4 Towards an LFG analysis of discourse functions in Hungarian*

Anna Gazdik
Hungarian Academy of Sciences

1   Introduction

This paper investigates a possible analysis of the syntax-discourse interface in Hungarian in the non-derivational framework of Lexical-Functional Grammar (LFG). In the mainstream literature on Hungarian syntax, discourse functions are integrated into a hierarchical syntactic structure, which thus amalgamates syntactic, semantic and discourse information. In the proposed analysis, discourse functions are dissociated from syntactic positions. To achieve this, the parallel but interrelated representational levels of the LFG framework are exploited. The present paper can only sketch the most important assumptions of the analysis, while other details remain to be worked out later. The paper is structured as follows. The next section examines the basic distributional patterns in the Hungarian sentence in a topological and framework-neutral way. In the next step, these distributional patterns are associated with discourse contexts in which the particular sentences are uttered. In the third section, the LFG approach to information structure is presented, which consists of a separate i(nformation)-structure dissociated from syntax and its correspondences with the other levels of representation. After considering the i-structure adopted in the mainstream LFG framework, I will argue for an alternative one that could account for the presented data more adequately. Then a possible syntactic structure will be proposed for Hungarian in the LFG framework along with its correspondences with the i-structure.

2   The basic syntactic structure

Schematically, the Hungarian sentence can be divided into two fields: the *topic* and the *comment*, and the comment can be further divided into four subfields: the

pre-comment, the *prominent preverbal position*, the *finite verb*, and the *postverbal part*. This is illustrated in Figure 1:[1]

Topic field   Comment

Quantifiers   PPP   V   Postverbal   part
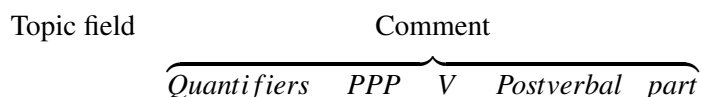
Figure 1: *The schematic representation of the Hungarian sentence*

Although the names (topic, comment, prominent preverbal position, etc.) are of semantic/pragmatic nature, there are also syntactic (distributional) and prosodic arguments for this division of the Hungarian sentence into these fields and subfields. However, they reflect the assumption that the structure of the Hungarian sentence does not encode grammatical functions, like in configurational languages, but the way the sentence and its parts relate to the discourse in which the sentence is uttered. This section is based on Kiefer (1992), Kálmán (2001) and É. Kiss (2002).

2.1   Distribution

Concerning the distribution of the elements in these fields and positions, we can observe that some positions can be freely filled by elements, whereas others are more restricted. The topic field is usually reserved for definite or specific indefinite noun phrases, referential (time and place) adverbials (individualizable elements), whose order is free in the topic field. However, the rightmost position of certain sentence adverbials, like *tegnap* (yesterday), *idén* (this year) indicates the right frontier of the topic field itself as well. These adverbials are interpreted as sentence adverbials in the topic field (1), but as referring only to the immediately following constituent in the comment (2).[2]

(1)   *A 'vonaton   'tegnap   sok   'gyerek 'utazott.*
      the train.SUPERESS yesterday a lot of child   travel.PST
      'Yesterday, there was a lot of children travelling on the train.'

(2)   *A vonaton   "tegnap   utazott   sok   gyerek.*
      the train.SUPERESS yesterday travel.PST a lot of child
      'It was yesterday that a lot of children were travelling on the train.'

---

[1]Note that 1 is a schematic, topological representation, and not a syntactic structure proposed in a particular framework.

[2]' indicates a main stress, " a so-called eradicating stress.

However, even a larger set of elements can appear in the topic field, such as infinitives, adjectives, bare nouns, quantifiers, verbal modifiers, and adverbs (other than the ones mentioned above), provided that they carry a certain type of pitch accent (often referred to as *eradicating stress* in the literature), which can only be followed by another eradicating stress, otherwise the rest of the sentence is deaccented, or all other main stresses are reduced. The eradicating stress in the topic field is usually followed by another one, possibly in the precomment, but typically in the *prominent preverbal position*. This topic type is called *contrastive topic* in the literature.

In the precomment part, we find the various distributive quantifiers that follow a given order. Kálmán (2001) classifies them based on their order into the *IS (also)-group*, the *MINDEN (all)-field* and the *SOK (a lot)-position*.

The prominent preverbal position (henceforth PPP), which is between the pre-comment and the finite verb, can also be occupied by a wide range of elements. Some of them appear in the PPP in level-prosody sentences and can receive an eradicating stress *in situ*. However, they must follow the verb if there is another element that carries an eradicating stress. The explanation is that only one of them can precede the verb, thus when there is more than one potential element that can occupy the PPP in a sentence, the others appear in postverbal positions (except for some questions in which there is also a focused constituent).

Kálmán (2001) refers to these elements as *verb carriers*, referring to the fact that the element in that position always bears main stress and the verb following it is destressed and cliticizes on the preverbal element. Let us now enumerate the possible elements in that position (based on Kálmán (2001)):

- Verbal Modifiers (VM)

  Verbal modifiers include verbal particles, bare nominal complements and secondary predicates. Verbal particles (3)–(4) can have an adverbial or a lexicalised aspectual meaning. When there is no other potential verb carrier, they precede the verb, otherwise they follow it:[3]

  (3) ˈJános ˈ**ki**olvasta   a   ˈkönyvet.
       John   VM.read.PST the book.ACC
       'John finished the book.'

  (4)   ˈJános ˈˈegy hét   alatt   olvasta **ki** a   könyvet.
       John one   week under read.PST VM   the book.ACC
       'John finished the book in one week.'

---

[3]Verbal particles are written as one word with the noun when they precede it, but as two words when they follow it.

About a classification and analysis of verbal particles, see for instance Surányi (2009) and Laczkó and Rákosi (2011) (in LFG). Another type of verbal modifiers is bare nominal complements, illustrated by the following example:

(5)   'János 'levelet   ír.
        John   letter.ACC writes
        'John is letter-writing.'

Finally, secondary predicates co-occur with some (other) argument of the verb, about which they state something. They often express a goal (6) or a result (7), and appear in the immediately preverbal position:

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

(7)   'János 'pirosra festette   a   'kerítést.
        John   red.SUBL paint.PST the fence.ACC
        'John has painted the fence red.'

Infinitives often play the role of such secondary predicates and they can also occupy the PPP, for instance when they complement an auxiliary (8), or when they express the oblique goal (or some other) argument of the main verb (9).

(8)   'Mari 'kirándulni akar.
        Mary to hike   wants
        'Mary wants to go hiking.'

(9)   'János 'kapálni indult.
        John   to hoe   set out.PST
        'John set out to go hoeing.'

• The Hocus

The hocus (introduced by Kálmán (1985a,b); Kálmán et al. (1986), and also referred to in Kálmán (2001)) is a noun phrase (and possibly a negative adverb or a monotone decreasing quantifier), expressing some participant or circumstance in the event denoted by the predicate. Such elements/phrases can bear main stress and appear in the prominent preverbal position when the event denoted by the verb is not particularly newsworthy, or it is a regular event, apart from the circumstance or participant denoted by the hocus. In

these cases, the main proposition of the sentence is the identification of this participant or circumstance.

(10)   *János 'tegnap   'vonattal 'utazott   'haza. (NP)*
       John   yesterday by train   travel.PST home
       'Yesterday John took the train to go home.'

(11)   *'Ma a 'feleségem   'vitte   az 'óvodába   a*
       today the wife.POSS.1SG take.PST the kindergarten.ILL the
       'gyerekeket.   (NP)
       children.ACC
       'Today my wife took the children to the kindergarten.'

(12)   *'Kevesen 'jöttek   el a 'bulira.*
       few   come.PST VM the party.SUBL
       (monotone decreasing quantifier)

       'Only a few people came to the party.'

(13)   *'János 'ritkán 'megy el   'kirándulni. (negative adverb)*
       John   seldom goes VM to hike
       'John seldom goes hiking.'

Example (10) implies that John usually does not take the train, according to (11) it is usually not his wife, but someone else that takes the children to the kindergarten, in (12) more people were expected to come to the party, and in (15) John goes hiking less often than it would be expected.[4]

In identificational sentences, the subject appears as the hocus, preceding the verb (copula):

(14)   *'János volt az 'igazgató.*
       John   was the director.
       'John was the director.'

(15)   *A   'nyomozó 'a sógorom   volt.*
       the inspector the brother-in-law.POSS.1SG was
       'My brother-in-law was the inspector.'

---

[4]Note that contrary to monotone decreasing quantifiers, monotone increasing quantifiers appear in the precomment.

In the mainstream linguistic literature on Hungarian, sentences containing a hocus are rarely discussed, and they are not clearly distinguished from narrow-focus sentences. This is a problem, since the *hocus* clearly differs from focused constituents, both formally and semantically (see below).

• The Focus

The focused constituent differs from the above mentioned verb carriers in that it bears sharp falling pitch accent, also called *eradicating stress*, referring to the fact that no main stress (only another eradicating stress) can follow it in the rest of the sentence. In Hungarian, the main function of focus is the implication of contrast, *i.e.* it identifies the entities about which the predicate holds and restricts the validity of the predicate to only these entities by excluding the other members of the relevant set. Sentences with focus cannot be uttered *out of the blue*. In most cases, they are answers to questions (16), reactions or corrections (17):[5]

(16)   Answer:

    a.   *Q: -**Ki** hívta   meg Marit   a bulira?*
            who invite.PST VM Mary.ACC the party.SUBL
            'Who invited Mary to the party?'
    b.   *A: -"**JÁNOS** hívta   meg (Marit   a bulira).*
            John   invite.PST VM (Mary.ACC the party.SUBL)
            'It was JOHN who invited her (to the party).'

(17)   Correction:

    a.   *S1: -Mari tegnap   kiolvasta   a Háború és békét.*
            Mary yesterday VM.read.PST the War   and Peace.ACC
            'Mary finished yesterday *War and Peace*.'
    b.   *S2: -Nem, a   "**BŰN ÉS BŰNHŐDÉST**   olvasta ki.*
            no,   the Crime and Punishment.ACC read.PST VM
            'No, she finished *Crime and Punishment* yesterday.'

It is important to note that the focus is a semantic, and not a lexically defined category (like verbal modifiers, for instance). This means that elements/constituents of different categories can be focused: verbal modifiers can bear an eradicating stress in their immediately preverbal position *in situ* (19), whereas other elements cannot be focused in their canonical position, but must appear in a preverbal position. This position is the PPP in most cases (and then verbal modifiers must appear postverbally), but even elements in

---

[5]Capitals indicate the focused constituent, carrying an eradicating stress

the precomment can be focused (for instance, when they follow a contrastive topic in the topic field):

(18)   *János "**MEG**ette a   levest.*
         John   VM.ate   the soup.ACC
         John DID eat the soup.

(19)   *János "**LEVELET** ír.*
         John   letter   writes
         John is writing a LETTER (and not a diary).

(20)   */A   csillagok háborúját **MINDENKI** megnézte.*[6]
         the star   wars.ACC everyone   VM.watched
         'Star wars was seen by everyone (but the other films were not).'

In (18), the truth value of the sentence is contrasted to the falsity of the sentence and focused, which is referred to as *verum focus* in the literature. In (19), the letter-writing activity is contrasted to other potential writing activities, and in (20), *A csillagok háborúja (Star Wars)* is contrasted to other films, implying that there is at least one other film that was not seen by everyone, only by a certain number of people. Semantically, the universal quantifier is the focus in the sentence, which precedes the PPP (occupied by the verbal modifier *meg*).

Although focus is defined here at the semantico-pragmatic level, we should note that in Hungarian (and in other languages as well), it is also formally highlighted: it appears in salient syntactic positions, and/or carries a pitch accent. The set of salient syntactic positions varies from language to language. In Hungarian, the PPP (16)-(17) and the right periphery (21) of the sentence count as salient with respect to the focus (although, as we have seen, if the focus in a universal quantifier, it has to appear in the precomment (20)).

(21)   *A   "**LÁNYOK** nyerték meg tegnap   a   "**KAJAKVERSENYT**,*
         the girls   won   VM yesterday the kayak contest,
         *a   "**FIÚK** pedig a   "**KENUVERSENYT**.*
         the boys   and   the canoe contest
         'It was the girls who won the kayak contest yesterday, and the boys who won the canoe contest.'

In (21), the clauses are parallel structures: what is common in them (the verb and the time adverbial) undergoes ellipsis in the second clause, whereas what

---

[6]/ indicates the rising intonation of the contrastive topic

is different is focused. Both clauses contain two foci, one in the PPP, the other on the right periphery.

In order to see the differences between them more clearly, let us now compare the *hocus* and the *focus*. Considering the formal (prosodic) difference, as we have seen, the focus is prosodically distinguished, carrying a sharp pitch accent or eradicating stress (followed by the deaccenting or reduced stress of the post-focal material), whereas the hocus is not more prominent prosodically than the other lexical elements of the sentence (except for the verb which cliticizes on it). Turning now to the semantic difference, consider the following examples (based on Kálmán (2001)):

(22)   *'Ezen   a héten   a 'Mecsekben*
       this.SUPERESS the week.SUPERESS the Mecsek.INESS
       raboltak   ki egy 'pénzszállító   autót.
       rob.PST.3PL VM a   money transport car.ACC
       'This week it was in the Mecsek (mountains) that a money transport vehicle was robbed.'

(23)   *'Ezen   a héten   a ''MECSEKBEN*
       this.SUPERESS the week.SUPERESS the Mecsek.INESS
       raboltak   ki egy pénzszállító   autót.
       rob.PST.3PL VM a   money transport car.ACC
       'This week it was in the Mecsek (mountains) that a money transport vehicle was robbed.'

A Mecsekben is hocus in (22) and focus in (23). The only formal difference between them is the stress they bear (main stress or eradicating stress). The formal difference also corresponds to semantic differences between the two sentences, which can be illustrated by the different contexts in which they can be used. In the first case, robbing a money transport vehicle counts as a usual event. The hocus identifies the place where the event happened this week. The location counts as non-canonical, unusual and surprising at the same time, either because this happens less often in mountains, or because the Mecsek is not known for such crimes. In (23), robbing a money transport car is not necessarily a usual event. The focus identifies the place where it happened, contrasting it to other locations, where it could have potentially happened, or correcting a previously proposed other location.

The hocus and the focus are thus both identificational elements, but they are compatible with different discourse contexts. In addition to identification, the

focused constituent presupposes that the proposition cannot be true simultaneously with another, in which the focused element is changed to an alternative to its denotation (the robbery cannot take place at two locations at the same time). To illustrate this, consider the possible continuations of (22) and (23):

(24)   a.   *'Ezen   a   héten   a   'Mecsekben*
            this.SUPERESS the week.SUPERESS the Mecsek.INESS
            raboltak   ki egy 'pénzszállító   autót.
            rob.PST.3PL VM a   money transport car.ACC
            'This week it was in the Mecsek (mountains) that a money
            transport vehicle was robbed.'

       b.   *Nem, nem csak ott. A   Bakonyban   is kiraboltak*
            no   not   only there the Bakony.INESS too VM.rob.PST.3PL
            egyet.
            one.ACC
            'No, not only there. One was robbed in the Bakony too.'

(25)   a.   *Ezen   a   héten   a   "MECSEKBEN*
            this.SUPERESS the week.SUPERESS the Mecsek.INESS
            raboltak   ki egy pénzszállító   autót.
            rob.PST.3PL VM a   money transport car
            'This week it was in the Mecsek that a money transport vehicle
            was robbed.'

       b.   #Nem, nem csak ott. A Bakonyban is kiraboltak egyet.

The main semantic difference between the two is thus the fact that in addition to identification, the focus has an exclusive/exhaustive meaning that the hocus lacks.

• Question words

Finally, question words typically in the immediately preverbal position as well. In the presence of a question word not only verbal modifiers (26) and other verb carriers, but elements of the precomment (27) also occupy postverbal positions:

(26)   **Kit**   *hívott   meg János a   bulira?*
       who.ACC invite.PST VM János the party.SUBL
       'Who did John invite to the party?'

(27)   **Kire**   *szavazott mindenki?*
       who.SUBL vote.PST   everybody
       'Who did everybody vote for?'

To sum up, the verbal modifiers in (3)–(9) are in complementary distribution with each other, *i.e.* a verb cannot appear simultaneously with a verbal particle and a secondary predicate, even if one of those followed the verb. They can all receive an eradicating stress *in situ*, in the PPP. However, in the presence of the elements in (10)-(27), they have to follow the verb.

2.2 The role of discourse structure

Considering the diversity of elements that can occupy the prominent preverbal position, how are their common properties to be determined? Should all these elements be assigned to the very same position? As we have already seen in the case of secondary predicates, these elements contribute to the meaning of the sentence with a secondary/independent proposition that can sometimes modify the proposition formulated by the comment. According to É. Kiss (2006), not only verbal modifiers can be considered as resultative, locative or terminative secondary predicates, but structural focus can be reanalyzed as a *specificational predicate* (similarly to English cleft sentences) as well. Komlósy (1994) also showed that preverbal bare nominals function as predicates that predicate of an existentially bound variable incorporated into the verb. In this paper I argue that apart from the common grammatical function (secondary predicates), the common properties of some of the elements in the PPP are related to the information structure and to the discourse the sentence is uttered in.

To see this last point more clearly, an important remark is due here. Some of the above mentioned elements can never appear in the same sentence, since the discourse types they can be part of are different. In Hungarian, based on formal, interpretational and discourse factors, two types of sentences can be distinguished: *"neutral"* (sometimes referred to as all-focus[7]) and *"non-neutral"* (narrow-focus) sentences (see Kálmán 1985a,b). Formally, non-neutral sentences contain an eradicating stress (28) in the PPP (and possibly also in the topic field), whereas neutral sentences have level-prosody and can contain several main stresses (29):

(28)   *'Tegnap "**MARIT** láttam   a városban, (nem **JÁNOST**).*
        yesterday Mary.ACC see.PST.1SG the city.INESS (not John)
        'Yesterday I saw MARY in the city, not JOHN.'

(29)   *'János 'tegnap   'vonattal   utazott   'haza. = (1)*
        John   yesterday train.INSTR travel.PST home
        'Yesterday John took the train to go home.'

---

[7]These sentences cannot be analyzed as *all-focus* in Hungarian, although they are answers to questions such as *What happened?*, since they can contain topics.

The two types of sentences are used in different contexts. Neutral sentences, present mostly in narrative contexts, only convey information (answering questions of the type *What happened?*) and/or continue the narrative, whereas non-neutral sentences are used for asking questions, answering questions, corrections and confirmations, disagreement, and for highlighting parallels. If we analyze the discourse as the hierarchy of topics and subtopics (Roberts 1996; Büring 1997) (or, a question under discussion, subquestions and the possible answers), we can see that both sentence types contain two prominent preverbal parts (the topic field and the PPP), and a set of (in the sense of Jacobs 1984) prominent element types that can fill these positions. Elements in the topic field relate to the discourse in a way that they thematize it by selecting the subtopic/subquestion with respect to which the given sentence adds new information to the common ground. On the other hand, elements appearing in the PPP (or possibly in the precomment), constitute the most informative, prominent part of the sentence. In some cases, this can be new information, or the part that answers a question, or the unexpected or unusual part of the meaning (as we have seen in the case of the *hocus*).

Concerning the topic field, the elements occurring there have different properties in non-neutral and neutral sentences. I distinguish between two types of topics: *thematic shifters* and *contrastive topics*. It is common in the two cases that they introduce subtopics/subquestions. In a neutral context, there is no topic in the sentence if the sentence continues the previous subtopic. However, when a sentence changes the subtopic, the element in the linearly first position indicates the topic shift. This is why this type of topic is often called *thematic shifter*. In the following examples the subtopic is not changed in the second sentence with respect to the subtopic of the discourse topic introduced in the first. This is why the repetition of the subject even with a subject pronoun is pragmatically anomalous, unless the pronoun is interpreted contrastively (based on Erteschik-Shir 2007).

(30)   *János szeret olvasni. (#Ő) Intelligens, szorgalmas   és   sokra*
        János likes to read (he) intelligent, hard-working and much.SUBL
        fogja vinni.
        will   reach
        'John likes reading, he is intelligent, hard-working and he will achieve a lot.'

(31)   *Van egy új   lány az osztályban, akit   nagyon szeret a   tanár. (#Ő)*
        is   a   new girl the class.INESS, whom very   likes   the teacher (she)
        Mindenre tudott válaszolni, amit a   tanár   kérdezett.
        all.SUBL could answer,   that the teacher ask.PST
        'There is a new girl in the class, whom the teacher likes very much. She could answer all the questions the teacher asked.'

On the other hand, subjects which are the thematic shifters have to be present in the following example, since the subtopic is changed in each clause.

(32)   *Mesélek   neked   a   barátaimról,   Jánosról, Paliról*
       tell.PRS.1SG you.DAT the friends.POSS1SG.DEL, John.DEL, Paul.DEL
       és Mariról.   János egy régi iskolai barátom,   Palit   a
       and Mary.DEL. John an old school friend.POSS.1SG, Paul.ACC the
       főiskoláról ismerem, Marival   pedig együtt   dolgozom.
       college.DEL know.1SG, Mary.INSTR and   together work.PRS.1SG
       'I'll tell you about my friends, John, Paul and Mary. John is an old friend of mine from school, Paul, I know him from college, and Mary and I work together.'

The other type of topic, which appears only in non-neutral sentences, (indicated prosodically with eradicating stress and a rising tone) is closely related to the contrastive property of these sentences and is called *contrastive topic* in the literature. The contrastive topic restricts the domain of the validity of the focused constituent to some element of a set, implying that the focused constituent does not hold to other elements of the relevant set (see also example (20)):

(33)   a.   *Q: -Mit hoztak   a   vendégek a   bulira?*
            what bring.PST the guests   the party.SUBL
            'What did the guests bring to the party?'
       b.   *A: -/**Mari CSOKITORTÁT** hozott.*
            Mary   chocolate cake   bring.PST
            'As for Mary, she brought a chocolate cake.'

According to Büring (2003), in the example (33b) the contrastive topic (Mari), indicates *the strategy* of answering a question: the decomposition of the set of guests into its elements, the individual guests, and associates each of them with an answer (*i.e.* a focused constituent). This association means at the same time that as opposed to *Mary*, there is at least someone else who did not bring a chocolate cake. In this respect, the two topic types have a similar function: they decompose the main question into subquestions, relating the sentence to the discourse in which in is uttered. Although *contrastive topics* appear only in non-neutral sentences, *thematic shifters* are not restricted to neutral sentences. When contrastive topics co-occur with thematic shifters, the sentence is linked both to a more general discourse topic and to a more restricted one:

(34)   [$_T$*János*] [$_{CT}$*a levest*] $_F$*megette(, de a*   [$_{CT}$*húst*] [$_F$*nem*]).*
       John   the   soup.ACC VM.eat.PST but the meat.ACC not
       'As for the soup, John did eat it (, but he did not eat the meat).'

<div align="right">(Gyuris 2002: p. 23, 15)</div>

In (34), the thematic shifter is *János*. The sentence contains a contrastive topic (*a levest*), which is implicitly or explicitly contrasted to *a húst*. In the two parallel clauses, the focus values are also different, since different contrastive topic values have to be mapped on different focus values (Gyuris 2009). The different focus values are verum and falsum foci, respectively.

Concerning the PPP, the elements appearing there in neutral sentences are the hocus and verbal modifiers, whereas non-neutral sentences contain a focused constituent in this position (or possibly in the precomment).

The two types of sentences are schematically represented below. The square brackets indicate the two main parts of the sentence (the topic, as we mentioned above, is not obligatory, and sentences can even start with the finite verb when there is no quantifier or focus). The round brackets indicate that the position of ordinary topics with respect to the contrastive topic is optional.

(35)   Neutral sentence
      [THEMATIC SHIFTER] [COMMENT: precomment, hocus/verbal modifiers, finite verb, other constituents]

(36)   Non-neutral sentence
      [(THEMATIC SHIFTER), CONTRASTIVE TOPIC, (THEMATIC SHIFTER)] [COMMENT: precomment, focus in PPP/ focused verbal modifiers, finite verb, (verbal modifier), other constituents]

3   The LFG approach

LFG is a non-transformational framework that (according to most analyses) contains no traces or empty categories (however, see Bresnan (1995) for an alternative view). It consists of parallel levels of representation that are interrelated via correspondence functions. A detailed description of the LFG framework can be found in Bresnan (2001); Dalrymple (2001); Falk (2001) and Komlósy (2001) (in Hungarian). The level of syntax is represented in two structures: c(onstituent)-structure, which is a tree diagram, based on flexible X-bar principles (no binary-branching constraint, constituents can be exocentric) representing dominance and linear precedence relations; and f(unctional)-structure, a feature matrix encoding grammatical functions

and predicate-argument relations. Since the beginning of research in the LFG frame-
work, many other levels of representation have been proposed that encode other
aspects: *argument structure*, *prosodic structure*, *semantic structure*, *morphological
structure* and *information structure*. In the present analysis, the constituent-, and the
information structure will play an important role, but we will make references to
the prosodic structure as well.

3.1   Information structure

In earlier versions of the LFG framework, discourse functions were integrated into
the functional structure, via functional uncertainty (one syntactic unit was associated
with two functions at the same time, for instance *topic* and *subject*). The projection
of the information structure as a separate level of representation was motivated by
the following problems.

First of all, King (1997) argued that encoding discourse functions in the f-
structure leads to circularity, in case it is only the verb, without its arguments, that
is focused. Let us look at the following Russian example:

(37)   *Ona PROČITALA knigu.*
        she   read.PST   book
        She READ the book.

(King 1997: p. 5, 9)

The f-structure corresponding to (37) is illustrated in Figure (2).
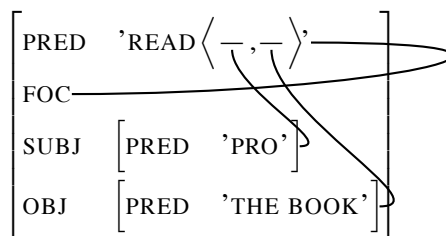
Figure 2: *F-structure: Ona pročitala knigu.*

As can be seen in this structure, it is impossible to focus the predicate without
its arguments. This is why King (1997) proposed an independent level of represen-
tation encoding discourse functions with their bare predicate value (without their
arguments).

Another reason why a separate level of information structure is necessary is that syntactic constituents do not correspond systematically to constituents of information structure:

(38)   a.   Q: -What happened to the dishes?
         b.   A: -JOHN WASHED them.

(Erteschik-Shir 2007: 1, 2b)

(39)   It was the RED shirt that John wore at the party.

In (38), the focus (the answer to the question) is *John washed*, which does not constitute a syntactic constituent. (39), the focus is the colour *red*, but syntactically the whole constituent (*the red shirt*) is clefted (focused). The semantic-syntactic difference can be captured if clefting and focusing (*RED*) are represented at different levels.

Butt and King (1996) propose that the information structure consists of 4 sets, which are defined by the combination of two features: *new +/-* and *prominent +/-*. The *TOPIC* set contains elements that are prominent, but not new, the *FOCUS* set contains new and prominent elements, whereas old and not prominent elements belong to *BACKGROUND* and new but not prominent ones to *COMPLETIVE INFORMATION*[8]:

	Topic	Focus	Background Information	Completive Information
New	−	+	−	+
Prominent	+	+	−	−

Figure 3: *I-Structure units (Butt and King 1996)*

3.2   I-structure: an alternative analysis

The architecture of the information structure, as proposed by Butt and King (1996), King (1997) and Choi (1999), contains *topic* and *focus* as i-structure primitives. There are a number of problems with this architecture, which are enumerated in this section. Then an alternative architecture is proposed, which is not fundamentally

---

[8]The authors observe that there are discourse-new constituent in Hindi-Urdu, which do not constitute the answer to the question (they are not focused), but they are not part of background information either, which is obligatorily postverbal in the language. In the information structure, such constituents are referred to as *completive information*.

different from the one presented above, but it could capture the problematic facts more adequately. The main problem concerns the fact that the set of elements with different discourse, semantic and prosodic properties is larger than the above architecture could accommodate without simplifying these properties. Let us now enumerate a list of these elements, introduced in the previous section:

- Thematic shifters:

  This type of topic was defined as the element that links the sentence to the discourse, by introducing a new subtopic of the discourse topic. In Hungarian, a thematic shifter is present in the sentence only if it does not continue the previous subtopic. As we have seen, not all sentences contain a thematic shifter (for instance, those that contain the previous subtopic of the discourse topic).

- Focus:

  The focus is the semantically (and also prosodically and syntactically) prominent part of answers to questions, corrections, contrastive and parallel structures. There are sentences without a (semantically/prosodically) focused constituent, for instance in narrative contexts. In Hungarian, neutral sentences exhibit level prosody, where no element stands out carrying a pitch accent. The preverbal position is occupied by verbal modifiers or such lexical elements that form a prosodic and lexical unit with the verb (the verb cliticizes on them).

  Since the focus appears only in non-neutral sentences, this part of the information structure cannot be called *focus* in every sentence. In questions, this element is the question word itself, in answers and corrections the focus (itself an NP, a quantifier or a verbal modifier), and in neutral sentences the hocus or a verbal modifier. Our task is then, either to propose a different architecture of information structure for neutral and non-neutral sentences, or, to propose a general and more abstract structure that can be filled in different ways by the different sentence types, taking into consideration the context as well. This paper is an attempt to propose such a general architecture.

- Contrastive Topic:

  Contrastive topics are similar to foci in that they do not appear in *out of the blue* utterances. Both Büring (2003)'s and Gyuris (2009)'s model express that contrastive topics carry the presupposition that there is a focus value (different from and not entailed by that of the sentence) associated with an alternative to the denotation of the contrastive topic. This explains the fact that contrastive

topics always co-occur with a focused constituent. Contrastive topics appear in answers to subquestions of the main question, linking the partial answers to the discourse topic (modeled as the Question under discussion).

- Hocus:

  The hocus is an argument or adjunct appearing in the preverbal position in neutral sentences in Hungarian. It lacks the pitch accent and the contrastive-exclusive reading of focused constituents in non-neutral sentences. It follows from the facts presented above that the hocus is not a subtype of focus, and thus it would be difficult to integrate it into Butt and King (1996)'s model of information structure.

- Question words:

  Question words are often argued to constitute a subclass of focus, based on similarities in prosody, syntactic position, semantics and, in some languages, morphology. Despite the apparent similarities, it would be too hasty a generalization to collapse question words into foci in Hungarian. Let us examine if there is conclusive evidence to claim that question words are obligatorily focused.

  - Syntax

    It has been observed that question words and focused constituents often occupy the same syntactic position in various languages. This seems certainly the case in Hungarian, since it is commonly accepted that the preverbal position is a focus-position in Hungarian. Nevertheless, most analyses dealing with the syntax of Hungarian ignore the fact that it is not an exclusive focus position (it can host the hocus, question words, negative adverbs and monotone decreasing quantifiers, and, depending on the syntactic structure adopted, verbal modifiers), and focused constituents can appear in different positions in the structure as well (on the right periphery, or preverbally, preceding immediately preverbal question words). In addition, the cumulation of question words is possible in the preverbal domain in Hungarian, whereas in the case of foci it is strictly forbidden:[9]

    (40) ***Ki   kivel***   *ment   moziba?*
          who who.INSTR go.PST cinema.ILL
          'Who went to the cinema with whom?'

---

[9]Nevertheless, it is often assumed that only the immediately preverbal question word is focused, the other has also been analyzed as a universal quantifier (É. Kiss 1992), or even as a type of topic (Gazdik 2010).

(41) *__JÁNOS__ *(és)* __TEGNAP__ *ment   moziba.*
      John   and yesterday go.PST cinema.ILL
      Intended: 'It was John who went to the cinema and it was
      yesterday that he went there.'

– Prosody

As far as prosody is concerned, in a Hungarian multiple question
like (46), only the immediately preverbal question word has the same
prosody (pitch accent) as the focus in the same position (Mycock 2006).
Non-sequence-final question words are pronounced at a higher tone,
different from the sequence-final one. This makes them similar to the
intonation pattern of thematic shifters and not to foci.

– Semantics

The common formal properties of foci and question words are reflected
in their semantics as well. According to Rooth (1992), both define a set
of alternatives (that are subject to certain restrictions in the case of a
congruent question-answer pair). Nevertheless, this does not prove that
interrogative words are a subclass of focus. Eckardt (2007) observes
that some question words can be focused (in their metalinguistic use):

(42) *(Azt kérdeztem, hogy)* ''__MIVEL__   *ment,   (nem azt,*
      (that asked,   that) what.INSTR went.PST.3SG, (not that,
      hogy ''__HOVA__*).*
      that   where)
      'I asked HOW he went there, and not WHERE he went.'

In addition, if we considered *wh*-words as a subclass of focus, we could
not distinguish (semantically) multiple questions, and single questions
containing a focused element:

(43) __JÁNOS__ *mit   evett?*
      John   what eat
      'What did JOHN eat?'

(44) __Ki   mit__ *evett?*
      who what eat
      'Who ate what?'

Another problem is the treatment of polar questions. If question words are supposed to be focused, what would be the focus in polar interrogatives, like in the following example:

(45)   *Megetted   a   levest?*
        eat.PST.2SG the soup.ACC
        Have you finished the soup?

Approaching from the pragmatic side, it is also unclear how question words can introduce new information (which was supposed to be the role of focus in certain approaches). Erteschik-Shir (1986) mentions this problem as well:

"[w]hy is it then that some linguists believe that wh-phrases do function as focus or new information? The main reason seems to be a confusion between the function of the wh-phrase in the question and the function of the constituent which replaces it in the answer." (p. 119)

• Completive information: see above

To sum up, the representation of all the variety of different elements enumerated above in an information structure, which explicitly contains three of them as its primitives (topic, focus and completive information) seems to be a difficult task. Contrastive topics are different from thematic shifters, question words are different from foci, although they share some properties.

There are three possible ways to solve this problem. Firstly, we can employ Butt and King (1996)'s labels (TOPIC, FOCUS, BACKGROUND INFORMATION, COMPLETIVE INFORMATION), with a loose semantic interpretation. Belonging to the topic set, in this case, would mean that an element links the sentence to a discourse topic by introducing a subtopic (which can mean the answer to a subquestion), covering both thematic shifters and contrastive topics. Belonging to the focus set would mean that the element is the highlighted and distinguished constituent of the sentence, covering foci, question words and the hocus. The interpretation of completive and background information is, in this respect, less problematic. The exact difference between the different types of elements (question words - foci, contrastive topic - thematic shifter) would follow from two things: from the semantic description of the individual elements included in the i-structure, and from the role the sentence plays in the discourse (question-answer pair, correction, narration, etc.). This means, for instance, that the element in the focus set would have a different semantic content depending on the role of the sentence in the
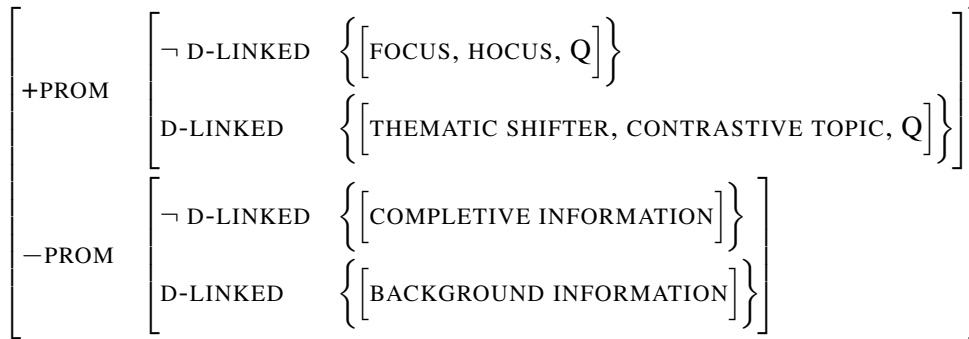
discourse structure, *i.e.* if it is a question, or an answer. However, why should the sets in the i-structure have exactly these labels (which prove to be only labels), if the semantic content of the elements in them can be different?

A second solution (László Kálmán, p.c.) would suppose that there is no general i-structure that would suit all sentence types. This means that the i-structure has many different architectures, depending on the discourse-context and the particular sentence. One would be {CONTRASTIVE TOPIC, FOCUS, BACKGROUND INFORMATION}, others would include {THEMATIC SHIFTER, HOCUS, BACKGROUND INFORMATION}, {QUESTION, BACKGROUND INFORMATION}, etc. Although this is a viable option, in this paper I opt for a third type of analysis. The main reason for this choice is the observation that the different discourse functions do share some important common properties (such as linking the sentence to the discourse topic, or representing the most informative part of the sentence, etc.), and these generalizations would be lost int he case of the separate i-structures posited for the individual sentences.

The third solution would emphasize these common properties of the different discourse functions. Thus a set would include elements based on a common property, without claiming that these elements must be semantically and discourse-wise identical. The exact semantic and discourse properties would follow, as said above, from the meaning constructors of the individual elements and the discourse structure the sentence appears in. In what follows, I present the proposed i-structure architecture. It keeps some aspects of Choi (1997)'s features, but also deviates from it in others.

First of all, we have seen that certain elements are semantically prominent and formally (syntactically or prosodically) highlighted. These elements will be referred to as +PROMINENT, and the others as −PROMINENT. Semantic prominence, as shown above, cannot be equated with focusing. For instance, the prominent part of questions is the question word, which is not analyzed here as a subtype of focus. Nevertheless, questions can contain foci. Semantic prominence can be defined (based on Jacobs (1984)) with respect to the illocutionary operator associated with the given utterance. Each utterance type (*assertion, question, command*, etc.) is associated with an illocutionary operator: ASSERT, QUEST COMMAND, respectively. Prominent elements are the ones specially affected by the illocutionary operator. These elements are different in reactive (focus, contrastive topic) and out of the blue sentences (thematic shifter, hocus, question words), but constitute the prominent set at i-structure. This distinction defines two sets in the i-structure. Furthermore, we have seen that among prominent elements we find such that link the sentence to the discourse (by introducing a subtopic of the discourse topic or reshaping the discourse topic), and others which do not. The first set is called D-LINKED, and the second ¬D-LINKED. This way, the focus is not necessarily supposed to represent new information (the focus does not always introduce new information in the sense of introducing a new discourse referent). The the -PROMINENT set can also be

divided into a D-LINKED and a ¬D-LINKED subset, the first corresponding to background, the second to completive information. The proposed architecture hosts the above mentioned elements as shown in Figure (4).

$$
\begin{bmatrix}
+\text{PROM} & \begin{bmatrix} \neg\,\text{D-LINKED} & \left\{\begin{bmatrix} \text{FOCUS, HOCUS, Q} \end{bmatrix}\right\} \\ \text{D-LINKED} & \left\{\begin{bmatrix} \text{THEMATIC SHIFTER, CONTRASTIVE TOPIC, Q} \end{bmatrix}\right\} \end{bmatrix} \\
-\text{PROM} & \begin{bmatrix} \neg\,\text{D-LINKED} & \left\{\begin{bmatrix} \text{COMPLETIVE INFORMATION} \end{bmatrix}\right\} \\ \text{D-LINKED} & \left\{\begin{bmatrix} \text{BACKGROUND INFORMATION} \end{bmatrix}\right\} \end{bmatrix}
\end{bmatrix}
$$

Figure 4: *Proposed i-structure*

Note that question words (Q) are represented in two subsets at the level of information structure. As shown in example (46), not all question words behave the same way in a multiple question. In Hungarian, the linearly first question word is often argued to be *D-linked*, i.e. to refer to a contextually determined set of entities (see Pesetsky (1987); Comorovski (1996)). Such question words determine the structure of the answer, since it is with respect to these question words that answers are expected, based on the linearly last question word:

(46)   a.   *Q:* **Ki   kivel**   *ment   moziba?*
            who who.INSTR go.PST cinema.ILL
            'Who went to the cinema with whom?'
       b.   *A: János* **MARIVAL,** *Péter* **ZSUZSÁVAL** *és   Zoli* **JULIVAL**
            John   Mary.INSTR Peter Sue.INSTR   and Zoli Julie.INSTR
            ment moziba.
            went cinema.ILL
            'John went to the cinema with Mary, Peter with Sue, and Zoli with Julie.'

At the level of i-structure, thus, D-linked and non-D-linked question words are represented in two different subsets.

3.3   Constituent structure

In LFG, constituent structure corresponds to a flexible X-bar theory representation, in which no node, not even the head is obligatory, and exocentric constituents are permitted (there is no binary-branching constraint). The question is, what kind of c-structure should be associated with Hungarian. To my knowledge, there has been two proposals in the LFG literature for the c-structure in Hungarian, but they concentrated mostly on the problem of the preverbal position and the elements it can host: focus and question words.

In the first analysis (Börjars et al. 1999), the immediately preverbal constituent is sister to the verb in an extended verbal projection, which is supposed to host also all the elements of the preverbal domain (topics and quantifiers). The discourse functions are associated with syntactic positions via functional annotations. This analysis does away with the set of functional projections (TopP, CTopP, DistP/QP) of the derivational analyses, whose head position is usually empty, since they are only postulated for accommodating one type of element in their specifier position. FocP is an exception to this, since the verb is supposed to move into its head position, leaving behind the verbal modifier. However, according to Börjars et al. (1999), even a FocP is superfluous in a theory in which no Foc feature is supposed to be assigned or checked. The authors assume OT-type constraints as well, which account for word-order and the immediately preverbal position of the focus. The second analysis to be mentioned here is that of Mycock (2006), who assumes that the focus and the question words are in Spec,VP, thus obligatorily sister to the verb.[10]

According to Dalrymple (2001), functional categories vary from language to language, and each of them has to be motivated for each language. According to this, the I head position can be occupied by a finite verb or an auxiliary, like the C position (in inversion contexts). Thus King (1995) assumes that in Russian, only non-finite verbs reside in the VP, finite verbs occupy the I position, the topic and the contrastive focus the Spec,IP and interrogative words the Spec,CP position. Dalrymple (2001) also mentions that positing a VP projection is motivated only if it contains only the verb and its complements (except for the subject) and these constituents can appear together at other parts of the sentence as well. On the other hand, if the subject can appear as sister to the V, the VP projection is unmotivated. Now, the syntactic structure of non-configurational languages is represented with the help of the non-configurational S node, which does not necessarily contain a CP or an IP projection. It is also possible that one part of the sentence is hierarchical and

---

[10]Laczkó and Rákosi (2011) also assume a VP projection in Hungarian, in which the verbal modifiers occupy the specifier position.

the other exhibits a free word order, flat structure, in which case the tree diagram contains both CP/IP and S nodes. Such languages are Warlpiri and Welsh.

These considerations about the VP undermine Mycock (2006)'s (and Laczkó and Rákosi 2011's 2011) c-structure, since in Hungarian, the subject can be postverbal, appearing as sister to the verb, between the verb and the direct object:

(47)   *Marinak   adta   oda János a   könyvet.*
        Mary.DAT give.PST VM John   the book.ACC
        'John gave the book to MARY.'

Moreover, Mycock assumes that two question words (interrogative foci in her analysis) can jointly occupy the Spec,VP position, which is (presumably) not possible in the case of non-interrogative foci. (Mycock posits a distinction between interrogative and non-interrogative foci based on the Hungarian data, in order to account for the very same data). On the other hand, Börjars et al. (1999)'s architecture does not deal with the postverbal section in details, and neither of the analyses account for the fact that only one focus can precede the verb. Since neither of the structures proposed so far can account for all the necessary data, a new structure is proposed in this section, which aims to capture these data and to correspond to the above mentioned LFG assumptions better than the previous ones.

In Hungarian, as we have seen, the preverbal and postverbal parts of the sentence differ in that in the preverbal section, the position and the order of the elements depend on their role in the information structure. This can be directly represented in LFG via the functional annotations. The question is now, if a hierarchical preverbal section is motivated even in the LFG framework. In the transformational frameworks, two factors motivated the hierarchical preverbal structure: the obligatory binary branching in the tree diagrams and the fact that the linear order of the elements determines their relative scope as well. As opposed to this, the postverbal part of the sentence exhibits free word-order (obeying, supposedly, certain phonological factors, such as heavy elements tend to follow lighter ones). According to András Komlósy (p.c.), in LFG, neither of these factors necessitate a hierarchical structure, since the linear order of elements can in itself reflect the scopal relations, thus there is no reason for positing a hierarchical sentence structure in Hungarian. As was pointed out above, a VP projection is not motivated. 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 the V' projection. In this paper I opt for the second possibility, keeping in mind, that the first cannot be excluded, either.

In the LFG c-structure, annotations under the nodes indicate the grammatical and discourse functions. The annotations including grammatical functions (GF) relate to the f-structure, whereas those containing discourse information relate to the i-structure. With the annotations, thus, we can express and formalize the observation that the preverbal part of the Hungarian sentence is determined by the information structure.

Based on the above observations, Hungarian sentences can exhibit two basic syntactic structures: one of them contains a PPP (Figure 5), but no VM position (and consequently no V'), whereas the other contains a PPP, followed by a verb (Figure 6):

$$S \rightarrow \qquad XP^* \qquad\qquad XP^*$$
$$\uparrow_\sigma \in (\uparrow_{\sigma\iota} + \text{PROM } \$ \text{ D-LINKED}) \qquad \forall$$

$$XP \ (= \text{PPP}) \qquad\qquad V \qquad XP^*$$
$$\uparrow_\sigma \in (\uparrow_{\sigma\iota} + \text{PROM } \$ \ \neg\text{D-LINKED}) \qquad \uparrow=\downarrow \quad (\uparrow \text{GF})=\downarrow$$

Figure 5: *PPP rule*

$$S \rightarrow \qquad\qquad XP^* \qquad\qquad XP^* \quad V' \quad XP^*$$
$$\uparrow_\sigma \in (\uparrow_{\sigma\iota} + \text{PROM } \$ \text{ D-LINKED}) \qquad \forall \quad \uparrow=\downarrow \quad (\uparrow \text{GF})=\downarrow$$

$$V' \rightarrow \qquad\qquad VM \qquad\qquad V$$
$$(\uparrow_\sigma \in (\uparrow_{\sigma\iota} + \text{PROM } \$ \ \neg\text{D-LINKED})) \quad \uparrow=\downarrow$$

Figure 6: *VM rule*

Both neutral and non-neutral sentences can exhibit both of the above structures. In neutral sentences the PPP can be filled by the hocus (+PROM and ¬D-LINKED element), and then the VM is obligatorily absent from the sentence. In the other case, the VM position is filled and the PPP is absent. In non-neutral sentences, either the PPP or the VM position is filled by a +PROM and ¬D-LINKED element. The bracketed annotations under the VM node in 6 indicate that verbal modifiers do not have to be +PROM and ¬D-LINKED: this characterizes only focused verbal
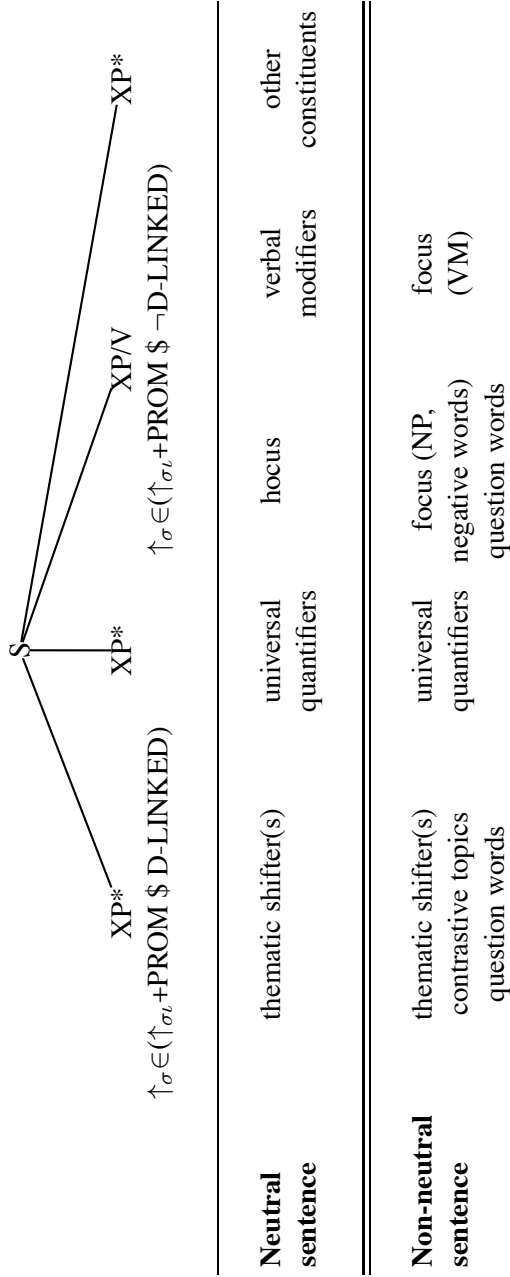
modifiers in non-neutral sentences, and certainly not verbal modifiers in neutral sentences.
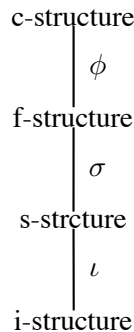
This is schematically illustrated in Figure 7.

A few remarks are due here concerning this structure:

- The annotation $\uparrow_\sigma \in (\uparrow_{\sigma\iota} +\text{PROM})$ refers to the language-specific fact that in Hungarian the left peripheral and the preverbal positions are prominent. This has to be indicated, since most semantically prominent elements are also syntactically highlighted in Hungarian, which means that they are placed into one of these positions. The set of prominent positions is constant in a given language. The D-LINKED/¬D-LINKED parts refer to the respective subparts of the +PROM and −PROM parts in the information structure. D-LINKED elements are usually placed on the left periphery, whereas ¬D-LINKED ones in the prominent preverbal position.

- Although we have seen above that postverbal foci are also possible (21), there are only annotations referring to the f-structure in the postverbal part. As we have seen, those elements can fill any grammatical function (even that of the subject). The i-structure annotations of postverbal prominent elements are not indicated, since they are prosodically, and not syntactically highlighted (for a detailed description of prosodic representations and prosodic highlighting, see Mycock (2006)). This means that the information about their prominent status comes from the prosodic and not from the syntactic structure. Such elements are not limited to right peripheral foci, but include contrastive topics, completive information and some question words as well. The representation of the prosodic structure is beyond the scope of the present paper.

- The annotation $\uparrow_{\sigma\iota}$ needs to be clarified as well. This annotation is proposed by (Dalrymple and Nikolaeva 2011: Chap. 4) and refers to the discourse function and semantic description of an element at the level of i-structure. The authors assume the following LFG architecture:

  As this architecture indicates, the information structure projection is linked to the semantic projection via the mapping function ι. The basic assumption of this framework is that the meaning constructors of all the members of a clause are associated with a discourse function (information structure set), represented in the semantic description of their lexical entry. This way, the meaning constructors are categorized according to their information structure role. The information about the particular i-structure role the meaning

Tree (root S) with branches:

- XP* $\uparrow_\sigma \in (\uparrow_{\sigma_\iota}+\text{PROM } \$ \text{ D-LINKED})$
- XP*
- XP/V $\uparrow_\sigma \in (\uparrow_{\sigma_\iota}+\text{PROM } \$ \neg\text{D-LINKED})$
- XP*

	thematic shifter(s)	universal quantifiers	hocus	verbal modifiers	other constituents
Neutral sentence	thematic shifter(s)	universal quantifiers	hocus	verbal modifiers	other constituents
Non-neutral sentence	thematic shifter(s) contrastive topics question words	universal quantifiers	focus (NP, negative words) question words	focus (VM)	

Figure 7: *Annotated C-structure*

c-structure

ϕ

f-structure

σ

s-strcture

ι

i-structure

Figure 8: *Dalrymple and Nikolaeva (2011)'s architecture*

constructor takes on can come from various sources: syntactic position (in English, for instance, the Spec,IP is the default *topic* position), agreement, casemarking, word order, intonation, etc.

- According to this, the first block of constituents can be thematic shifters and contrastive topics (or, eventually, non-sequence-final interrogative phrases in multiple questions). They come in a block, since more than one topic is possible in a sentence and they constitute an undividable unit.

- Quantifiers are best assigned to a position via annotations with the help of their lexical properties, *i.e.* that they are, for instance, universal quantifiers ($\forall$). Just like in the case of topics, there can be more than one preverbal quantifier in the sentence.

- An important issue is the right order of the constituents. The order of constituents and their scopal relations are intrinsically encoded in a (more) hierarchical structure, and the question emerges how a flat structure can account for the right order of constituents. The order in the preverbal domain is indicated by the i-structure annotations. Since all positions are optional in the LFG constituent structure, and are present in a given structure only when needed, it is not a problem for the present framework either, if some of the positions is not filled: it will simply not be present. Nevertheless, there are cases, in which some positions must not be filled. For instance, a universal quantifier cannot precede a preverbal question word in a single question (48) or appear between the preverbal question words in a multiple question (49):

(48)   a. *Mindenki kire szavazott?*
             everybody who. voted

b. *Kire szavazott mindenki?*
who. voted   everybody
'Who did everybody vote for?'

(49)   a. **Mit mindenki hova rakott?*
what everybody where put?

b. *Mit   hova   rakott mindenki?*
what where put   everybody
'What did everybody put where?'

Such phenomena can be accounted for by individual constraints regulating the relative positions of question words and universal quantifiers, which can only be alluded to in the present paper, due to space limitations.

• Neutral and non-neutral sentences are essentially distinguished by prosody. This means that although thematic shifters and contrastive topics, and the hocus and the focus appear in the same position and belong to the same information structure set, the stress pattern they bear is different. This information is supplied by prosodic structure.

Finally, let us see illustrate the proposed LFG analysis on a neutral and a non-neutral sentence in Hungarian. The first example is a neutral sentence containing a hocus.

(50)   *Ma   a **feleségem**   vitte   az óvodába   a gyerekeket.*
today the wife.POSS.1SG take.PST the kindergarten.ILL the children.ACC
'Today my wife took the children to the kindergarten.'

The c-structure is illustrated in Figure (9), whereas the i-structure in Figure (10). The next example illustrates a non-neutral sentence:

(51)   *'Ezen   a héten   a "**MECSEKBEN** raboltak*
this.SUPERESS the week.SUPERESS the Mecsek.INESS   rob.PST.3PL
ki   egy pénzszállító   autót.
VM a   money transport car.ACC
'This week it was in the Mecsek (mountains) that a money transport vehicle was robbed.'

S

- AdvP
  - $\uparrow_\sigma=(\uparrow_{\sigma\iota}+$PROM D-LINKED$)$
  - $\downarrow\in(\uparrow$ ADJ$)$
  - Ma
- NP
  - $\uparrow_\sigma=(\uparrow_{\sigma\iota}+$PROM ¬D-LINKED$)$
  - $(\uparrow$ SUBJ$)=\downarrow$
  - a feleségem
- V
  - $\downarrow=\uparrow$
  - vitte
- NP
  - $\downarrow(\uparrow$ OBL$_{goal})=\downarrow$
  - óvodába
- NP
  - $(\uparrow$ OBJ$)=\downarrow$
  - a gyerekeket.

Figure 9: *C-structure*

$$
\left[
\begin{array}{l}
+\text{PROM} \quad
\left[
\begin{array}{ll}
\neg \text{ D-LINKED} & \left\{ \left[\text{A FELESÉGEM} \right] \right\} \\[2ex]
\text{D-LINKED} & \left\{ \left[\text{MA} \right] \right\}
\end{array}
\right] \\[6ex]
-\text{PROM} \quad
\left[
\begin{array}{ll}
\neg \text{ D-LINKED} & \left\{ \left[\right] \right\} \\[2ex]
\text{D-LINKED} & \left\{ \left[\text{`VITTE ÓVODÁBA A GYEREKEKET'} \right] \right\}
\end{array}
\right]
\end{array}
\right]
$$

Figure 10: *I-structure*

$$
\left[
\begin{array}{l}
+\text{PROM} \quad
\left[
\begin{array}{ll}
\neg \text{ D-LINKED} & \left\{ \left[\text{A MECSEKBEN} \right] \right\} \\[2ex]
\text{D-LINKED} & \left\{ \left[\text{EZEN A HÉTEN} \right] \right\}
\end{array}
\right] \\[6ex]
-\text{PROM} \quad
\left[
\begin{array}{ll}
\neg \text{ D-LINKED} & \left\{ \left[\right] \right\} \\[2ex]
\text{D-LINKED} & \left\{ \left[\text{`RABOLTAK KI EGY PÉNZSZÁLLÍTÓ AUTÓT'} \right] \right\}
\end{array}
\right]
\end{array}
\right]
$$
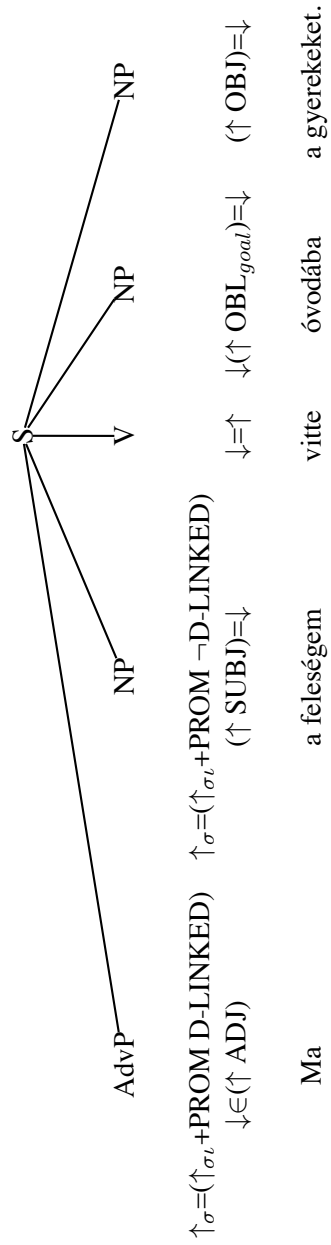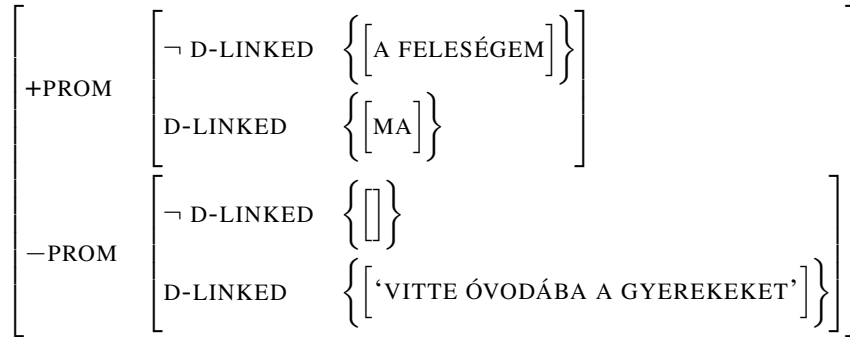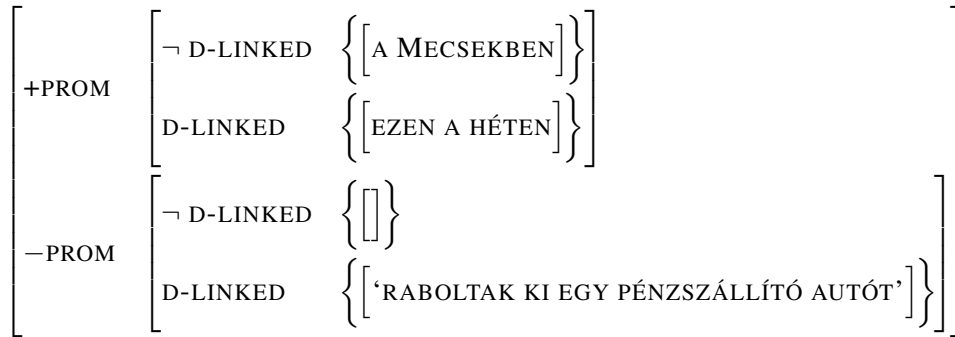
Figure 11: *I-structure*

4   Conclusion

This paper proposed a possible LFG representation of the syntax-discourse interface in Hungarian. After examining the distribution of elements with respect to discourse functions in the various domains of the Hungarian sentence (topic field, precomment, PPP, verb, postverbal field), I concluded that the set of possible elements/constituents appearing in these fields/positions is to varying degrees reflects the discourse the sentence is uttered in. The basic difference was identified between neutral and non-neutral sentences: the former is typical in narrations, whereas the latter in question-answer pairs, corrections, contrast, and parallel structures. I proposed a discourse-neutral, flat syntactic structure, in which the preverbal positions are associated with information structure roles. After considering the i-structure of the mainstream LFG analyses, which contains *TOPIC, FOCUS, BACKGROUND*

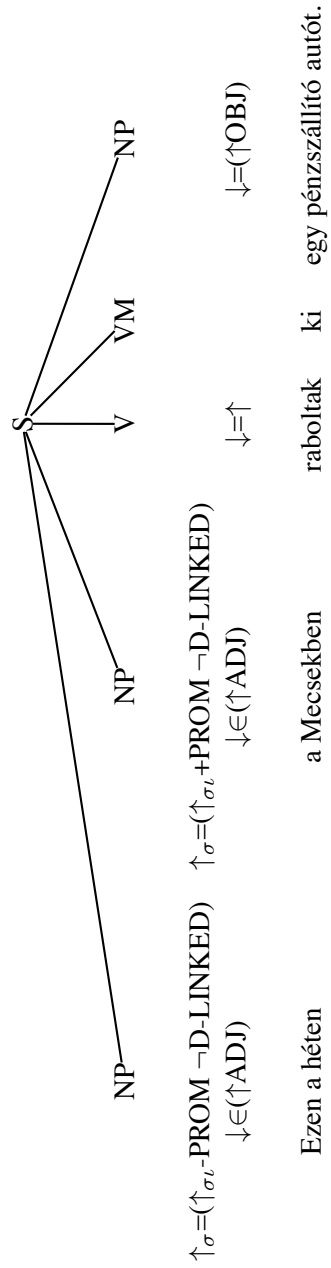NP $\qquad$ NP $\qquad$ V   VM $\qquad$ NP

$\uparrow_\sigma=(\uparrow_{\sigma\iota}\text{-PROM} \neg\text{D-LINKED})$ $\quad$ $\uparrow_\sigma=(\uparrow_{\sigma\iota}\text{+PROM} \neg\text{D-LINKED})$ $\qquad$ $\downarrow=\uparrow$ $\qquad\qquad$ $\downarrow=(\uparrow\text{OBJ})$

$\downarrow\in(\uparrow\text{ADJ})$ $\qquad\qquad$ $\downarrow\in(\uparrow\text{ADJ})$

Ezen a héten $\qquad$ a Mecsekben $\qquad$ raboltak   ki $\qquad$ egy pénzszállító autót.

Figure 12: *C-structure*

INFORMATION and *COMPLETIVE INFORMATION* as its basic sets/primitives, I argued for an alternative one, which does not contain some of the discourse roles to account for (*thematic shifter, contrastive topic, hocus, focus, question words, background information, completive information*) as its primitives, but builds on their common properties, *i.e.* on the fact that some of them are (semantically) prominent (and formally highlighted), whereas others are not, and some of them relate the sentence to the discourse by introducing a subtopic of the discourse topic, whereas others do not. These properties are formalized by the i-structure sets: +/−PROMINENT and +/−D-LINKED. Concerning the syntax-discourse interface, it is assumed that the topic field and the PPP are associated with *prominence* in Hungarian, the topic field hosting *D-LINKED*, whereas the PPP ¬*D-LINKED* elements. Needless to say, more details of the proposed analysis, for instance on the syntax-prosody interface, or on a possible discourse structure, have to be elaborated by future research.

Bibliography

Börjars, K., J. Payne, and E. Chisarik (1999). On the justification for functional categories in LFG. In B. Miriam and T. H. King (eds.) *Proceedings of the LFG99 Conference*, Manchester. Stanford, CA: CSLI Publications.

Bresnan, J. (1995). Linear Order, Syntactic Rank, and Empty Categories: On Weak Crossover. In M. Dalrymple, R. M. Kaplan, J. T. M. III, and A. Zaenen (eds.) *Formal Issues in Lexical-Functional Grammar*, pp. 241–274. Stanford, CA: CSLI Publications.

Bresnan, J. (2001). *Lexical-Functional Syntax*. Oxford: Blackwell.

Büring, D. (1997). *The Meaning of Topic and Focus — The 59th Street Bridge Accent*. London: Routledge.

Büring, D. (2003). On D-trees, Beans, and B-Accents. *Linguistics & Philosophy 26*(5), 511–545.

Butt, M. and T. H. King (1996). Structural topic and focus without movement. In B. Miriam and T. H. King (eds.) *Proceedings of the LFG96 Conference*, Rank Xerox, Grenoble. Stanford, CA: CSLI Publications..

Choi, H.-W. (1997). Information structure, phrase structure, and their interface. In M. Butt and T. H. King (eds.) *Proceedings of the LFG97 Conference*. Stanford, CA: CSLI Publications.

Choi, H.-W. (1999). *Optimizing structure in context: scrambling and information structure.* Dissertations in Linguistics. Stanford, CA: CSLI Publications.

Comorovski, I. (1996). *Interrogative phrases and the syntax-semantics interface*. Dordrecht/Boston/London: Kluwer Academic Publishers.

Dalrymple, M. (2001). *Lexical Functional Grammar*, Volume 34 of *Syntax and Semantics*. London: Academic Press.

Dalrymple, M. and I. Nikolaeva (2011). *Objects and information structure*. Cambridge: Cambridge University Press.

É. Kiss, K. (1992). A többszörös kérdésekről [On Multiple Questions]. In L. Hunyadi, Z. Lengyel, K. Klaudy, and G. Székely (eds.) *Könyv Papp Ferencnek*. Debrecen: KLTE.

É. Kiss, K. (2002). *The Syntax of Hungarian*. Cambridge Syntax Guides. Cambridge: Cambridge University Press.

É. Kiss, K. (2006). Focussing as predication. In V. Molnár and S. Winkler (eds.) *The architecture of Focus*. Berlin: Mouton/de Gruyter.

Eckardt, R. (2007). Inherent focus on wh-phrases. In *Sinn und Bedeutung*, Barcelona. UFP.

Erteschik-Shir, N. (1986). *Wh*-questions and focus. *Linguistics and Philosophy 9*, 117–149.

Erteschik-Shir, N. (2007). *Information structure. The syntax-discourse interface*, Volume 3 of *Oxford Surveys in Syntax and Morphology*. Oxford: Oxford University Press.

Falk, Y. N. (2001). *Lexical-Functional Grammar. An Introduction to Parallel Constraint-Based Syntax*. Stanford, CA: CSLI Publications.

Gazdik, A. (2010). A magyar többszörös kérdések lexikai-funkcionális megközelítésben. In Z. Gécseg (ed.) *LingDok 10. Nyelvészdoktoranduszok dolgozatai*. Szeged: JATEPress.

Gyuris, B. (2002). *The semantics os contrastive topics in Hungarian*. Ph. D. thesis, ELTE, Budapest.

Gyuris, B. (2009). Quantificational contrastive topics with verum/falsum focus. *Lingua 119*, 625–649.

Jacobs, J. (1984). Funktionale Satzperspektive und Illokutionssemantik. *Linguistische Berichte 91*, 25–58.

Kálmán, L. (1985a). Word Order in Neutral Sentences. *Approaches to Hungarian 1*, 13–23.

Kálmán, L. (1985b). Word Order in Non-neutral Sentences. *Approaches to Hungarian 1*, 25–37.

Kálmán, L. (ed.) (2001). *Magyar leíró nyelvtan. Mondattan 1.* [Hungarian descriptive grammar. Syntax 1.] Budapest: Tinta Könyvkiadó.

Kálmán, L., G. Prószéky, Á. Nádasdy, and G. C. Kálmán (1986). Hocus, focus and verb types in hungarian infinitive constructions. In A. Werner and S. de Meij (eds.) *Topic, focus and configurationality*, pp. 129–142. Amsterdam: John Benjamins.

Kiefer, F. (ed.) (1992). *Strukturális magyar nyelvtan 1. Mondattan. [Structural Grammar of Hungarian 1. Syntax]*, Volume 1. Budapest: Akadémiai Kiadó.

King, T. H. (1995). *Configuring topic and focus in Russian.* Ph. D. thesis, Stanford University.

King, T. H. (1997). Focus domains and information structure. In B. Miriam and T. H. King (eds.) *LFG97*, University of California, San Diego. Stanford, CA: CSLI Publications.

Komlósy, A. (1994). Complements and adjuncts. In F. Kiefer and K. É. Kiss (eds.) *The syntactic structure of Hungarian*, pp. 91–177. New York/San Diego: Academic Press.

Komlósy, A. (2001). *A lexikai-funkcionális grammatika mondattanának alapfogalmai* [Basic notions of syntax in Lexical-Functional Grammar]. Budapest: Tinta könyvkiadó.

Laczkó, T. and G. Rákosi (2011). On particularly predicative particles in Hungarian. In M. Butt and T. H. King (eds.) *Proceedings of the LFG 11 Conference*, pp. 299–319. Stanford, CA: CSLI Publications.

Mycock, L. (2006). *A new typology of wh-questions.* Ph. D. thesis, Universityof Manchester.

Pesetsky, D. (1987). Wh-in-situ: movement and unselective binding. In E. Reuland and A. ter Meulen (eds.) *The Representation of (In)definites*. Cambridge, MA: MIT Press.

Roberts, C. (1996). Information structure and discourse: towards an integated formal theory of pragmatics. *OSU working papers in Linguistics 49: Papers in Semantics 49*, 91–136.

Rooth, M. (1992). A theory of focus interpretation. *Natural Language Semantics 1*, 75–116.

Surányi, B. (2009). Preverbs, chain reduction, and phases. In M. den Dikken and R. Vago (eds.) *Approaches to Hungarian*, Volume 11. Amsterdam: John Benjamins.