs and they project ADVPs, and these (special) ADVPs occupy the positions my nonprojecting 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.

Chapter 6. Copula constructions and functional structure

The analysis of various types of copula constructions (CCs) within and across languages poses a considerable number of challenges for formal approaches, including a variety of generative models. A thoroughgoing and comparative investigation of the pertinent issues and existing solutions as well as the development of a comprehensive treatment of the major CC types in the given framework would require a whole separate dissertation. Therefore, my goals here are much less ambitious. This chapter can be considered to be a case study addressing the following two main questions from an LFG perspective. (i) What are the formal-strategic differences between MP and LFG approaches? (ii) What role should be attributed to f-structure representation in the analysis of various CC types in LFG? I confine this discussion to the following Hungarian CCs.[1]

(1)	*Az*	*igazgató*	*okos/tanár*	*volt.*		[attribution or
	the	director.NOM	clever/teacher.NOM	was		classification]
	'The director was clever / a teacher.'					

(2)	*Az*	*igazgató*	*volt*	*a*	*szóvivő.*	[identity]
	the	director.NOM	was	the	spokesman.NOM	
	'The director was the spokesman.'					

(3)	*Az*	*igazgató*	*a*	*szobá-ban*	*volt.*	[location]
	the	director.NOM	the	room-in	was	
	'The director was in the room.'					

(4)	*Voltak*	*boszorkány-ok*	*(a*	*Föld-ön).*		[existence]
	were	witch-PL.NOM	the	Earth-on		
	'There were witches (on the Earth).'					

(5)	*Az*	*igazgató-nak*	*volt*	*szóvivő-je.*		[possession]
	the	director-DAT	was	spokesman-his.NOM		
	'The director had a spokesman.'					

The structure of this chapter is as follows. In Section 6.1, I pave the theoretical and comparative empirical way for the discussion and analysis of Hungarian CCs by presenting some salient approaches to the major types of English CCs. In Section 6.2, I discuss, in a detailed fashion, Hegedűs' (2013) treatment of a whole range of Hungarian CC types. This is a recent and comprehensive MP approach. In the discussion I will relate it to several general MP assumptions as well as to some alternative MP accounts of Hungarian CCs. In Section 6.3, I present my comprehensive LFG analysis of the five Hungarian CC types shown in (1)-(5). I conclude in Section 6.4.

6.1. On English CCs and aspects of their GB/MP analyses

English CCs are typically classified in the following way: (i) predicational, see (6), (ii) specificational, see (7), (iii) equative, see (8), and (iv) existential, see (9).

[1] I will use this classification and these examples when I present my LFG analysis in Section 6.3.

(6) a. Mary is smart.
    b. Mary is a student.
    c. Mary is in the kitchen.

It is generally assumed that all the three sentences in (6a-c) attribute a property to Mary, which is expressed by the adjectival, nominal and prepositional phrases, respectively.

(7) a. Mary is the best competitor.
    b. The best competitor is Mary.

(8) a. The Morning Star is the Evening Star.
    b. The Evening Star is the Morning Star.

The main difference between the specificational sentences in (7) and the equational sentences in (8) is as follows. In the former it is only the DP *Mary* that is referential, and the other constituent, *the best competitor,* is nonreferential, despite the fact that it is expressed by a definite DP. By contrast, in (8) both constituents are referential.

(9) a. There is a book on the table.
    b. There are witches.

In the case of existential CCs like those in (9) the fundamental analytical question is whether *there* is a genuine expletive or it is a meaningful argument of some sort in the structure. For a discussion of a variety of views and an account, see Hartman (2008).

The classification of these English CCs and my classification of the Hungarian types in (1)-(5) compare in the following way. My attribution/classification examples in (1) correspond to the two predicational types in (6a,b). For reasons to be explained in Section 6.3, I analyze the locative use of the predicate differently (and separately) from the "predicational" use, cf. (3) and (6c). In addition, I assume that the existential use of the copula is also a distinct type, but it is closely related to the locative use. My identity type is the same as the English equative type. In addition, I assume that the Hungarian counterpart of the English specificational type is only a subtype of my attribution/classification type.[2] Furthermore, as Hungarian expresses possession by a CC at the clause level, the possessive use of the copula also needs to be distinguished. As I will show in Section 6.3, I analyze these possessive CCs differently from Szabolcsi's (1992) classical and seminal GB analysis, the fundamental claim of which is that these sentences contain an existential copula which has a possessive DP (subject) argument, and the dative-marked possessor is obligatorily extracted from this DP.

In what follows I only highlight those salient aspects of GB/MP analyses of English CCs that are directly relevant for the purposes of this chapter, either from the perspective of a GB/MP and LFG comparison or from the perspective of similarities and differences between certain English and Hungarian CC types. This summary capitalizes on Hegedűs' (2013) overview, and it also discusses her MP analysis.

Stowell (1978) proposed that English *be* should be analyzed as a raising verb that takes a Small Clause (SC) complement whose structural subject is raised to the subject position of the matrix clause.[3] See the skeletal representation of (6a-c) in this vein in (10a-c), respectively.

[2] For a brief comparison of the English and Hungarian specificational variants, see below where I discuss Moro's (1997) and Heycock & Kroch's (2002) analyses.

[3] As I will point out in Section 6.3, Bresnan (1982b) gives an LFG style raising predicate analysis of the copula in English passive sentences.

(10) a. be [$_{SC/AP}$ Mary smart]
b. be [$_{SC/NP}$ Mary a student]
c. be [$_{SC/PP}$ Mary in the kitchen]

It is a fundamental question in generative approaches whether there is only one *be* in English (or in languages in general). The two major views are as follows. (i) There is only one *be* and one underlying structure, and the different uses of the copula (see the CC types above) can be captured by different syntactic derivations. As I will point out below, Hegedűs (2013), Dikken (2006), among others, subscribe to this view. (ii) There are two *be*-s, but, of course, still different transformations are needed to generate all the CC types.[4] For instance, Heycock & Kroch (1999) argue that in equative sentences *be* connects two DPs, and both DPs can be shown to be referential,[5] which makes such a CC different from predicative CCs. In equative CCs, thus, there is no predication relation between the two DPs: but they are both arguments of *be*.[6]

Moro (1997) assumes that specificational copular sentences involve inversion around the copula ("inverse copular structures"): the predicate of the SC-complement of *be* moves to the subject position. In this approach (7a) is an ordinary instance of subject-to-subject raising, and (7b) is its inverse counterpart, in which the predicate of the SC is raised. Dikken (2006) makes a similar generalization: we can analyze the relevant CCs by postulating a single *be* and a single underlying structure involving SC-complements to *be*, and their typological contrasts are dependent on whether the subject or the predicate of the SC is raised to the matrix subject position, cf. canonical vs. inverse copular sentences. Heycock & Kroch (2002), among others, assume that in specificational copular clauses it is for informational structural reasons that inverse, i.e. predicate, movement to the matrix subject position takes place: the predicate is the topic and the subject is the focus (new information). In Dikken's (2006) view, in equative sentences there are no such informational structural differences; instead, the trigger of the movement is the satisfaction of the Extended Projection Principle (EPP).

6.2. Hegedűs (2013) on Hungarian CCs

In this section I discuss Hegedűs' (2013) account[7] of the most basic types of Hungarian CCs[8] at relatively great length for the following reasons. (i) It is the most recent comprehensive MP analysis Hungarian CCs. (ii) It adapts the two crucial aspects of the mainstream crosslinguistic MP approach to copular and predicative constructions: the postulation of small clauses, see the previous section, and complex predicate formation. (iii) Thanks to (i) and (ii),

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[4] Especially in languages like Hungarian, in which the constituents of these CC types exhibit partially and remarkably different syntactic behaviours, see Section 6.3.

[5] For instance, Hegedűs (2013) points out that it is only referential DPs that can take nonrestrictive relative clause modification. Consider her (i) predicational and (ii) specificational vs. (iii) equative examples.

(i) a. *John is a doctor, who is always very helpful.
b. John, who is always very helpful, is a doctor.

(ii) a. The best candidate is John, who is my friend.
b. *The best candidate, who is my friend, is John.

(iii) Spiderman, who is a superhero, is Peter Parker, who is a journalist.

Given the definiteness of *the best candidate* in (ii), specificational CCs seem to be an in-between type in the predicational vs. equative contrast; however, its nonreferentiality fundamentally lumps specificational and predicational CCs together.

[6] My LFG analysis of equative CCs will be similar in spirit.

[7] But I also mention alternative MP views where appropriate from the perspective of the present chapter.

[8] The only major type missing from her picture is the possessive CC, which I also analyze in Section 6.3.

it provides an excellent basis for a GB/MP vs. LFG comparison, one of the two main objectives of this chapter. In Chapter 3, dealing with VMs, I offered a detailed discussion of Hegedűs’ (2013) overall approach to various types of VMs and the GB/MP views she capitalizes on, along the SC and (syntactic) complex predicate formation lines, see Section 3.1.1. Here I only present the most fundamental aspects of her analysis of Hungarian CCs in this general SC–complex predicate approach.

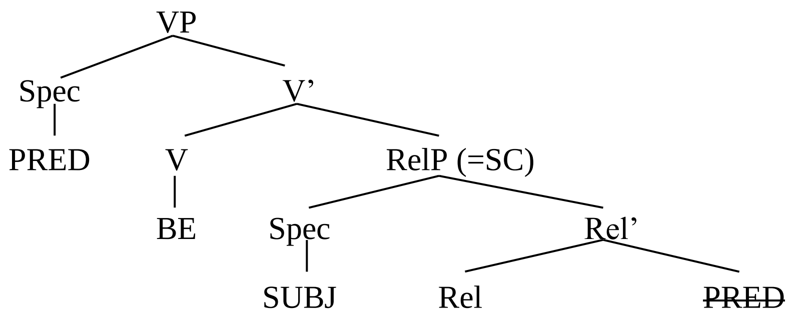
Hegedűs describes the essence of her analysis of Hungarian CCs as follows.

> The main claim in the case of copular clauses[9] is that the predicate of the SC-complement of BE moves into the preverbal position during the derivation of the clause and forms a syntactically complex predicate with the copula. Existential sentences are different, however, in that there is no complex predicate formation with the SC-predicate. This difference in structure correlates with the difference between the so-called categorical statements and thetic sentences (cf. Kuroda 1972). Existential sentences are furthermore differentiated from locative clauses in that the former but not the latter require focus on the verbal element (2013: 46).

On the basis of Broekhuis & Hegedűs (2009), she also claims that in the case of nonneutral sentences there is no complex predicate formation in the derivation.[10]

Hegedűs schematizes her complex predicate formation analysis as in (11) below (2013: 61).

(11)



In her approach, all Hungarian CCs share the $[_{VP} \ldots [_{V'}$ BE $[_{RelP}$ SUBJ $[_{Rel'}$ Rel PRED]]]] underlying structure, but the complex predicate formation depicted in (11) is only characteristic of copular sentences (with adjectival, nominal or locative predicates in their SCs), while existential, “locative”,[11] specificational and equative CCs do not exhibit this kind of complex predicate formation.

Hegedűs argues that in all Hungarian CCs there is a copula selecting a SC and it sits in V for two reasons. (i) Predicates in copular sentences manifest typical VM behaviour.[12] (ii) This can be used to capture the variation between copular and existential/locative sentences, and, she adds, BE appears to be lexical in existential sentences.

As regards the treatment of sentences without an overt copula, Hegedűs assumes that the copula is present in the structure in these cases as well, but it is not spelt out when the default

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[9] In her view, the Hungarian counterparts of all the three types of copular clauses belong here.

[10] In Chapter 5 in Hegedűs (2013), she points out that in the MP literature there are two main views of predicate movement in Hungarian: the trigger is semantic or syntactic complex predicate formation (the latter being motivated by feature checking requirements). For the details of the comparison of the two views, see that chapter. These details do not concern us in this dissertation, given that LFG rejects either type syntactic operation, and it uses lexical and syntactic annotational devices to capture the relevant facts and empirical generalizations, see Section 3.2.2 in Chapter 3 and Section 6.3 in this chapter.

[11] For my comments on Hegedűs’ distinguishing between copular CCs with a locative predicate and locative CCs, see below.

[12] See Chapter 3 in this dissertation.

present tense 3rd person features are encoded by the adjectival or nominal predicate. In the third person, there is full agreement between the subject and the nominal or adjectival predicate, and this licenses a silent copula. Hegedűs claims that the reason why the copula has to be spelled out in copular clauses with PP predicates is that PPs cannot express number agreement. Compare (12a,b) with (12c).[13]

(12) a. Mária okos.
Mary.NOM smart
'Mary is smart.'

b. Mária diák.
Mary.NOM student
'Mary is a student.'

c. Mária a konyhá-ban van.
Mary.NOM the kitchen-in is
'Mary is in the kitchen.'

MP approaches vary considerably with respect to the treatment of the absence of overt copulas and the category of the copula. For instance, É. Kiss (2002), on the basis of some (contrastive) topicalization facts, assumes that when there is no overt copula, which is a V categorially, there is no verbal projection, either: there is a matrix SC (AP or NP). By contrast, Dalmi (2010), who distinguishes two BEs, claims that there is always a copula in a CC, which occupies the T head position (as an inflectional element), and, consequently, there is a zero copula in seemingly verbless sentences. Kádár (2006) proposes a different analysis of sentences without an overt copula. She assumes that the subject is adjoined to predicative APs and NPs. No VP is projected but TP is projected. She posits a SC only in her analysis of specificational/equative sentences. Categorially it is a Predicative Phrase, and the Pred head mediates between the subject and the predicate. In her approach, too, the copula is generated in the T head position in specificational sentences, and it is covert when there are no features to spell out.[14]

As regards specificational sentences, which contain two definite DPs, Hegedűs (2013) points out that the referentiality and the predicative nature of these DPs is the central issue. For instance, Enç (1991) assumes that definite DPs are referential by definition. By contrast, Williams (1983), among others, claims that their referentiality vs. nonreferentiality is dependent on what environment they occur in. Hegedűs subscribes to the latter view. Compare her examples (2013: 64).

(13) a. János az utolsó jelölt volt.
John the last candidate was
'John was the last candidate.'

b. Az utolsó jelölt most ment haza.
the last candidate now went home
'The last candidate has just gone home.'

She emphasizes the fact that *az utolsó jelölt* 'the last candidate' is predicated about *János* 'John' in (13a), while it is the referential subject of (13b). Then, accepting Kádár's (2006)

[13] The sentences in (12a-c) are the Hungarian counterparts of the English copular sentences in (6a-c).
[14] For a more detailed discussion of these alternative MP views, see Hegedűs (2013).

generalization to the effect that Hungarian specificational CCs are nonneutral sentences, she shows that it is possible to draw a parallel between English and Hungarian specificational sentences. Consider her examples again (2013: 64).

(14) a. John was the best candidate.
b. The best candidate was John.

(15) a. JÁNOS volt a legjobb jelölt.
John was the best candidate
'The best candidate was John.'

b. A legjobb jelölt JÁNOS volt.
the best candidate John was
'The best candidate was John.'

As was pointed out in Section 6.1, it is a rather generally assumed MP view that English specificational sentences, see (14b), are inverse copular constructions: it is predicate and not subject raising that takes place in them.[15] This has an information structural motivation. The movement of *the best candidate*, the predicate of the SC, to the matrix subject position makes it, at the same time, the topic of the sentence. Hegedűs claims that in the Hungarian counterpart of an English specificational sentence the subject DP occupies the preverbal focus position (15a,b) and the predicate DP occurs either postverbally (15a) or preverbally as a contrastive topic (15b).[16]

Now consider Hegedűs' further examples of the intricacies of specificational CCs (2013: 65).

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[15] See Moro (1997), Heycock & Kroch (2002), and Dikken (2006), among others.

[16] So according to Hegedűs, both (15a) and (15b) are specificational CC counterparts of the English sentence in (14b). We can add that the parallel is not entirely complete. On the one hand, (14b) seems to contain an ordinary topic (coinciding with the subject), while (15b) is clearly a contrastive topic. On the other hand, in (15a) the SC predicate has no discourse function. Also note that the Hungarian counterpart of the noninverse CC in (14a) is as follows.

(i) János a legjobb jelölt volt.
John the best candidate was
'John was the best candidate.'

Here the subject, *János* 'John', is not focused: it is an ordinary topic, and the predicate, *a legjobb jelölt* 'the best candidate' has the customary VM status (although it can also be focused, just like several other VMs, see Chapter 3). This is clearly shown by the fact that it can be put in the following set of VMs.

(ii) János jelölt volt.
John candidate was
'John was a candidate.'

(iii) János jó (jelölt) volt.
John good candidate was
'John was a good candidate / good.'

(iv) János jobb (jelölt) volt (, mint …).
John better candidate was than
'John was a better candidate / better (than …).'

(i') János a legjobb (jelölt) volt.
John the best candidate was
'John was the best (candidate).'

(ii) is a predicational CC with a (bare) nominal predicate. (iii) is a predicational CC with a bare nominal predicate modified by an adjective or with an adjectival predicate. (iv) is a predicational CC with a bare nominal predicate modified by an adjective or with an adjectival predicate (the adjective is in its comparative form). (i') is a predicational CC with a definite DP nominal predicate modified by an adjective or with a special adjectival predicate (the adjective is in its superlative form). This set of examples shows that the specificational CC in (i) is somewhere between predicational and equative CCs.

(16) a.

A	LEGJOBB	JELÖLT	lesz	az	elnök.
the	best	candidate	will.be	the	president

‘The best candidate will be the president.’

b.

AZ	ELNÖK	lesz	a	legjobb	jelölt.
the	president	will.be	the	best	candidate

‘The president will be the best candidate.’

(17) a.

A	LEGJOBB	JELÖLT	lesz	Hamlet.
the	best	candidate	will.be	Hamlet

‘The best candidate will be (=play) Hamlet.’

b.

A	legjobb	jelölt	Hamlet	lesz.
the	best	candidate	Hamlet	will.be

‘The best candidate will be Hamlet.’

Hegedűs’ comments are as follows. (i) In DP-be-DP CCs in which both DPs are definite descriptions, i.e. neither of them is a proper name, either can function as the predicate, and, consequently, either can be the subject. It is the DP in the structural focus position that is taken to be the subject. Thus, although both (16a) and (16b) are possible, their interpretations are different. In (16a) *a legjobb jelölt* ‘the best candidate’ is the subject and *az elnök* ‘the president’ is the predicate. On this scenario, the person turning out to be the best candidate will become the president. In (16b) we find the mirror image of the previous scenario. (ii) (17a) illustrates the fact that even a proper name can be coerced into a predicative interpretation. The definite description *a legjobb jelölt* ‘the best candidate’ is the referential focused subject of the sentence (just like in (16a)), and the proper name *Hamlet* is interpreted as a role. (iii) (17b), the ordinary predicational version, in which *Hamlet* is preverbal, is multiply ambiguous information structurally. If *a legjobb jelölt* ‘the best candidate’ is referential, i.e. it has the subject function in its SC, it is the topic of the sentence, and *Hamlet* is the predicate of the SC, and in the matrix clause it is an ordinary or a focused VM. Alternatively, if *a legjobb jelölt* ‘the best candidate’ is used predicatively in its SC, it can only have a contrastive topic discourse function, and *Hamlet*, the referential subject of the SC is the focused subject of the matrix clause.

Next, Hegedűs (2013) points out that the ordinary vs. inverse predicational nature of an English SC can be tested by embedding it under a *consider*-type verb.[17] Compare her examples.

(18) a. I consider John (to be) the best candidate.
b. I consider the best candidate *(to be) John.

The essence of this diagnostic is that a canonical predicational CC admits a bare SC as the complement of the matrix verb (18a), while in the inverse version *be* must always be present (18b). Hegedűs remarks and exemplifies that this test works somewhat differently in Hungarian, see her examples below.

[17] See Doron (1988), among others.

(19) a. JÁNOS-T tartom a legjobb jelölt-nek.
John-ACC consider.1SG the best candidate-DAT
'I consider John the best candidate.'

b. A LEGJOBB JELÖLT-ET gondolom János-nak.
the best candidate-ACC think.1SG John-DAT
'I believe the best candidate to be (named) John.'

(20) a. A LEGJOBB JELÖLT-ET tartom az elnök-nek.
the best candidate-ACC consider.1SG the president-DAT
'I consider the best candidate the president.'

b. Az ELNÖK-ÖT tartom a legjobb jelölt-nek.
the president-ACC consider.1SG the best candidate-DAT
'I consider the president the best candidate.'

Hegedűs (2013) emphasizes the fact that even in an equative sentence one of the two referential DPs (both of which can be modified by nonrestrictive relatives) functions as the subject and the other functions as the predicate.[18] In this context she also makes the following comparative generalizations.

> If we take É. Kiss's (2006b) observation that referential definite expressions always receive an identificational interpretation in a predicative position (which she also assumes to include the focus position), we may have an explanation of the difference between equatives and the other nominal predicational structures. Predicational and specificational clauses always have a nonreferential predicate, even when it is a DP, but equatives have two referential DPs, so no matter which DP is preverbal, it will have an identificational interpretation, which is the interpretation we assign to focus as well. The fact that equatives have no neutral interpretational variant is then due to the referentiality of the DPs, while the focus requirement on the subject of specificational clauses is just the way the sentence type itself is identified. Predicational sentences are the only ones that are neutral and thus exhibit predicate movement and complex predicate formation between the copula and the nominal predicate on the surface (2013: 69).

I think the above generalizations about the grammatical relations in equative sentences are not entirely correct, and the reason for this is that they typically concentrate on 3rd person DPs.

[18] She points to a diagnostic proposed by Hartmann & Hegedűs (2009), the essence of which is that if we make the equative SC the complement of a 'consider' type predicate then the object DP will be identified as the subject of the SC and the dative-marked DP will be taken to be the predicate of the SC. Consider her examples (2013: 68).

(i) *[$_{TopP}$ Pókember-nek [$_{FocP}$ Peter Parker-t tartottuk]].
Spiderman-DAT Peter Parker-ACC considered.1PL
'We considered Peter Parker to be Spiderman.'

(ii) [$_{CT}$ Pókember-nek [$_{FocP}$ Peter Parker-t tartottuk]].
Spiderman-DAT Peter Parker-ACC considered.1PL
'As for being Spiderman, we considered Peter Parker to be that.'

The essence of their test is as follows. The dative-marked DP can only be the contrastive topic of the sentence containing *tart* 'consider' (ii), and it cannot be its ordinary topic (i). "This is due to the fact that regular, but not contrastive, topics have to be referential and specific, so the fact that the dative-marked DP can only be a contrastive topic is explained if it is predicative" (2013: 68). I think this test is valid; however, it seems to me that *Pókember-nek* 'Spiderman-DAT' has not become less referential and less specific than when it is used in an ordinary equative CC, in the case of which Hegedűs, too, assumes that both DPs are referential. For this reason, I reckon a better way of describing these facts would be along the following lines. From the referentiality and specificity requirements imposed on regular topics it naturally follows that they cannot be predicative at the same time. Now the really distinguishing property of the nonsubject of an equative SC is that it is referential and specific, and, at the same time it is also predicative. And it is this latter feature that blocks its use as a regular topic.

However, if we consider other persons, a partially different picture emerges. It is always the subject DP that occurs preverbally in a sentence which can be taken to have the most natural word order. In this case it does not have the typical id-focus stress and interpretation, see the examples in (21).

(21) a. Ez jó munkamegosztás volt.
this good division_of_labour was
'This was a good division of labour.'

b. Én voltam az igazgató, te voltál a titkár,
I was the director you.SG were the secretary
és Kati volt a gépíró.
and Kate.NOM was the typist
'I was the director, you were the secretary, and Kate was the typist.'

In the context of (21a), (21b) is naturally interpretable in such a way that the two pronouns, *én* 'I' and *te* 'you.SG'[19] and *Kati* 'Kate', because for the hearer this can be just a reminder of a past situation which is familiar to them anyhow. At least in my idiolect, on this reading these DPs do not have (contrastive) id-focus stress and interpretation. I would say that they rather have a VM status or a presentational focus status, or a hocus status (in the sense of Kálmán (2001), among others). But, of course, the id-focus stress and interpretation is an option in this case, too, and then the other DP can also occupy the preverbal, id-focus position. Compare (22a) and (22b).

(22) a. ÉN voltam az igazgató (, és nem te).
I was the director and not you.SG
'It was me who was the director (, and not you).'

b. Én AZ IGAZGATÓ voltam (, és nem a titkár).
I the director was and not the secretary
'I was THE DIRECTOR (, and not the secretary).'

Evidence for the subject status of the DP in the preverbal position in a nonid-focus construction is provided by examples in which the DP in question is 3^{rd} person and the other DP is a 1^{st} or 2^{nd} person pronoun. (The English counterpart seems to be acceptable, which can be explained by the fact that in this way the pronoun can occupy an end-focus position.)

(23) *Az igazgató / IGAZGATÓ volt én/te.
the director was I/you.SG
'The director / DIRECTOR was me/you.SG.'

And more generally, the subject choice in equative constructions in Hungarian is constrained by the person features of the DPs:[20] $1^{st} = 2^{nd} > 3^{rd}$.

[19] It is an important requirement that the pronouns in these constructions must always be overt: no pro-drop is possible. This fact lends additional support to my claim that in these constructions the preverbal occurrence of a pronoun is possibly but not necessarily an instance of focusing: we have no choice but to use the pronoun. By contrast, in cases of real pro-drop the widely accepted generalization is that a droppable pronoun is typically used overtly for discourse functional purposes.

[20] Although I have the equals sign between 1^{st} and 2^{nd}, it seems to be the case that in a nonid-focus construction, if *én* 'I' and *te* 'you.SG' are involved, the subject function of the 1^{st} person pronoun is preferred. In an id-focus context the 2^{nd} person subject is also fully acceptable. A 3^{rd} person DP (whether ordinary or pronominal) cannot be the subject if the other DP is

Let me also point out that I do not find the *Peter Parker–Pókember* 'Spiderman' type examples of equative sentences the best examples, because in this story Peter Parker, in an important sense, plays a role, and this is similar to an actor's playing the part of Hamlet on the stage, for instance.[21] I think the sentences in (24) and (25) are much more appropriate examples of ordinary equative CCs.

(24) 2013-ban a tanszék vezető-je volt az intézet igazgató-ja (is).
2013-in the department head-its was the institute director-its also
'In 2013 the head of the department was (also) the director of the institute.'

(25) 2013-ban az intézet igazgató-ja volt a tanszék vezető-je (is).
2013-in the institute director-its was the department head-its also
'In 2013 the director of the institute was (also) the head of the department.'

In (24) *a tanszék vezetője* 'the head of the department' is the subject and *az intézet igazgatója* 'the director of the institute' has a special function. According to the standard MP assumption, it has a predicative function. By contrast, sharing Heycock & Kroch's (1999) view, I assume that BE is the (only) predicate and *az intézet igazgatója* 'the director of the institute' is the second argument of BE, which is a two-place predicate expressing equality.[22] In Section 6.3, adopting the rather widely accepted LFG treatment of such constituents,[23] I will analyze it as having the PREDLINK grammatical function. In (25) the two constituents have the reverse functional distribution. My main claim is that neither constituent is more referential or less referential, more predicative or less predicative in either (24) or (25). Furthermore, as I

a 1st or 2nd person pronoun, see (23). Moreover, if two 3rd person DPs are involved, and one of them is ordinary and the other is pronominal, the latter will have the subject function.

[21] Of course, the two cases, actor—Hamlet and Peter Parker—Spiderman, are not fully identical, because if we place ourselves in the context of the fictitious story of the latter, the two "players" can be viewed as two distinct "individuals" on a par in that particular world, and we equate them when we find it out that the same person "embodies" them. Fiction produces several examples of this kind; another famous story is that of Zorro. My main point here is that both Spiderman and Zorro in these stories are "roles" which "ordinary(-looking) people" perform in their "other lives", and it is a crucial aspect of these stories that the people in them are generally not aware of these dualities. It is also noteworthy in this context that one of the most frequently cited examples of equative sentences, *Morning Star—Evening Star*, see (8a,b) above, actually manifests another special case: there is a single entity and it goes by two different names, and an equative CC simply spells out this identity. By contrast, in my examples in (24) and (25) the two "definite descriptions" are absolutely on a par, whether they are taken to describe a particular function or to refer to a particular individual, cf. the crucial referential vs. nonreferential issue. My main claim is that the statuses of the two DPs are exactly the same, and in an equative CC we can identify either the two functions or the two referents. What I definitely reject is the assumption that the semantic status of the nonsubject, i.e. the DP used predicatively, gets changed. My main claim, agreeing with Heycock & Kroch (1999), among others, see Section 6.1, is that "equative BE" is radically different from all other BEs in that it is a genuine two-place predicate, and it has a real equative function of (referentially or functionally) identifying its two arguments. Semantically, the two arguments are exactly the same, and it is only a (strong) syntactic requirement that there has to be a subject, and a single subject, in the sentence. From this it follows that I do not agree with an MP analysis that assumes that even in the case of equative CCs BE is a predicate that selects an SC, and in the SC the two arguments can alternate between the subject and the predicate roles. In such an approach the fundamental idea would be that these two choices involve two distinct semantic roles of the two constituents ("subject" vs. "predicate" – very often identified as "referential" vs. "nonreferential"). In the deep structure representation the SC configuration is supposed to encode a semantic distinction along these lines – and this seems to me to be rather implausible. Strictly semantically speaking the two DPs are exactly the same (either referentially or "functionally"), and it is only a purely syntactic requirement that in this construction as well there must be a "subject–predicate" functional division, which is further (morpho-syntactically) regulated by the person and number features of the two constituents.

[22] We can draw a straightforward parallel between the equative BE as a two-place predicate and the following two adjectival predicates in Hungarian: *egyenlő* 'equal' and *azonos* 'identical'.

(i) 2013-ban a tanszék vezető-je azonos volt az intézet igazgató-já-val.
2013-in the department head-its indentical was the institute director-its-with
'In 2013 the head of the department was identical to the director of the institute.'

[23] See Butt et al. (1999a), for instance.

claimed in connection with the example in (21b) above, at least in my idiolect, the preverbal subject in these equative CCs is not necessarily a focused constituent.[24] I think the examples in (24) and (25) even more clearly support this view. Either of them can be said "out of the blue" with an intonation pattern typical of neutral sentences and without any presupposition of any contrast, which would be necessary for an ID-focus interpretation.

Hegedűs (2013) distinguishes three types of BE + SC combinations in which the SC is a PP categorially:[25] (i) copular clauses, (ii) locative sentences, and (iii) existential sentences. Consider Hegedűs' (2013: 80) example in (26).

(26)	A	macska	a	tető-n	van.
	the	cat	the	roof-SUP	is
	'The cat is on the roof.'				

She points out that É. Kiss (1995b) assumes that the preverbal PP in sentences like (26) is always focused, which is the explanation for why existential BE does not have to respect the Definiteness Effect (DE): focusing neutralizes the DE. Hegedűs, however, argues that although the focus treatment of this PP is a possibility, the sentence can also have a neutral interpretation.[26] Her evidence comes from the two different ways in which (26) can be negated.

(27)	a.	A	macska	nincs	a	tető-n.					
		the	cat	isn't	the	roof-SUP					
		'The cat isn't on the roof.'									
	b.	A	macska	nem	a	tető-n	van	(, hanem	a	fá-n).	
		the	cat	net	the	roof-SUP	is	but	the	tree-SUP	
		'The cat is not on the roof (but in the tree.'									

(27a) is the negation of the neutral version of the sentence, while (27b) is the negation of the focused version.

The following quote from Hegedűs (2013) is very important from the perspective of this chapter.[27]

> This sentence in (26) is not an existential construction, but a predicational copular clause, which do (sic!) have definite subjects. I believe that this is not because there is a different BE in this sentence, but because by moving the PP to the preverbal position, the main predication is no longer about existence, but about being in a certain location. I propose that, similarly to nominal and adjectival predicates, predicative PPs move to the preverbal position in order to form a complex predicate with the verb. As for its semantic content, this sentence type is a predication about an entity and thus a categorical statement (cf. Kuroda 1972).[28]

[24] As opposed to É. Kiss' (2006b) and Hegedűs' (2013) assumption to the contrary, see above.

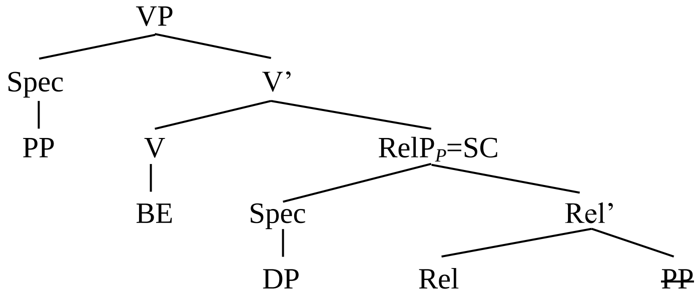
[25] She analyzes both postpositional phrases and (oblique) case-marked noun phrases as PPs.

[26] Recall that I make a similar claim in the case of equative CCs as well, contra É. Kiss (2006b) and Hegedűs (2013), among others.

[27] Her example number was (98).

[28] Hegedűs' example number was (100).

(28)



> Predicate movement creates a complex predicate and the subject of the SC becomes the subject of the PP+V complex as well. A consequence of this is that we observe the opposite of the DE, namely, a restriction that the subject be specific. (29)[29] cannot be uttered out of the blue and only has a coherent interpretation when we are speaking about a specific cat.
>
> (29) Egy macska a tető-n van.
> a cat the roof-SUP is
> 'A (certain) cat is on the roof.'
>
> Copular clauses are different from existential and locative constructions in that they are categorical statements, the predication is about a logical subject and that logical subject has to be specific (2013: 80-81).

Hegedűs assumes that existential sentences are not categorical: they are thetic. Categorical sentences make statements about properties of individuals, e.g. copular sentences have this function. Thetic sentences, for instance existential sentences, describe/present situations. Hegedűs claims that both examples in (30) are thetic existential sentences.

(30) a. Van egy macska a tető-n.
is a cat the roof-SUP
'There is a cat on the roof.'

b. (Egy) macska van a tető-n.
a cat is the roof-SUP
'There is a cat on the roof.'

Hegedűs states that the bare noun in (30b) has the status of a VM (on account of its complementarity with focus), although in her analysis this bare noun is the subject of predication in the SC. The (30b) construction type, as opposed to the (30a) type, is grammatical if there is a PP in the sentence. Compare her examples in (31).

(31) a. Vannak egyszarvúak.
are unicorns
'There are unicorns.'

b. *Egyszarvúak vannak.
unicorns are
'There are unicorns.'

c. Vannak egyszarvúak a kert-ben.
are unicorns the garden-INE
'There ARE unicorns in the garden.'

[29] (101) in Hegedűs (2013).

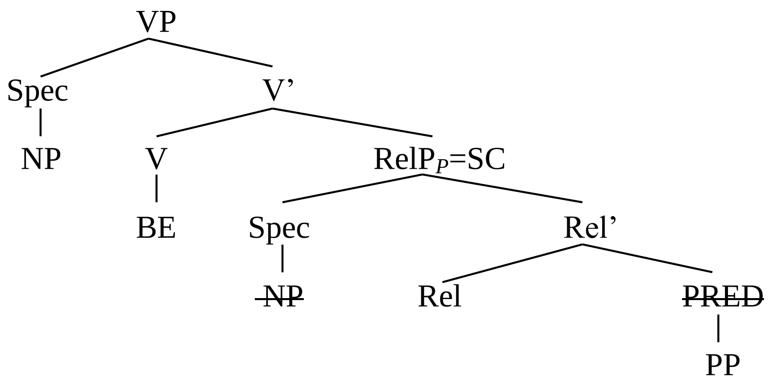
d. Egyszarvúak vannak a kert-ben.
unicorns are the garden-INE
'There are unicorns in the garden.'

Hegedűs says that the type exemplified in (31a,c) is the "true" existential sentence, and the type exemplified in (31d) is a locative sentence with a predicative PP. According to Hegedűs, their distinguishing properties are as follows.

- Existential sentences require verb focus.
- The existential interpretation is due to the focusing of the verb: although the existential meaning of the copula is rather bleached, focusing reinforces this lexical meaning with its contrastive aspect.
- In locative sentences the copula can be taken to be a positional unaccusative verb, and it is not focused.
- In neutral locative sentences bare nominals must occupy the VM position, which is the general characteristic of bare nominals in sentences containing verbs other than the copula.
- Generally, indefinite nominals can occur postverbally as well, but they have to be preverbal in locative sentences (and sentences containing unaccusative verbs).

Hegedűs proposes the following analysis for these locative sentences.

(32)



The syntactic subject of the SC in this configuration is the nominal, and syntactically the PP functions as the predicate in the embedded predication.

Let me make some comments on Hegedűs' (2013) approach to BE sentences in Hungarian.

1. Hegedűs subscribes to general MP efforts to reduce the number of base-generated constructions as much as possible in the treatment of (potentially) related phenomena in the name of uniformity and universality, and to derive the surface differences between various construction types transformationally. Consequently, following Williams (1983), Heggie (1988), Moro (1997), and Dikken (2006), among others, she assumes that there is only one BE in the lexicon of Hungarian, and she derives all BE sentences from a base-generated configuration in which BE is an unaccusative verb taking a SC complement. Two general questions immediately arise about this analysis.
   a. On the basis of the discussion of Nőthig & Alberti (2014) and Bobaljik & Wurmbrand's (2002) in Section 1.2.6 in Chapter 1, the first question is this. What triggers and regulates the processes that bring about all the desired constructions and only them? Is there an "Input LF" in the sense of Bobaljik & Wurmbrand (2002) or some input semantics in the sense of Nőthig & Alberti (2014)?

Otherwise it would seem rather ad hoc and accidental that exactly the "desirable" constructions are generated, with all their specific properties.

b. A related question is whether such an account with its underlying assumptions and principles can be taken to be a plausible model of how speakers actually produce the constructions under investigation.

My claim is that a different, lexically based approach is more plausible in general, and my LFG analysis to be presented in Section 6.3 is a feasible instantiation of such an approach. In addition, LFG's architecture is also appropriate for accommodating a semantics based trigger for the relevant processes – for modelling actual sentence generation by speakers.

2. Hegedűs says that she does not analyze preverbal bare nominals because they do not follow the general small clause pattern she assumes for all the construction types she investigates (2013: 39). Thus, she excludes constructions like those in (33),[30] because they have been analyzed as cases of (semi-)incorporation, see, for instance, É. Kiss (1994), Maleczki (2001) and Farkas & de Swart (2003).

(33)	a.	Péter-nek	láz-a	van.		
		Peter-DAT	fever-POSS.3SG	is		
		'Peter has fever.'				
	b.	Péter	újságot	olvas	a	kertben.
		Peter	newspaper.ACC	reads	the	garden.INE
		'Peter is reading a newspaper/newspapers in the garden.'				

I think the exclusion of the (33b) type is justifiable, because it seems to represent a construction type rather different from the types investigated by Hegedűs.[31] As regards the (33a), it would be good to see how she would analyze it for the following reasons. (i) It seems that this is a rather productive construction type, consider the additional examples in (34) and (35).

(34)	Péter-nek	a.	szerencsé-je	volt	az	autó-val.
	Peter-DAT		luck-POSS.3SG	was	the	car-with
		b.	pech-je			
			mischance-POSS.3SG			
		c.	problémá-ja			
			problem-POSS.3SG			
	'Peter had good luck / bad luck / a problem with the car.'					

(35)	Péter-nek	a.	influenzá-ja	van.
	Peter-DAT		luck-POSS.3SG	is
		b.	szifilisz-e	
			syphilis-POSS.3SG	
		c.	csaskáliá-ja	
			"csaskália"-POSS.3SG	
	'Peter has influenza / syphilis / "csaskália".'			

[30] These are her examples.

[31] Even so, it would be interesting to see how she envisages its analysis for two reasons. (i) Several times, she refers to Komlósy's (1994) generalization to the effect that bare (i.e. nonreferential) nominals are secondary predicates. Under this assumption the following question arises. Could the bare accusative nominal in (33b) not be analyzed as forming a complex predicate with the verb? If not, why? (ii) This bare nominal is a VM according to Hegedűs as well. It would be informative to see her view of the analysis of such (other types of) VMs for a more complete picture.

As these examples show, in certain semantic domains this is a productive construction type. The strongest piece of evidence for this is that a nonsense word like *csaskália* in (35c) for the name of an imaginary illness can also occur in this structure. Intuitively, these constructions would naturally call for a kind of a complex predicate analysis, rather than incorporation, because the preverbal elements can easily be phrasal. For instance, in (34a) *szerencséje* 'luck.POSS.3SG' could be modified in the following way: *nagyon nagy szerencséje* 'very big luck.POSS.3SG'. (ii) Apart from the previous point, the fact itself that this construction type contains BE, it would be very important to see how Hegedűs analyzes other types of BE structures. (iii) In the same spirit, this construction is a special instance of possessive clauses, which generally contain BE as the verbal element in Hungarian. It would also be interesting to see Hegedűs' assumptions about possessive sentences in general, and the status/function of BE in particular.[32]

3. Hegedűs' claim that "true" existential sentences are acceptable without a locative PP needs to be made more precise, because there seems to be a constraint on this: countable nouns must be used in the plural, as singular forms are unacceptable without a PP. Compare (36) with (31a).

(36) Van egyszarvú *(az erdő-ben).
is unicorn the forest-in
'There are unicorns (in the forest).'

When I am presenting my LFG analysis, I will point out that constraints like this are rather naturally treatable in a lexicalist approach.

4. I find the SC approach attractive in the MP framework in general, because it is flexible enough to accommodate the movement of either of the two components of the SC into the preverbal position. However, some aspects of the analysis are not fully convincing for me. For instance, Hegedűs makes a sharp distinction between the following two construction types. Compare (26) and (30b), repeated here as (37) and (38), respectively.

(37) A macska a tető-n van.
the cat the roof-SUP is
'The cat is on the roof.'

(38) (Egy) macska van a tető-n.
a cat is the roof-SUP
'There is a cat on the roof.'

---

[32] It may well be the case that Hegedűs subscribes to Szabolcsi's (1992, 1994) analysis of Hungarian possessive sentences, but she does not state this. On Szabolcsi's widely accepted GB account, these sentences contain an existential BE which has a possessive noun phrase as its argument, and, because of the Definiteness Effect, the (dative) possessor moves out of the NP to make the definite NP indefinite. Three remarks are in order here.

(a) Szabolcsi (1992: 106) leaves the investigation of the following construction type to future research, because its word order and its intonation are different from those of ordinary possessive sentences.

(i) Péter-nek jó természet-e van.
Peter-DAT good nature-POSS.3SG is
'Peter has a good disposition.'

Notice that this is exactly the (productive) pattern exemplified by (33a), (34a-c), and (35a-c).

(b) Szabolcsi also points out that she has no explanation for why the extracted possessor must obligatorily become the topic of a possessive sentence.

(c) É. Kiss (2014) calls attention to a problematic aspect of Szabolcsi's analysis, and she offers an alternative solution. The problem is that it is not plausible to assume that if we move a constituent out of a definite noun phrase, this can turn that noun phrase into an indefinite one.

In Section 6.3, I will propose an analysis which assumes a possessive BE with two arguments and I will refer back to these remarks.

In Hegedűs' analysis, (37) is a "copular clause", in which the PP is predicative, and it forms a complex predicate with the verb (in neutral sentences). By contrast, (38) is a "locative clause", because in this case the (nonreferential, often bare) noun (phrase) occupies the preverbal position (in neutral sentences), and it does not make up a complex predicate with the verb, and the sentence has an existential reading. For me, from an LFG perspective, the (locative) PP has exactly the same function and status, and I find the copular vs. locative clause distinction unconvincing.

5. The next remark is closely related to the previous point. In my LFG analysis in Section 6.3, I make a sharp distinction between NP+BE and AP+BE constructions, on the one hand, and "PP"+BE constructions like (38), on the other hand. Although I admit that the uniform SC and complex predicate formation analysis of all the three types by Hegedűs makes sense and can be naturally accommodated in her MP framework, I think it is a more correct generalization that in the case of NP/AP copular clauses of the predicational/specificational types these categories are the "real" predicates, and the copula simply gives morpho-syntactic support, while "PP"-s are selected by a different BE with an argument structure. It is a two-place locative predicate.
6. I think the semantics and behaviour of "equative copular clauses" justifies a special treatment of BE in them. It is the copula itself that introduces the relevant identity relation between two entities. Thus, it is best analyzed as (another) two-place predicate. In my LFG account, therefore, I take it to be the main predicate of the sentence; as opposed to Hegedűs' analysis, in which one of the two referential DPs functions as the predicate (which is rather counterintuitive, theory-neutrally speaking), and the other is its subject.
7. I also think that the BE in existential sentences is, again, different enough from other BEs for us to treat it distinctly. First of all, it has its special 'exist' semantics and it is obligatorily stressed. In addition, it is closely related to locative BE: in my analysis both are two-place predicates, and their first argument is a theme and the second argument is a locative. This correspondence is also manifest indirectly in Hegedűs' approach. She assumes that the existential reading can be expressed by "true" existential sentences or "locative" sentences.
8. In addition to the BE-sentence types analyzed by Hegedűs, I will also develop an account of possessive sentences. I will show that the BE in possessive sentences and the BE in equative copular sentences have two significant properties in common: they are genuine main predicates with two arguments, and they assign the same two LFG style grammatical functions to these two arguments.
9. From my comments above, it should be straightforward that in my LFG analysis I will posit several lexical forms for BE, and I will encode the peculiarities of the constructions they occur in in these lexical forms.
10. Fundamentally, I will distinguish three main types of BE (with subtypes):
    a. BE without argument structure: in (copular) AP/NP predicational sentences (including the specificational type);
    b. locative BE (two-place predicate): in existential and locative sentences;
    c. identificational BE (two-place predicate): in equative and possessive sentences.

6.3. Towards developing an LFG analysis of Hungarian CCs

In this section,[33] I propose the outlines of the first comprehensive LFG analysis of the five most salient Hungarian CCs, partially reflecting on and capitalizing on empirical and theoretical generalizations and analyses in the relevant LFG literature (e.g., Butt et al. 1999a, Dalrymple et al. 2004, Nordlinger & Sadler 2007, Attia 2008, Sulger 2009, 2011). This may also result in a meaningful typological and theoretical contribution to LFG's understanding and handling CCs across languages.

As I anticipated in the introduction to this chapter, the following Hungarian CCs will be analyzed here. I repeat the examples from the introduction.[34]

(1)	*Az*	*igazgató*	*okos/tanár*	*volt.*		[attribution or
	the	director.NOM	clever/teacher.NOM	was		classification]
	'The director was clever / a teacher.'					

(2)	*Az*	*igazgató*	*volt*	*a*	*szóvivő.*	[identity]
	the	director.NOM	was	the	spokesman.NOM	
	'The director was the spokesman.'					

(3)	*Az*	*igazgató*	*a*	*szobá-ban*	*volt.*	[location]
	the	director.NOM	the	room-in	was	
	'The director was in the room.'					

(4)	*Voltak*	*boszorkány-ok*	*(a*	*Föld-ön).*	[existence]
	were	witch-PL.NOM	the	Earth-on	
	'There were witches (on the Earth).'				

(5)	*Az*	*igazgató-nak*	*volt*	*szóvivő-je.*	[possession]
	the	director-DAT	was	spokesman-his.NOM	
	'The director had a spokesman.'				

The structure of this section is as follows. In 6.3.1, I offer a brief overview of the main LFG approaches to CCs. 6.3.2, first I present my view of how CCs are best treated in an LFG framework, and then I develop my analysis of the five Hungarian CC types exemplified in (1)-(5).

6.3.1. Fundamental LFG approaches

The two main general LFG strategies for the treatment of CCs across languages are best illustrated by Butt et al. (1999) and Dalrymple et al. (2004). In the former approach, CCs are handled in a uniform manner functionally. The copula is always taken to be a two-place predicate, and the two arguments it subcategorizes for have the following two grammatical functions: there is a subject (SUBJ) (which is uncontroversial in any analysis of these constructions), and the other constituent is uniformly assigned a special, designated function designed for the second, "postcopular" argument of the predicate: PREDLINK. By contrast, in Dalrymple et al.'s (2004) approach, the two-place predicate, SUBJ and PREDLINK version is just one of the theoretically available options. In addition, they postulate that the copula can

[33] This section is a modified and augmented version of Laczkó (2012).

[34] In this section, I continue the numbering of further examples from (6).

be devoid of meaning (and, hence, argument structure) and it can serve as a pure carrier of formal verbal features: tense and agreement. Finally, it can also be a one-place predicate of the “raising” type: assigning the XCOMP function to its propositional argument and also assigning a nonthematic SUBJ function. When the postcopular constituent has the PREDLINK function, it is closed in the sense that if it has a subject argument, this argument is never realized outside this constituent. For obvious reasons, the XCOMP and the PREDLINK types involve two semantic (and functional) levels (tiers): the copula selects the relevant constituent as an argument. By contrast, when the copula is a mere formative, the two elements are at the same level (tier): the postcopular constituent is the real predicate and the copula only contributes morphosyntactic features. In LFG terms, they are functional coheads. All this is summarized in Figure 1.

postcopular constituent		
open		**closed**
main **PRED**, the copula is a formative: functional coheads (single-tier)	**XCOMP** of the copula main PRED: ‘be <XCOMP>SUBJ’ (double-tier)	**PREDLINK** of the copula main PRED: ‘be <SUBJ,PREDLINK>’ (double-tier)

Figure 1. Three types of copular constructions

In (7), (8) and (9) I show schematically how the English sentence in (6) can be analyzed along these three different lines.

(6) *She is small.*

(7)
$$\begin{bmatrix} \text{PRED} & \text{‘small < (}\uparrow\text{SUBJ) >’} \\ \text{TENSE} & \text{present} \\ \text{SUBJ} & \text{“she”} \end{bmatrix}$$

(8)
$$\begin{bmatrix} \text{PRED} & \text{‘be < (}\uparrow\text{XCOMP) > (}\uparrow\text{SUBJ)’} \\ \text{TENSE} & \text{present} \\ \text{SUBJ} & \text{“she”} \\ \text{XCOMP} & \begin{bmatrix} \text{PRED} & \text{‘small < (}\uparrow\text{SUBJ) >’} \\ \text{SUBJ} & \end{bmatrix} \end{bmatrix}$$

(9)
$$\begin{bmatrix} \text{PRED} & \text{‘be < (}\uparrow\text{SUBJ) (}\uparrow\text{PREDLINK) >’} \\ \text{TENSE} & \text{present} \\ \text{SUBJ} & \text{“she”} \\ \text{PREDLINK} & \text{“small”} \end{bmatrix}$$

One of the most important properties of this approach is that it allows for diversity both in c-structure and in f-structure. Dalrymple et al. (2004) is programmatic: it proposes these three analytical possibilities and assumes that there can be variation across languages and also across constructions within the same language. Only a careful analysis of any single CC in any language can reveal which type it belongs to. Falk (2004) and Nordlinger & Sadler (2007) subscribe to this view and develop their respective analyses in this spirit. By contrast, Attia (2008), inspired by Butt et al. (1999), argues for a generalized PREDLINK approach to CCs within and across languages. Naturally, this means diversity in c-structure and robust uniformity in f-structure, and, for obvious reasons, it radically simplifies the analysis of CCs in the realm of grammatical relations and f-structure. In this sense I consider this PREDLINK approach "light". In addition, the single-tier (formative) use of the copula is also "light" in an obviously different sense.[35] As I will point out when I present my analysis, the PREDLINK lightness in this domain inevitably puts the burden of capturing significant differences of various kinds between CCs on other components of grammar.

6.3.2. Analysis of the five Hungarian CC types

Before presenting the details, I discuss the most important general aspects of my analysis.

My approach is along the lines (i.e. analytical philosophy) pursued by Dalrymple et al. (2004), Falk (2004), and Nordlinger & Sadler (2007), as opposed to the path argued for and followed by Butt et al. (1999), Attia (2008) and Sulger (2009, 2011). This means that I find it more appropriate to allow for variation in terms of categories, functions, and construction types within and across languages in the CC domain rather than to develop a generalized and unified analysis for the overwhelming majority of CCs within and across languages. In my view, it is more in the spirit of LFG, I consider it is more appealing intuitively, and, furthermore, it is my conviction that the variation and the variety Hungarian CCs exhibit call for a varied and multidimensional treatment.

Naturally, this is not to deny the tenability and potential advantages of the unified approach ("PREDLINK light"); however, I will show that in the case of the investigation of CC phenomena we gain much more by accommodating rich parametric variation in several dimensions. My claim is that although it is elegant to have a uniform treatment at f-structure, it is also the job of f-structure to efficiently feed semantics, and my approach is more useful in this respect. At this point I would also like to emphasize the fact that I do not reject the PREDLINK analysis as such: in the case of two Hungarian CCs (out of the five discussed in this section) I myself develop a PREDLINK account.

In addition to the PREDLINK strategy, I also employ the single-tier (functional cohead) version. It is important in this connection that in certain Hungarian CCs the copula must be absent in certain cases. Such a fact by itself is taken to justify the single-tier analysis in a number of approaches. However, my claim is that the possibility/necessity of having the zero copula (at least in certain paradigmatic slots) is neither a sufficient nor a necessary condition for a single tier analysis. Consider the following two sides of this ±zero-copula-coin.

(A) Compare my accounts in Sections 6.3.2.1 and 6.3.2.2 in this respect: both CC types exhibit exactly the same copula-absence behavior; however, I analyze the former in the single-tier, functional cohead manner, while I develop an analysis of the latter along the double-tier, PREDLINK lines.

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[35] The title of Laczkó (2012), on which this section is based, *On the (un)bearable lightness of being an LFG style copula in Hungarian*, was inspired by the title of the following book: Milan Kundera, *The Unbearable Lightness of Being*, 1985, Faber & Faber (translated from Czech by Michael Henry Heim).

(B) The obligatory presence of the copula does not necessarily rule out the single-tier analysis: see the more recent LFG analysis of English passive constructions (the copula is merely a formative element without a PRED feature).[36]

Contrary to Dalrymple et al. (2004) (and the views of the overwhelming majority of LFG practitioners), I claim that there is no real need for the double-tier XCOMP analysis of CCs in general. I make this claim on the basis of Dalrymple et al.'s (2004) argumentation (by pointing out that it is not very convincing) and on the basis of the relevant Hungarian facts. I hasten to add that I do not exclude the possibility that certain CC phenomena may call for an XCOMP analysis as the most plausible (or maybe the only feasible) analysis.

Let us take a look at Dalrymple et al.'s (2004) two arguments in favour of XCOMP in certain CCs.

(A) When the English copula is combined with an adjectival "raising" predicate, the well-known control relationships can be captured by dint of the standard LFG control apparatus if the AP is assumed to have the XCOMP function, rather than the PREDLINK function. The crucial aspects of these two different analyses of (10) are shown in (11) and (12).

(10) *It is likely to rain.* (cf. *It seems to rain.*)

(11) a. *is*, V 'be < (↑XCOMP) > (↑SUBJ)'
(↑SUBJ) = (↑XCOMP SUBJ)

b. *likely*, A 'likely < (↑XCOMP) > (↑SUBJ)'
(↑SUBJ) = (↑XCOMP SUBJ)

(12) a. *is*, V 'be < (↑PREDLINK) > (↑SUBJ)'

b. *likely*, A 'likely < (↑COMP) > (↑SUBJ)'
(↑COMP SUBJ) = ((PREDLINK↑) SUBJ)

As (12b) shows, only a rather unusual control equation could handle this relation on the PREDLINK account of the copula, while nothing special is required on the XCOMP account, see (11). I fully agree with Dalrymple et al. (2004): the PREDLINK analysis is too costly, and I find this an important argument against a uniform PREDLINK approach to CCs (contra Attia's (2008) claim to the contrary). However, notice that this is only an argument against the PREDLINK account: a simple single-tier analysis allows for exactly the same standard LFG way of capturing the relevant control relationships. Compare (13) and (14).

(13) a. *is*, V
(↑TENSE) = present
(↑SUBJ PERS) = 3
(↑SUBJ NUM) = sg

b. *likely*, A 'likely < (↑XCOMP) > (↑SUBJ)'
(↑SUBJ) = (↑XCOMP SUBJ)

(14) *seems*, V 'seem < (↑XCOMP) > (↑SUBJ)'
(↑SUBJ) = (↑XCOMP SUBJ)
(↑TENSE) = present
(↑SUBJ PERS) = 3
(↑SUBJ NUM) = sg

[36] For instance, Bresnan (2001) adopts this analysis, as opposed to the classical XCOMP analysis in Bresnan (1982b).

As these representations demonstrate, on this single-tier account, *is likely* gets exactly the same analysis as *seems* (as is to be expected): the PRED feature is contributed by *likely* and *seem*, respectively, and the general morphosyntactic verbal features are provided by *is* and *-s*, respectively.

(B) Dalrymple et al.'s (2004) second argument is based on subject-adjective agreement in languages like French and Norwegian. Consider their French examples in (15) and their two alternative representations capturing the relevant agreement facts. Needless to say, the PREDLINK approach creates unnecessary complications, as shown in (17).

(15) a. *Elle* *est* *petite.*
she.F.SG is small.F.SG
'She is small.'

b. *Il* *est* *petit.*
he.M.SG is small.M.SG
'He is small.'

(16) *petite* (↑PRED) = 'small < SUBJ >'
(↑SUBJ NUM) =c sg
(↑SUBJ GEND) =c fem

(17) *petite* (↑PRED) = 'small'
((PREDLINK↑) SUBJ NUM) =c sg
((PREDLINK↑) SUBJ GEND) =c fem

My comment is the same as in the case of the previous point: this is an absolutely valid argument against the PREDLINK analysis in such cases, but the single-tier analysis is at least as unmarked and straightforward in LFG terms as the XCOMP analysis. Moreover, it may even be taken to be more compelling inasmuch as the adjective imposes its agreement constraints on the subject of the sentence directly (and not through the mediation of an XCOMP style control relationship).

Let me also add that according to several LFG practitioners the XCOMP analysis of the copula in passive sentences in English type languages is no longer tenable, see Footnote 36, for instance.[37]

So far, I have pointed out that in my approach I employ both the single-tier analysis and the (double-tier) PREDLINK analysis. In the double-tier domain, however, I reject the use of the XCOMP analysis. At the same time, I will also argue that in this latter domain it is reasonable to assume that in the case of certain CCs the second argument has the OBL (and not the PREDLINK) function. Notice that even with this additional grammatical function in my system the number of the fundamental types of CCs is smaller than that in Dalrymple et al.'s (2004) system. Consider:

(18) Dalrymple et al. (2004):
a. single-tier, functional cohead (open)
b. double-tier, PREDLINK (closed)
c. double-tier, XCOMP (open)

[37] The main motivation for dropping the XCOMP analysis and replacing it with the single-tier, functional cohead analysis has been to represent the f-structures of passive sentences in copular passive languages like English and noncopular passive languages like Malayalam in a uniform fashion.

(19) here:
a. single-tier, functional cohead (open)
b. double-tier, PREDLINK or OBL (closed)

Before I present my analysis, I show the most essential feature of the account of each type in (20).

(20)	a. attribution/classification: single-tier, cohead	(Section 6.3.2.1)
	b. identity: double-tier, PREDLINK	(Section 6.3.2.2)
	c. location: double-tier, OBL	(Section 6.3.2.3)
	d. existence: double-tier, OBL	(Section 6.3.2.4)
	e. possession: double-tier, PREDLINK	(Section 6.3.2.5)

6.3.2.1. Attribution or classification

Consider the following examples ((1) is repeated here for convenience).

(1)	*Az*	*igazgató*	*okos/tanár*	*volt.*
	the	director.NOM	clever/teacher.NOM	was
	‘The director was clever / a teacher.’			

(21)	a.	*Az*	*igazgató*	*tanár.*		⇔	*Én*	*tanár*		*vagyok.*
		the	director.NOM	teacher.NOM			I.NOM	teacher.NOM		am
		‘The director is a teacher.’					‘I am a teacher.’			
	b.	*Az*	*igazgató*	*nem*	*okos.*	⇔	*Én*	*nem*	*vagyok*	*okos.*
		the	director.NOM	not	clever		I.NOM	not	am	clever
		‘The director isn’t clever.’					‘I am not clever.’			

As (21a) shows, in this type the copula must be absent if the sentence is in the present tense and the subject is 3rd person, singular; and the same holds for 3rd person plural subjects (which is not exemplified here). In these paradigmatic slots, negation is done by simply inserting the negative particle *nem*, see (21b). It is a further property of this construction that in neutral sentences, the AP/NP has to occupy the immediately preverbal (precopular) position.[38]

Let us consider predicative APs first. Given the fact that under certain circumstances the copula must be systematically absent, in the spirit of Dalrymple et al. (2004) and Nordlinger & Sadler (2007), we could immediately opt for a single tier analysis. However, as I pointed out above, in my view this fact by itself is not a sufficient condition for a single-tier analysis (for further details, see Section 6.3.2.2). Thus, in my approach, I need additional (and independent) support for this analysis. This evidence is provided by the fact that Hungarian predicatively used adjectives clearly satisfy Dalrymple et al.’s (2004) criterion for a predicate capable of taking a subject argument. Consider the sentence in (22).

(22)	*János*	*okos-nak*	*tart-ja*	*Péter-t.*
	John.NOM	clever-DAT	hold-PRES.3SG	Peter-ACC
	‘John considers Peter clever.’			

[38] A reminder from Chapter 3 is in order here. This is the famous VM (verbal modifier) position in Hungarian, normally occupied by separable verbal particles, typically reduced (nonreferential) arguments or secondary predicates. This preverbal position is only available to VMs in neutral sentences, because in nonneutral sentences the focused element must precede the verb immediately, and the VM (if there is one in the sentence) must follow the verb.

This is unquestionably a functional control construction: the verb has a SUBJ and an XCOMP argument (realized by the predicative AP bearing dative case in this construction type) and it has a nonthematic OBJ, which can only obey the coherence condition if it functionally controls the AP's thematic SUBJ. It is further evidence for this single-tier analysis that in this construction type (the infinitival form of) the copula cannot even be inserted, as opposed to the English counterpart. Compare the Hungarian example and its English translation in (23).

(23) **János* *okos-nak* *tart-ja* *le-nni* *Péter-t.*
John.NOM clever-DAT hold-PRES.3SG be-INF Peter-ACC
'John considers Peter to be clever.'

The analysis of the NP in this type as the main argument-taking predicate seems to be less intuitive and less unproblematic. In this connection, Attia (2008), agreeing with Dalrymple et al. (2004), for instance, claims that common nouns should not be taken to have an argument structure containing a subject argument.[39] However, in Hungarian such predicative noun phrases can be involved in exactly the same functional control constructions as predicative APs,[40] cf. (22) and (24), which lends considerable support to an analysis along these argument-taking lines.

(24) *János* *géniusz-nak* *tart-ja* *(*le-nni)* *Péter-t.*
John.NOM genius-DAT hold-PRES.3SG be-INF Peter-ACC
'John considers Peter (to be) a genius.'

Also note that the nominal predicate must be nonspecific. This fact enables us to define the required (categorial) environment for a predicative (argument-taking) noun: it must occur within an NP and never within a (referring) DP. In (25) and (26), I show the most important lexical aspects of my analysis, using the XLE style formalism. Both lexical forms contain representations capturing the nonzero-copular use of these predicates, and I abstract away from the encoding (and constraining) of tense and agreement.

(25) *okos* A, { (↑ PRED) = 'clever < (↑ SUBJ) >'
(↑NUM)
{(↑FOCUS)
| ~(↑FOCUS) & (↑CHECK _VM) = +}
| (↑ PRED) = 'clever'
~(↑ NUM)}.

The main disjunction encodes the predicative vs. the attributive uses of the adjective.[41] It is a fundamental contrast between the two uses that the adjective always has a number feature in the former and never in the latter. The (↑FOCUS) vs. ~(↑FOCUS) disjunction captures the VM vs. FOCUS complementarity discussed in Chapter 3. The fact that in neutral (nonfocused) sentences the predicative AP must precede the verb is ensured by an XLE

[39] Dalrymple et al. (2004) point out that in Japanese, adjectives can be used without the copula, but nouns cannot, and this provides partial motivation for them only to analyze adjectives as argument-taking predicates as opposed to nouns in Japanese CCs. By contrast, the corresponding Hungarian facts are partially different, which can justify a partially different approach.

[40] For instance, both categories have the same dative marking.

[41] In the vein of the (I think) majority LFG opinion, in the attributive representation the adjective does not subcategorize for a SUBJ argument. From the perspective of the present chapter this issue is not relevant anyhow.

CHECK feature. As a reminder, the essence of this device is that there is a pair of checking equations, and one of them is associated (typically in the lexical form) with the element involved and the other is typically associated with a constituent or position in which the element is constrained to occur. In our current case (↑ CHECK _VM) = + is included in the predicative part of the lexical form of an adjective, while (↓CHECK _VM) =c + is associated with the preverbal position.[42]

(26) *tanár* N, { (↑PRED) = 'teacher < (↑ SUBJ) >'
(↑ SPECIFIC) = –
@(CAT ↑ NP)
{(↑FOCUS)
|~(↑FOCUS) & (↑CHECK _VM) = +}
| (↑PRED) = 'teacher'}.

In (26), the main disjunction encodes the contrast between the predicative, argument-taking and the ordinary use of a noun. As I pointed out above, nonspecificity is intimately related to the predicative use, as is indicated in the first member of the disjunction, and there is also a constraining equation associated with the NP node in the preverbal position: (↓ SPECIFIC) =c –. The @(CAT ↑ NP) template restricts the category of the nominal predicate to NP. The function of the (↑FOCUS) vs. ~(↑FOCUS) disjunction in (26) is the same as in (25).

6.3.2.2. Identity

Consider the following examples ((2) is repeated here for convenience).

(2) *Az igazgató a szóvivő volt.* [identity]
the director.NOM the spokesman.NOM was
'The director was the spokesman.'

(27) a. *Az igazgató a szóvivő.*
the director.NOM the spokesman.NOM
'The director is the spokesman.'

b. *A szóvivő az igazgató.*
the spokesman.NOM the director.NOM
'The spokesman is the director.'

c. *Az igazgató nem a szóvivő (volt).*
the director.NOM not the spokesman.NOM was
'The director is/was not the spokesman.'

d. *A szóvivő nem az igazgató (volt).*
the spokesman.NOM not the director.NOM was
'The spokesman is/was not the director.'

[42] The behavior of these CCs is even more complex, because the predicative adjective itself can be the focused element. Without going into any details, let me only point it out here that this particular phenomenon can be captured along the lines proposed in King (1997).

(28) a. *Én* *a* *szóvivő* *vagyok.*
I.NOM the spokesman.NOM am
'I am the spokesman.'

b. *Én* *a* *szóvivő* *voltam.*
I.NOM the spokesman.NOM was.1SG
'I was the spokesman.'

c. **A* *szóvivő* *én* *volt.*
the spokesman.NOM I.NOM was.3SG
ca. 'The spokesman was me.'

Recall from the discussion in Section 6.2 that in this type, two entities, typically expressed by definite 3rd person DPs, are equated, and as the examples in (27) show, often either of the two DPs can be taken to be the subject and agree with the copula. However, when one of the DPs is not 3rd person (that is, when it is a 1st or 2nd person pronoun) only that DP can function as the subject, see (28). This type and the attribution/classification type share all of the following properties. The copula must be absent if the sentence is in the present tense, and the subject is 3rd person singular, see (27a,b), and the same holds for 3rd person plural subjects (which is not exemplified here). In these paradigmatic slots, negation is done by simply inserting the negative particle *nem*, see (27c,d). In this type, in neutral sentences, the nonsubject constituent has to occupy the immediately preverbal (precopular) position.

I propose that this type is most appropriately analyzed in a two-tier approach, despite the fact that the copula must be absent in the present tense, 3SG/PL paradigmatic slots.[43] Thus, here I adopt Butt et al.'s (1999a) and Attia's (2008) analysis. The copula is a two-place predicate subcategorizing for a SUBJ and a PREDLINK. Given the nature (semantics) of this construction type, the function (semantics) of this predicate is to equate (or, literally, link) two entities. And, as I pointed out above, there are cases in which the two 3rd person definite DPs can take these two grammatical functions interchangeably. It also has to be encoded in the lexical form of this copula that if one of the DPs is not 3rd person, then it must be the SUBJ and never the PREDLINK.[44]

Even when the copula is not present in the sentence in this type, I postulate that this unexpressed copula is the main predicate. I follow Dalrymple et al.'s (2004) analysis of a Russian construction in this vein, and I assume that the properties of the missing copula are introduced by LFG style (phrase-)structural means:

(29) S → DP VCop ∨ ε DP
(↑SUBJ)=↓ ↑=↓ (↑PRED)='be<SUBJ,PREDLINK>' (↑PREDLINK)=↓
(↑TENSE)=present
(↑SUBJ PERS)=3
(↑SUBJ NUM)={sg | pl}
(↑SUBJ PERS)=(↑PREDLINK PERS)
(↑SUBJ NUM)=(↑PREDLINK NUM)
(↑SUBJ SPECIFIC)=c+
(↑PREDLINK SPECIFIC)=c+

[43] In Section 6.2, I pointed out that Heycock & Kroch (1999) argue that in English equative sentences *be* connects two DPs, and both DPs can be shown to be referential, which makes such a CC different from predicative CCs. In equative CCs, thus, there is no predication relation between the two DPs: but they are both arguments of *be*. This is the fundamental assumption of my analysis as well.

[44] The simplest and most straightforward way of carrying this out is to use the following negative constraint: ~(↑PREDLINK PERS) = {1 | 2}.

In this rule the overt copula (VCop) is in complementary distribution with the special ε (epsilon) symbol, which does not appear in the c-structure representation as an empty category; instead, it contributes its annotations solely to the relevant f-structure. In all the other paradigmatic slots, the appropriate form of the copula encodes all the relevant functional information in its lexical entry.

6.3.2.3. Location

Consider the following examples ((3) is repeated here for convenience).

(30) *Az igazgató a szobá-ban van.*
the director.NOM the room-in is
'The director is in the room.'

(3) *Az igazgató a szobá-ban volt.*
the director.NOM the room-in was
'The director was in the room.'

(31) *Az igazgató nincs a szobá-ban.*
the director.NOM isn't the room-in
'The director isn't in the room.'

(32) *(Én) nem vagyok a szobá-ban.*
I.NOM not am the room-in
'I am not in the room.'

(33) *Az igazgató nem volt a szobá-ban.*
the director.NOM not was the room-in
'The director wasn't in the room.'

The most important properties of this CC are as follows. The copula is normally overt even in the present.3SG/3PL cases, see (30), which exemplifies the present.3SG instance. As is usual in other CCs as well, ordinarily negation takes the form of combining the negative particle and the copula, see (32) and (33). However, in the present.3SG/3PL cases negation is expressed by a special suppletive form (*nincs* 'isn't' and *nincsenek* 'aren't'), see (31), which exemplifies the present.3SG instance. The subject constituent has to be specific, and, in neutral sentences, the locative constituent has to occupy the immediately preverbal (precopular) position, the VM position, see (3) and (30). It is also noteworthy that the locative constituent is not predicative in Hungarian, as opposed to predicative APs and NPs in the attribution/classification type, see Section 6.3.2.1. For instance, it cannot be the PRED of an XCOMP in a raising construction. Compare (34) with (22), (23) and (24).

(34) **János a szobá-ban tart-ja*
John.NOM the room-in hold-PRES.3SG
(le-nni) az igazgató-t.
be-INF the director-ACC
'John considers the director (to be) in the room.'

From this fact it follows that the locative constituent in this CC type cannot be analyzed as open: it does not allow the only open version my system applies, the single-tier, functional cohead analysis, but its behavior shown in (34) would not justify the two-tier, XCOMP analysis, either. In theory, it would be possible to assign the PREDLINK function to this locative constituent. However, my alternative solution here is the OBL_{loc} function on the basis of the following considerations. This CC expresses a genuine locative relationship; therefore, it is reasonable to feed semantics directly in terms of grammatical function choice and f-structure representation.[45] Furthermore, as I argue in the next section, the parallel between locative and existential CCs can be captured in a straightforward manner along these lines. In addition, although I myself do accept and use the PREDLINK function in the analysis of certain CC types, in my view this is really motivated and justifiable if it can be assumed that the copula has a genuine "linking" function (semantics). Thus, I take this function (name) at face value.[46]

I represent the lexical form of the locative copula in the following way.

(35) *van*, V (↑PRED) = 'BE$_{loc}$ < (↑SUBJ) , (↑OBL$_{loc}$) >'
(↑SUBJ SPECIFIC) =c +
{ (↑ FOCUS)
| ~(↑ FOCUS)
(↑ OBL$_{loc}$ CHECK _VM) =c +}.

This copula is a two-place predicate, its SUBJ argument must be specific, and its second argument receives the OBL_{loc} function. The disjunction in (35) encodes the following two options: (i) the sentence contains a focused constituent (and then this constituent must occupy the preverbal position); (ii) there is no focused constituent in the sentence (it is a neutral sentence) and then the OBL_{loc} argument must occur in the preverbal (VM) position.

This was the LFG analysis of the locative use of the Hungarian copula that I proposed in Laczkó (2012). Here I augment this in the light of my discussion of Hegedűs' (2013) analysis of the following construction types in Section 6.2.[47]

(36) A macska a tető-n van.
the cat the roof-SUP is
'The cat is on the roof.'

(37) (Egy) macska van a tető-n.
a cat is the roof-SUP
'There is a cat on the roof.'

(38) a. Vannak egyszarvúak.
are unicorns
'There are unicorns.'

b. *Egyszarvúak vannak.
unicorns are
'There are unicorns.'

[45] It is worth pointing out that Bresnan (2001) and Falk (2004) analyze corresponding locative CCs (in English and in Hebrew, respectively) in exactly the same fashion, assuming that the constituent in question has the OBL function.

[46] My account of identity CCs uses this function (see Section 6.3.2.2), and I also use it in my analysis of possession CCs (see Section 6.3.2.5).

[47] Below I repeat her examples for convenience.

c.

Vannak	egyszarvúak	a	kert-ben.
are	unicorns	the	garden-INE

‘There ARE unicorns in the garden.’

d.

Egyszarvúak	vannak	a	kert-ben.
unicorns	are	the	garden-INE

‘There are unicorns in the garden.’

As I pointed out in Section 6.2, Hegedűs analyzes the type in (36), which can be considered the basic locative type,[48] as a copular construction with a PP predicate making up a complex predicate with BE in neutral sentences. In her system then (36) is treated in the same way as copular constructions with NP/AP predicates.

(39)

		a tető-n	
		the roof-SUP	
A	macska	ellenség	volt.
the	cat	enemy	was
		gyors	
		fast	

‘The cat was on the roof / an enemy / fast.’

By contrast, as is obvious from Section 6.3.2.1 and this section, I analyze this locative use of BE entirely differently from the combination of BE with NP/AP predicates. Hegedűs assumes that (38a) and (38c) represent true existential constructions. For my LFG analysis of the existential use of the Hungarian copula, see the next section (6.3.2.4). Interestingly, Hegedűs assumes that (38d) manifests a third construction type: the “locative”, which is between the copular PP and the true existential type. In my opinion the rather sharp distinction between the copular PP type and the “locative” type is not really feasible. Intuitively, both are naturally interpretable as locative fundamentally, and the difference between them as regards their syntactic behaviour is due to the specificity of the subject. If the subject is specific then in a neutral sentence the locative argument has the VM status, and if it is nonspecific then this nonspecific subject has to function as a VM.[49] In order to capture the behaviour of the (38d) type all I need to do in my LFG analysis is to modify the lexical form of *van* ‘be’ in (35) in the following way.

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[48] Hegedűs’ (36) represents the same type as my (30) above.

[49] This duality is very similar to the following case.

(i) a.

János	be	ve-tte	a	gyógyszer-t.
John.NOM	in	take-PAST.3SG.DEF	the	medication-ACC

‘John took the medication.’

b.

János	gyógyszer-t	ve-tt	be.
John.NOM	medication-ACC	take-PAST.3SG.INDEF	in

‘John took medication.’

In (ia) the object, *a gyógyszert* ‘the medication.ACC’, is definite (specific), and it is the particle *be* ‘in’ that has to function as the VM in a neutral sentence. By contrast, in (ib), the object is a bare noun, *gyógyszert* ‘medication.ACC’, and, consequently, nonspecific; therefore, it has to be the VM in a neutral sentence.

(40) *van*, V (↑PRED) = ‘BE_{loc} < (↑SUBJ) , (↑OBL_{loc}) >’
{ (↑SUBJ SPECIFIC) =c +
{ (↑ FOCUS)
| ~(↑ FOCUS)
(↑ OBL_{loc} CHECK _VM) =c +}
| (↑SUBJ SPECIFIC) =c –
{ (↑ FOCUS)
| ~(↑ FOCUS)
(↑ SUBJ CHECK _VM) =c +}}.

The two main disjunctions encode the following. If the subject is specific then the OBL argument must occupy the VM position in a neutral sentence, and if it is nonspecific then this nonspecific subject must occur in the VM position in a neutral sentence.

6.3.2.4. Existence

Consider the following examples ((4) is repeated here for convenience).

(41) *Vannak boszorkány-ok (a Föld-ön).*
are.3PL witch-PL.NOM the Earth-on
‘There are witches (on the Earth).’

(4) *Voltak boszorkány-ok (a Föld-ön).*
were witch-PL.NOM the Earth-on
‘There were witches (on the Earth).’

(42) *Nincs-enek boszorkány-ok (a Föld-ön).*
isn’t-PL witch-PL.NOM the Earth-on
‘There aren’t witches (on the Earth).’

(43) *Nem voltak boszorkány-ok (a Föld-ön).*
not were witch-PL.NOM the Earth-on
‘There weren’t witches (on the Earth).’

In this CC, the copula, as a strict rule, must always be overt, even in the present.3SG/3PL cases, see (41), which exemplifies the present.3PL instance. As is usual in other CCs as well, ordinarily negation takes the form of combining the negative particle and the copula, see (43). However, in present.3SG/3PL negation is expressed by a special suppletive form (*nincs* ‘isn’t’ and *nincsenek* ‘aren’t’), see (42), which exemplifies the present.3PL instance. The subject constituent must be nonspecific. In reality, this CC does not occur in ordinary neutral sentences for the following reason. Even when there is no focused constituent, the copula itself is the first element and it receives focal stress, see (4) and (41). Very often, this CC does not contain an overt locative constituent, but even in that case the interpretation is that the (nonspecific) subject exists in a particular world.

There are, thus, significant similarities and dissimilarities between location and existence CCs. Below I list them.

- In both types, the copula is best treated as a two-place predicate.
- In both types, the second argument is best assigned the closed OBL_{loc} function.
- In the location CC the argument is strictly obligatory, while in the existence CC it is absolutely optional.

- In the location CC the subject must be specific, while in the existence CC it must be nonspecific.
- In neutral location CC sentences the OBL_{loc} argument must occupy the preverbal (= precopular) VM position, while in “neutral” existence CC sentences there is no VM option, to begin with, and the copula must receive focal stress.

In my analysis, the existential copula has the following lexical form.

(44) *van*, V (↑PRED) = ‘BE_{exist} < (↑SUBJ) , ((↑OBL)) >’
(↑SUBJ SPECIFIC) =c –
{ (↑ FOCUS)
| (↑ PRED FN) = ($\uparrow_i$ FOCUS)}.

The first two lines should be straightforward on the basis of the discussion above. As regards the FOCUS disjunction, it reads as follows: (i) there is a focused constituent in the sentence (first disjunct); (ii) the copula itself is in focus (second disjunct). The latter case is very special, because the copula is the (functional) head of the entire sentence, so if it received the FOCUS discourse function in the regular LFG way then this would mean that the entire sentence was in focus. However, it is just the predicate that is focused. This interpretation is encoded, in an XLE way, by the equation in the second conjunct. It is only the copula, its function name (FN), that is in focus (without its arguments), and this focus is represented in information structure ($\uparrow_i$), rather than in f-structure. I have adopted this treatment of focusing predicates from King (1997).

6.3.2.5. Possession

Consider the following examples ((5) is repeated here for convenience).

(45) *Az igazgató-nak van szóvivő-je.*
the director-DAT is spokesman-his.NOM
‘The director has a spokesman.’

(5) *Az igazgató-nak volt szóvivő-je.*
the director-DAT was spokesman-his.NOM
‘The director had a spokesman.’

(46) *Az igazgató-nak nincs szóvivő-je.*
the director-DAT isn’t spokesman-his.NOM
‘The director doesn’t have a spokesman.’

(47) *Az igazgató-nak nem volt szóvivő-je.*
the director-DAT not was spokesman-his.NOM
‘The director didn’t have a spokesman.’

(48) a. *az igazgató okos szóvivő-je*
the director.NOM clever spokesman-his
‘the director’s clever spokesman’

b. *az igazgató-nak az okos szóvivő-je*
the director-DAT the clever spokesman-his
‘the director’s clever spokesman’

In Hungarian, possession is expressed at the sentence level by this peculiar possession CC. First of all, it has a very special agreement pattern. The possessed noun phrase is the subject and its head is inflected in exactly the same way as the noun head of possessive DPs (that is, DPs containing possessor constituents): compare all the sentence level examples in (5), (46), (47) with (48). The possessor in the CC is obligatorily expressed by a DP in the dative case, see (5), (46), (47).[50] The possessed noun phrase is always 3SG or 3PL, and it agrees with the copula in this respect (this is ordinary subject-verb agreement). However, this subject also agrees with the dative possessor for person and number in the same way as the possessed noun head agrees with the (nominative or dative) possessor within possessive DPs: compare, again, (5), (46), (47) with (48).

Some additional properties of this CC are as follows.

- The possessed noun (the subject) is, as a rule, indefinite.
- The copula is strictly obligatory, just like the copula in existence CCs, see Section 6.3.2.4.
- In "neutral" possession CC sentences the dative possessor is typically a topic, and, more importantly, the copula always gets focal stress, just like the copula in existence CCs, see Section 6.3.2.4.
- The negation pattern of the copula in this CC type follows that of the copula in location and existence CCs.

I believe that this special CC type is, again, best analyzed along the PREDLINK lines. My intuitive assumption is that the function of the copula here is to link the possessor and the possessed entity at the clause level. In other words, the copula "raises" the possessive relationship which can also be expressed within DPs to a sentential, predicational level.

I propose the following lexical form for the possession copula.

(49) *van*, V (↑PRED) = 'BE_{poss} < (↑SUBJ) (↑PREDLINK) >'
(↑SUBJ DEF) =c – possessee possessor
(↑PREDLINK CASE) =c dat
{ (↑ FOCUS)
| ↑ PRED FN) = ($\uparrow_i$ FOCUS) }.

The first two equations about the indefiniteness of the SUBJ (possessee) and about the case constraint of the PREDLINK (possessor) should be straightforward. The FOCUS disjunction here is the same as I postulated in the case of the existence copula in the previous section.

A remark is in order here about the (very special) agreement pattern between the subject and the dative argument in this CC. So far it has been typically assumed in the literature that the dative possessor argument is an OBL. However, this assumption has been criticized by pointing out that it is highly unusual across languages for an OBL to agree with the SUBJ. Now, if we assume that the possessor has the PREDLINK function, this agreement relationship can be argued to be much more justified. It simply follows from the very nature of PREDLINK: it can (or must) enter into an agreement relationship with SUBJ.[51]

6.4. Concluding remarks

In Section 6.1, I presented some salient approaches to the major types of English CCs. In Section 6.2, I offered a detailed discussion of Hegedűs' (2013) MP analysis of several major Hungarian CC types. In addition, I related it to several MP assumptions about CCs across

[50] Within a DP expressing possession, the dative marking of the possessor is only an option, cf. (48a) and (48b).

[51] In this connection, it is also important that in the XLE implementation of LFG such (special) agreement facts can be rather easily and straightforwardly accommodated. In possessive DPs the tags associated with the noun stem (encoded by the relevant inflectional elements) contribute the following types of equations: (↑POSS PERS) = … and (↑POSS NUM) = … In this particular instance of PREDLINK-SUBJ agreement, we only have to introduce the following alternative annotations: ((SUBJ ↑) PREDLINK PERS) = … ((SUBJ ↑) PREDLINK NUM) = …

languages as well as to some alternative MP accounts of Hungarian CCs. In Section 6.3, I developed the first comprehensive LFG analysis of the five most important types of copula constructions in Hungarian. The most significant general aspects of my approach are as follows.

1) I subscribe to the view, advocated by Dalrymple et al. (2004) and Nordlinger & Sadler (2007), that the best LFG strategy is to examine all CCs individually and to allow for diversity and systematic variation both in c-structure and in f-structure representations across and even within languages. This means that I reject Butt et al.'s (1999a) and Attia's (2008) uniform PREDLINK approach at the f-structure level.
2) I argue against the two-tier, open, XCOMP analysis of CCs.
3) I employ the following analysis types:
   (i) single-tier, functional cohead (open);
   (ii) double-tier, PREDLINK or OBL (closed).

Figure 2 summarizes the most important properties of the five Hungarian CCs and the crucial aspects of my analysis.[52]

CC TYPE	PR3: COP	PR3: NEG	COPULA'S FUNCTION	ARGUMENT STRUCTURE	VM	OTHER TRAITS
ATTR/CLASS	–	*nem*	formative	–	AP/NP	NP: –spec
IDENTITY	–	*nem*	predicate	<S, PL>	SUBJ	S: +spec, interch.
LOCATION	+	*nincs*	predicate	<S, OBL>	OBL	S: +spec
EXISTENCE	+	*nincs*	predicate	<S, (OBL)>	–	S: –spec cop: FOC
POSSESSION	+	*nincs*	predicate	<S, PL>	–	S: –def S&PL agr. cop: FOC

Figure 2. Properties and analyses of Hungarian CCs

Let me add at this point that my claim that the location CC has to be treated differently is (further) independently supported by the fact that out of the five versions of the Hungarian copula analyzed in this section, it is only the locative version that has a productively used participial counterpart. Compare the location use in (50a) with the attribution use and the possession use in (50b) and (50c), respectively.

(50) a. *a szobá-ban lévő igazgató*
the room-in being director
literally: 'the director being in the room'

b. **az okos lévő igazgató*
the clever being director
literally: 'the director being clever'

c. *a *szóvivő-je lévő igazgató*
the spokesman-his being director
intended meaning: 'the director having a spokesman'

[52] I use the following abbreviations in this figure: cop = copula, attr/class = attribution/classification, pr3:cop = is the copula present in the present tense and 3rd person paradigmatic slots? pr3:neg = how is negation expressed in pr3? VM = what element occupies the VM position (if any) in neutral sentences? S = SUBJ, PL = PREDLINK, interch = the two arguments' grammatical functions are interchangeable in the 3rd person, spec = specific, def = definite, FOC = FOCUS, agr = agreement.

In the introduction to this chapter I raised two questions. (i) What are the formal-strategic differences between MP and LFG approaches? (ii) What role should be attributed to f-structure representation in the analysis of various CC types in LFG? On the basis of the discussion in this chapter the answers to these questions are as follows.

(i) Given the architectures, principles and assumptions of the two theories, they seriously constrain the analytical strategies available in general and in the treatment of CCs in particular. All MP approaches employ a complex syntactic apparatus. They assume a uniform invariant initial structure and they derive the various CC types by dint of several syntactic operations. By contrast, in LFG no such syntactic operations are possible; consequently, a lexical treatment is needed. From this it automatically follows that the partially different behaviours of CCs have to be captured by assuming several appropriate lexical forms for BE in which we encode their respective syntactic properties. Let me point out that both these radically different approaches can handle the phenomena under investigation in a principled manner in their own systems. The choice between these approaches in this case, just like in general, depends on which of them one considers to be a more plausible model of the competence of language users. Needless to say, my choice in this case, and in general, is LFG.

(ii) In Section 6.3 I argued for the type of approach in the LFG framework that, on the one hand, employs several distinct lexical forms of BE (with different argument structures), and, on the other hand, partially following from this, assumes that the f-structures of various CC types are different, which contrasts with the alternative view that postulates a uniform f-structure.

Chapter 7. Conclusion: Results and outlook

7.1. Chapter 1. Introduction

In this chapter, first I presented the goals of this dissertation (Section 1.1). Next, I showed the traits of my chosen theoretical framework, LFG, in systematic comparison with other generative linguistic frameworks, GB/MP, GASG and HPSG (Section 1.2). Then I gave an introduction to XLE, the implementational platform of LFG (Section 1.3). Finally, I outlined the structure of the dissertation (Section 1.4). Below, I reiterate the most important concluding remarks from Chapters 2-6, including the discussion of open questions, supplemented with the identification of further important and related research avenues.

7.2. Chapter 2. The basic structure of Hungarian finite clauses

1) In Chapter 2, I presented the crucial aspects of an LFG (and XLE-implementable) analysis of the preverbal portion of Hungarian finite clauses.
2) The structural representation was largely motivated by É. Kiss (1992) and Laczkó & Rákosi (2008-2013).
3) I argued for S and against IP as the core sentential symbol (and also postulated CP).
4) In this approach, I employ a hierarchical, binary branching, adjunction structure for the topic field, in addition to a similar setup in the quantifier field.
5) I handle all the question phrases other than the question phrase immediately adjacent to the verb in multiple constituent questions as occupying VP-adjoined positions in the quantifier field.[1]
6) I assume that focused constituents, verbal modifiers and the (verb-adjacent) question phrase are in complementary distribution in Spec,VP.[2]
7) I suggest that LFG's parametric space that is potentially available to c-structure—function associations should be augmented along the following lines.
    - The Spec,VP position should be allowed to host the FOCUS discourse function. In general terms, this amounts to assuming that the specifier of a lexical category can be either a modifier or a DF.
    - The XP in [$_S$ XP VP] can also be a topic, in addition to a subject.
    - In cases like (b), the VP can also contain a subject.
8) In this chapter, I only developed the essential ingredients of my LFG-XLE analysis of the preverbal domain of Hungarian finite sentences by (i) discussing the most salient nonLFG generative accounts of the relevant phenomena; (ii) positing this approach in the context of the architecture and fundamental principles of LFG. Thus, I paved the way for

[1] I argue for this treatment in a detailed fashion in Chapter 4.

[2] In Chapters 4 and 5, I argue that in a particular type of predicate negation the negative particle occupies the same Spec,VP position, in complementary distribution with the other three constituent types.

working out detailed analyses of verbal modifiers, operators, negation and copula constructions in subsequent chapters (Chapters 3-6).

9) Finally, there are two general remarks on the implementational dimension.

- The current version of our implemented grammar, Laczkó & Rákosi (2008-2013), is far from being complete for the following reasons. (A) Although it can cover the types of constructions I discussed in Chapter 2, it is not constrained enough: it very often produces a great number of undesired additional parses (which it presents as valid alternatives). (B) Its lexicon is not large and detailed enough. Many sentences do not get the right parse because the words they contain do not have lexical forms appropriately associated with the features that are indispensable for the correct analysis. (C) Several crucial aspects of simple finite clauses are not covered (e.g. (multiple) wh-questions, various VM types, etc.).
- My fundamental aim in this dissertation was to develop the crucial aspects of a comprehensive LFG-theoretical analysis of the preverbal domain of finite clauses in Hungarian. At the same time, this also served as the necessary theoretical underpinnings of our implemented grammar. In addition, I think that a great number of the details of this approach considerably contributed (whether directly or indirectly) to improving and advancing this implemented grammar, see the attested implementational dimensions of Chapters 3 through 6.

7.3. Chapter 3. Verbal modifiers

1) In this chapter, I presented the crucial aspects of an LFG (and XLE-implementable) analysis of the major types of Hungarian verbal modifiers.

2) In accordance with the general approach outlined in Chapter 2, I assume that focused constituents, verbal modifiers and the (verb-adjacent) question phrase are in complementary distribution in Spec,VP. Following from the main topic of this chapter and for simplicity of exposition, I only formally modelled the complementarity (and interaction) of VMs and focusing.

3) I showed that VMs can also be focused, and, depending on their nature, they can be used to express two types of focus: identificational focus and verum focus.

4) I distinguish two major types of VMs: particles (= preverbs) belong to the first type, and the rest of VMs to the other type. I treat both compositional and noncompositional PVCs lexically, with both the verb and particle having their respective lexical forms with appropriate functional annotations and cross-referencing (including the use of CHECK features). The particle and the verb are analyzed as functional co-heads in both PVC types. All the other VMs, with their own grammatical functions, are lexically selected by their verbs in these verbs' lexical forms. Depending on the nature of the VM involved, the verb can impose various constraints on it.

5) I argue against assuming that all VM + verb pairs are lexical units or combinations, and when the VM immediately precedes the verb, (obligatory) syntactic incorporation takes place in some (theory-dependent) form. The most crucial aspects of my approach are as follows.

   (a) Some VM + verb pair types must really be treated as lexical combinations, because they have a shared meaning and argument structure. In my most recent approach, PVCs (of both major types) and idioms belong here. However, even in these cases "lexical combination" means separate, appropriately annotated and cross-referenced lexical items that occupy distinct syntactic positions even when the VM immediately precedes the verb. This means that I reject the idea of syntactic incorporation in these instances as well.

(b) In the case of all the other VMs, the relationship between the VM and its verb is fundamentally syntactic, except that *(i)* the verb requires its designated VM argument to occupy the Spec,VP position in neutral sentences and *(ii)* the verb may, in general, specify the features the VM needs to exhibit, see 4) above. Notice, however, that *(i)* already calls for a lexical encoding, in the verb's lexical form, of this VM requirement, because the VM–verb syntactic dependency is very often verb-specific (although there are also certain verb types, with particular semantics and/or argument structure, that typically behave similarly in this respect).

(c) The LFG-style encoding of the VM–verb relationship in the verb's lexical form makes it possible to capture the appropriate co-occurrence of the two elements (and the required properties of the VM) in both neutral and focused sentences without employing any syntactic movement operation.

6) I discussed the implementational dimension of the treatment of PVCs, the central, most extensively and most intensively investigated type of VMs in Hungarian, in a detailed fashion. The challenge is to capture the mixed lexical and syntactic properties of PVCs in a formally and implementationally satisfactory manner. Here is a brief summary of the most important points.

   (a) The essence of Forst et al.'s (2010) (programmatic) proposal for XLE grammars for English, German, and Hungarian is as follows.

      (i) Noncompositional and nonproductive PVCs should be treated lexically, as in the current ParGram grammars of English and German (the central XLE device being concatenation), as in existing English and German XLE grammars.

      (ii) Compositional and productive PVCs, by contrast (and contrary to the existing English and German XLE grammars), should be treated syntactically (the crucial XLE device being restriction, making complex predicate formation in the syntax possible).

   (b) In Laczkó & Rákosi (2011) and Rákosi and Laczkó (2011), we adopt this mixed (lexical and syntactic) approach in our analysis of the four major PVC types in Hungarian in our HunGram.

   (c) Capitalizing on Laczkó (2013), in Section 3.1.5 in Chapter 3, I developed a modified approach to these Hungarian PVCs, which treats even compositional and productive PVCs in Hungarian lexically. The crucial (shared) device for handling both productive and nonproductive PVCs in Hungarian is concatenation (and there is no syntactic complex predicate formation via restriction).

   (d) On the basis of Section 3.1.5.2, my claim is that the HunGram implementation of the analysis I propose for all the other major VM types in Hungarian should be straightforward and unproblematic. This implementation is one of the imminent research goals in our HunGram project.

7) In future work, I plan to explore, in a detailed fashion, what motivates (or triggers) the occurrence of a constituent in the immediately preverbal position from the perspective of focusing. My initial hypothesis is as follows (naturally, it is based on several crucial aspects of a variety of approaches).

(a) Obviously, the "common denominator" is that the preverbal constituent and the verb make up a phonological word (unit) with the verb losing its ordinary word-initial stress completely or to a considerable extent.[3]

(b) This syntactic adjacency and phonological pattern of the two elements can serve two distinct purposes. On the one hand, the preverbal constituent receives a remarkable degree of prosodic salience, which enables it to encode a designated type of discourse salience (= focusing, for details, see point c) below). On the other hand, when the verb definitely makes up a lexical unit with a syntactically separable element (an obviously marked but not at all uncommon option across languages) as in the case of PVCs and idioms, this lexical unity can be naturally encoded by this configuration in neutral sentences. Given that there is always only one finite verb in a clause, and, therefore, only one prosodically salient position, the two purposes cannot be simultaneously satisfied under normal circumstances. This is the cause of the famous preverbal complementarity.[4] Naturally, discourse salience enjoys priority.

(c) Capitalizing on Kálmán's (2001) important empirical generalizations, and by developing them further, my basic idea is that four types of focus should be distinguished in Spec,VP: (i) ordinary focus ("everybody's focus"): exhaustive/exclusive identification (ii) Kálmán's (2001) hocus: identification (iii) presentational focus (iv) verum focus. The differences between them are as follows. (i) cannot be used in an out-of-the-blue sentence: it has to be used as an answer to a constituent question or as a corrective sentence. (ii) can be used in an out-of-the-blue sentence, but certain "shared knowledge" or a shared presupposition is necessary for identification to be possible. (iii) can be used in an out-of-the-blue sentence, and it does not require any "shared knowledge" or any shared presupposition. (iv) emphatically verifies the truth value of a statement.

(d) I claim that a generalization assuming that the motivation for the occurrence of a constituent in Spec,VP is complex predicate formation in general (which is often rather vaguely defined) is untenable. And a partially related issue: I also claim that a general (uniform) syntactic incorporation analysis in the case of VMs is not feasible either. Of course, there are VM types in which the VM and the verb clearly make up a lexical unit (a complex predicate in this sense), see PVCs and idioms, for instance; however, even in these cases the VM should not be analyzed as incorporated into the verb in the syntax.

(e) The generalization I intend to explore is that the "common denominator" of the behaviour of all VMs is that they are lexically specified. At one end of the scale we have PVCs and idioms (lexical but not syntactic complex predicates), and at the other end we find verbs that require one of their designated XP arguments to occupy the preverbal position in neutral sentences, for instance *érkezik* 'arrive'. In this case, only this requirement is encoded in the verb's lexical form. It stands to reason to assume that

[3] It is an issue belonging to a subordinate dimension whether the intonation of the rest of the sentence after the verb follows the focus (i.e. nonneutral), "eradicating" stress pattern, with all the phrases losing their customary stress entirely or to a large extent or it follows the neutral stress pattern.

[4] And, I think, it is for this reason that approaches postulating a single designated syntactic position (in combination with the what-you-see-is what-you-get principle) can be considered more feasible intuitively.

such verbs create a special "presentational focus" configuration for their designated argument in a neutral sentence.[5]

7.4. Chapter 4. Operators

In this chapter, first I offered a detailed discussion and critique of Mycock's (2010) analysis of the Hungarian operator field, supported by her substantial experimental research. Against this background, I presented a detailed LFG-XLE analysis of eleven Hungarian construction types involving constituents in the post-topic and preverbal zone: in the $[XP,VP]_{VP}$ quantifier position and in the Spec,VP focus/VM position. In addition to the basic structures that are analyzed in all major generative approaches to this domain of Hungarian sentence structure, I also developed coherent accounts of some marked constructions that call for special treatments in all approaches. The most important aspects of my comprehensive analysis are as follows.

1) I assume that there are four major constituent types immediately preceding the verb in the Spec,VP position in complementary distribution:
   (a) a verbal modifier (VM)
   (b) a focused constituent (including negated constituents, which, in turn, include negated universal quantifiers)
   (c) the question phrase in a single constituent question, or the final question phrase in a multiple constituent question
   (d) the negative particle
2) In the case of all the four types, only a single constituent can occupy this designated position: in a multiple constituent question all the nonfinal question phrases are in quantifier positions.
3) In the basic construction types, quantifiers and nonfinal question phrases occupy a (possibly iteratively) VP-adjoined position: $[XP,VP]_{VP}$.
4) I call these $[XP,VP]_{VP}$ positions the "operator field", distinct from the Spec,VP position, which I consider a special designated position, typically occupied by operators, but not always: various kinds of VMs are not operators in the strict LFG sense of the word.
5) I make a distinction between *predicate*, which is the VP, obviously subsuming the Spec,VP position, and *predication*, which subsumes the operator field (one or more VP-adjoined constituents) and the predicate.
6) In LFG's overall nonderivational, parallel-representational framework, and in the spirit of its what-you-see-is-what-you-get principle, I assume that the aforementioned four constituents compete for the same designated Spec,VP position, and I capture their complementarity by disjunctive sets of functional annotations.
7) I also use disjunctive sets of (possibly disjunctive sets of) annotations to capture the complementarity of constituents in the $[XP,VP]_{VP}$ position. In the overwhelming majority of the constructions under investigation (universal) quantifiers and question phrases occupy this position.

[5] In an important sense, the properties of this VM type yield an additional motivation for assuming that focused constituents and VMs occupy the very same syntactic position in complementary distribution: an ordinary VM (in a neutral sentence) exhibits presentational focus behaviour, a borderline case between the two domains.

8) In addition to the regular LFG(-XLE) annotational apparatus, I make crucial use of XLE's CHECK features (both in c-structures and in lexical forms) to capture the complementarity of various constituents in a particular position, on the one hand, and to encode inevitable instances of context-sensitivity, on the other hand: certain constituents need to "see each other" from and in their respective positions.
9) I use exactly the same strategy and devices in the analysis of highly marked, special constructions: "question phrase + neg-focus + verb" and "focus + question phrase + verb".
10) My analysis is XLE-implementable, and this has been successfully tested in the case of the syntactic behaviour of several constructions under investigation.
11) This analysis incorporates the crucial syntax-prosody interface properties of the constructions. In LFG's parallel representational model, the full prosodic dimension can be formally encoded along the lines of Mycock (2006) or Dalrymple & Mycock (2011).
12) In the analysis of the (co-)occurrence of various constituents in $[XP,VP]_{VP}$ and Spec,VP in the eleven constructions I concentrated on, I confined myself to formally modelling the conditions licensing their (co-)occurrence. I leave it to (immediate) future research to augment this analysis with constraints that prevent certain constituents from co-occurring with certain other constituents in the relevant positions. This requires the thoroughgoing investigation of the formal possibilities of capturing the pertinent generalizations and their consequences for the overall analysis from both LFG-theoretical and XLE-implementational points of view.
13) In this dissertation, I only dealt with universal quantifiers. I leave exploring the distribution and co-occurrence properties of all types of quantifiers and operators in the quantifier zone to future research.

7.5. Chapter 5. Negation

In this chapter, after presenting the basic negation facts in Hungarian and discussing some salient nonLFG generative approaches, I proposed a general LFG-XLE framework for the treatment of the fundamental types of negation by capitalizing on É. Kiss' (1992) empirical generalizations and on the key structural aspects of her GB analysis. Then I modified and augmented this LFG-XLE analysis 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.

1) In order to ensure parsing and generation efficiency, I made use of the standard XLE devices: special syntactic categories for the negative particles involved: NEG and SEM, and specifically labelled phrasal projections: YPsnem and YPsem.
2) I argued for using all the three modes of treating negation phenomena in the ParGram tradition in the analysis of Hungarian.
3) In the spirit of Forst et al. (2010) and Laczkó & Rákosi (2011), in my analysis I use the nonprojecting categories PRT and NEG in both head-adjunction and phrasal configurations. However, technically it would also be possible to do without the nonprojecting 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'.

4) 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 nonprojecting 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.

5) 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.

7.6. Chapter 6. Copula constructions and functional structure

In Section 6.1, I presented some salient approaches to the fundamental types of English CCs. In Section 6.2, I offered a detailed discussion of Hegedűs' (2013) MP analysis of several major Hungarian CC types. In addition, I related it to several MP assumptions about CCs across languages as well as to some alternative MP accounts of Hungarian CCs. In Section 6.3, I developed the first comprehensive LFG analysis of the five most important types of copula constructions in Hungarian. The most significant general aspects of my approach are as follows.

1) I subscribe to the view, advocated by Dalrymple et al. (2004) and Nordlinger & Sadler (2007), that the best LFG strategy is to examine all CCs individually and to allow for diversity and systematic variation both in c-structure and in f-structure representations across and even within languages. This means that I reject Butt et al.'s (1999a) and Attia's (2008) uniform PREDLINK approach at the f-structure level.

2) I argue against the two-tier, open, XCOMP analysis of CCs – at least in languages like Hungarian.

3) I employ the following analysis types:

   (a) single-tier, functional cohead (open);

   (b) double-tier, PREDLINK or OBL (closed).

4) In the introduction to Chapter 6, I raise two questions. (i) What are the formal-strategic differences between MP and LFG approaches? (ii) What role should be attributed to f-structure representation in the analysis of various CC types in LFG? On the basis of the discussion in this chapter the answers to these questions are as follows.

   (a) Given the architectures, principles and assumptions of the two theories, they seriously constrain the analytical strategies available in general and in the treatment of CCs in particular. All MP approaches employ a complex syntactic apparatus. They assume a uniform invariant initial structure and they derive the various CC types by dint of several syntactic operations. By contrast, in LFG no such syntactic operations are possible; consequently, a lexical treatment is needed. From this it automatically follows that the partially different behaviours of CCs have to be captured by assuming several appropriate lexical forms for BE in which we encode their respective syntactic properties. Let me point out that both these radically different approaches can handle the phenomena under investigation in a principled manner in their own systems. The choice between these approaches in this case, just like in general, depends on which of them one considers to be a more plausible model of the competence of language users. Needless to say, my choice in this case, and in general, is LFG.

(b) In Section 6.3, I argued for the type of approach in the LFG framework that, on the one hand, employs several distinct lexical forms of BE (with different argument structures), and, on the other hand, partially following from this, assumes that the f-structures of various CC types are different, which contrasts with the alternative view that postulates a uniform f-structure.

7.7. Some general final remarks

1) This has been the first systematic LFG analysis of the preverbal domain of Hungarian finite clauses and the implementational testing of various crucial aspects of this analysis.

2) It concentrated on the fundamental construction types, and its main objective was to capture the basic generalizations about the phenomena under investigation in LFG in a principled and implementable (implemented) way.

3) Some parts of the analysis are detailed either LFG-theoretically or XLE-implementationally (or both ways), while some other parts are more programmatic, hopefully providing a solid basis for a detailed and comprehensive LFG analysis and its XLE implementation in our HunGram project.

4) I intend to base the development of this fully-fledged, comprehensive LFG-XLE analysis, to a great extent, on the extensive descriptive coverage of the relevant data to be provided by the currently running CGRH project[6] to be completed in two years' time.

5) It will be an additional research project to develop an LFG-XLE treatment of the postverbal domain of finite clauses. This will be followed by the analysis of nonfinite clauses, and, finally, by the analysis of complex sentences.

6) I hope that my results so far have made some meaningful contribution to LFG's and XLE's cross-linguistic coverage of the relevant phenomena and to the development of LFG's Universal Grammar, and I also hope that the contribution of my larger-scale project will be proportionately larger.

[6] *Comprehensive Grammar Resources: Hungarian*, NKFIH (formerly: OTKA) NK 100804, principal investigator: István Kenesei.

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