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On a realistic LFG treatment of the periphrastic IRREALIS MOOD in Hungarian

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1. Introduction

1.1. Introduction

Goal of the talk

- to develop (and implement) an analysis of the Hungarian periphrastic irrealis mood in the framework of Lexical-Functional Grammar by
 - subscribing to a paradigmatic (= inferential-realizational) view of morphology/morphosyntax¹ **and**
 - maintaining LFG's classical synthetic notion of a lexeme

¹Cf. Stump, 12.30-13.23, 29 May, 2014, Benczúr Ház, Budapest.

1.2. Introduction

Structure of the presentation

1. Introduction
2. The data
3. The challenge
4. The morphological/morphosyntactic view
5. Two analyses in Lexical-Functional Grammar (LFG)
6. Conclusion

2. The data

2.1. The data

- **conditional** verb forms are **synthetic**
 - **irrealis** verb forms are systematically **analytic**: they use a two-word pattern
 - the first word is the conjugated past tense form of the lexical verb: V-TENSE-AGREEMENT
 - the second word is the combination of one of the stems of the copula *van* 'be' (*vol-*) and the conditional marker (*-na*):
VOLNA
- Hungarian encodes **irrealis** mood periphrastically via the combination of two words and two morphosyntactic features: **PAST** and **CONDITIONAL**
- ↔ in English, for instance, both types are periphrastic:
would V & *would have V-en* ⁶

2.2. The data

the two singular & indefinite paradigms

conditional, indef.

‘would see’

lát-né-k

see-COND-1SG

lát-ná-l

see-COND-2SG

lát-na

see-COND.3SG

irrealis, indef.

‘would have seen’

lát-t-am

see-PAST-1SG

lát-t-ál

see-PAST-2SG

lát-ott

see-PAST.3SG

vol-na

be-COND

vol-na

be-COND

vol-na

be-COND

earlier Hungarian had several analytic tense form complexes, e.g.:

(a) PRES&AGR + PAST

megy-ek *vala*

go-PRES.1SG VALA

ca. ‘I was going’

(b) PAST&AGR + PAST

men-t-em *vala/volt*

go-PAST-1SG VALA/VOLT

ca. ‘I had gone’

2.3. The data

- *volna* (even in the expression of irrealis mood) is an independent syntactic atom, see Bartos (2000)

(1) %*vár-t* *is* *volna*
wait-PAST.3SG.INDEF *too* VOLNA
'he would also have waited'

(2) %*vár-t-ál* *csak* *volna*
wait-PAST-2SG.INDEF *only* VOLNA
'you would only have waited'

(3) %*vár-t-ál-e* *volna?*
wait-PAST-2SG.INDEF-QM VOLNA
'would you have waited?'

(4) *én megsüt-ött-em* \emptyset , *te pedig mege-tt-ed* *volna*
I fry-PAST-1SG.DEF you by.contrast eat-PAST-2SG.DEF VOLNA
'I would have fried and you, in turn, would have eaten (it)'

3. The challenge

3.1. The challenge

English

- this language has a complex auxiliary system (allowing for the simultaneous combination of 4 auxiliaries at most)
 - (1) *I would have been being examined*
- the corresponding patterns are uniformly periphrastic
 - (2) *I would see ~ I would have seen*
- whatever treatment a particular approach develops, it can apply this treatment uniformly

3.2. The challenge

Hungarian

- there is no auxiliary system — and there are few auxiliaries, e.g. *fog* ‘will’, *szokott* ‘habitual action’
- the conditional form *volna* does not behave like the rare Hungarian auxiliaries: it requires a fully inflected past tense verb ⇔ all ordinary auxiliaries require an infinitival verb

| | | |
|---------------------|--------------|--------------------------|
| (1) <i>lát-t-am</i> | <i>volna</i> | (2) <i>lát-ni fog-ok</i> |
| see-PAST-1SG | <u>VOLNA</u> | see-INF <u>WILL-1SG</u> |
| ‘I would have seen’ | | ‘I will see’ |

- ideally, the two conditional **paradigms** (analytic vs. synthetic) should be treated in a uniform manner

| | | |
|---------------------|---------------|---------------------|
| (3) <i>lát-t-am</i> | <i>vol-na</i> | (4) <i>lát-né-k</i> |
| see-PAST-1SG | BE-COND | see-COND-1SG |
| ‘I would have seen’ | | ‘I would see’ |

4. The morphological/morphosyntactic view

4.1. The morphological/morphosyntactic view

| Taxonomy of lexicalist approaches (Ackerman et al. 2011) | | Lexical modification | Morpholexical inflection | Unary expression |
|---|--------------------------|----------------------|--------------------------|-------------------|
| Classical LFG (A) | Bresnan | YES | YES | YES |
| Some recent LFG views (B) | Alsina, Bresnan, Butt | NO | YES | YES |
| Realization-based lexicalism (C) | Ackerman, Ackerman & al. | YES [yes] | YES [yes] | NO [yes];[yes] |

(A) Bresnan (1982)

(B) Alsina (1992), Bresnan (2001), Butt (2003), partially (PVCs): Forst et al. (2010), Laczkó & Rákosi (2011, 2013)

(C) Ackerman (1987, 2003), Ackerman & Webelhuth (1998), Ackerman et al. (2011), [Laczkó \(2013\)](#)

4.2. The morphological/morphosyntactic view

Ackerman (2003) on Hungarian particle-verb constructions (PVCs):

Morphological Expression (Ackerman & Webelhuth 1998)

Synthetic realization principle

- Where the realization w of $\langle L, \delta \rangle$ is a synthetic member of category X , w may be inserted as the head of XP .

Periphrastic realization principle

- Where the realization $w_1 w_2$ of $\langle L, \delta \rangle$ 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]

PROGRAMMATIC FOR HUNGARIAN PVCs AND LFG →
THEORETICAL AND IMPLEMENTATIONAL CHALLENGES FOR LFG

5. Two LFG analyses

5.1. Two LFG analyses

general considerations

- Lexical Integrity Principle (Bresnan 1982) → *both* theoretical and implementational aspects
 - theoretical: the classical view
 - implementational: the architecture of XLE¹
- one word = one syntactic atom = one lexical item

¹Xerox Linguistic Environment, the computational platform for the ParGram (= Parallel Grammar) project, see Butt et al. (1999)

5.2. Two LFG analyses

(A) a morpheme-based solution: a classical LFG treatment

(1) *lát***t***ál*, V ‘see <(↑SUBJ) (↑OBJ)>’

(↑SUBJ PERS)= 2

(↑SUBJ NUM)= SG

(↑OBJ DEF)= -

(↑TENSE)= PAST

{ (↑MOOD)= INDICATIVE

| (↑MOOD) =_C CONDITIONAL

(↑PRT FORM) =_C VOLNA }.

(2) *volna*, PRT¹

(↑PRT FORM) = VOLNA

(↑TENSE)=_C PAST

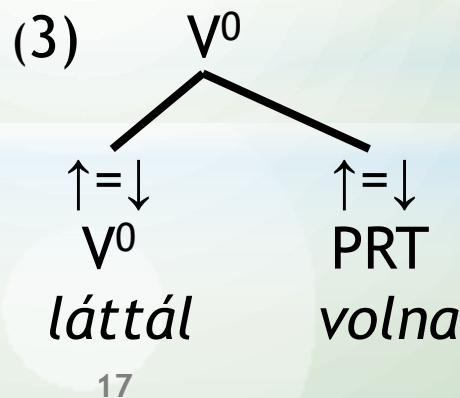
(↑MOOD)= CONDITIONAL.

¹PRT = particle (a non-projecting word, cf. Toivonen (2001))

implemented in XLE
in Laczkó & Rákosi
(2008-2013):

past + conditional =
irrealis (face values)

*associated with
the +Past tag of XLE’s
morphological analyzer*



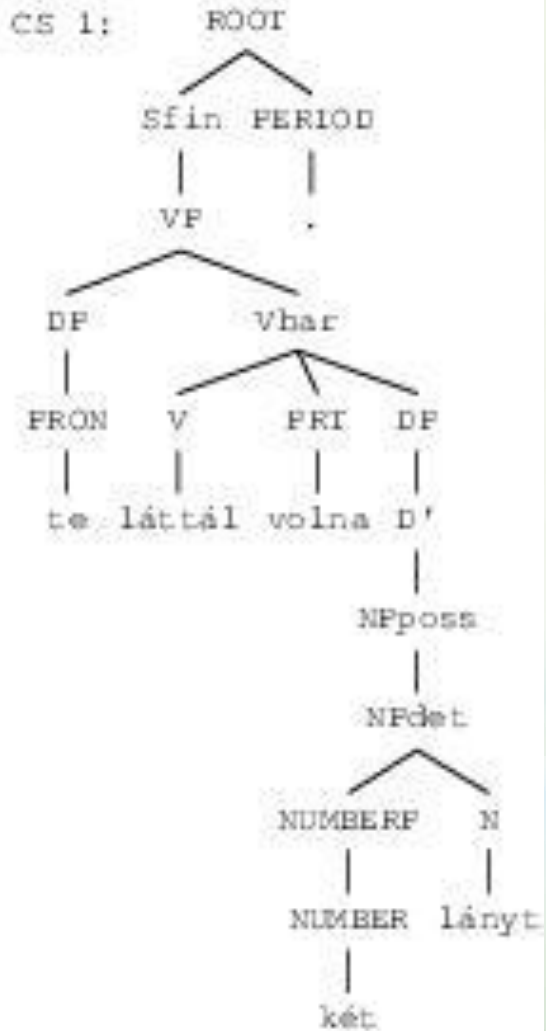
a possible alternative in
this vein:

{(↑TENSE)= PAST
(↑MOOD)= INDICATIVE
| (↑MOOD)
(↑PRT FORM)=_C VOLNA }

(↑PRT FORM)= VOLNA
(↑MOOD)= IRREALIS

5.3. Two LFG analyses

(A) a morpheme-based solution: XLE implementation



Te lát-t-ál *volna két lány-t.*
 you see-PAST-2SG.INDEF VOLNA two girl-ACC
 ‘You would have seen two girls.’

“Te láttál volna két lányt.”

| | | | |
|---------|--------------------------------|--|---|
| [| PRED | 'lát<[2:pro], [108:lány]>' |] |
| SUBJ | FRED | 'pro' | |
| | 2 | [CASE nom, NUM sg, PERS 2, PRON-TYPE pers] | |
| OBJ | FRED | 'lány' | |
| | ANJUNCT | { [FRED 'két'] [CASE nom, NUM sg] } | |
| | GLOSS | [TRANS girl] | |
| | NITYPE | [NSEM [COMMON count] NSYN common] | |
| FOCUS | 108 | [CASE acc, DEF -, NUM sg, PERS 3] | |
| | [2:pro] | | |
| GLOSS | [TRANS see] | | |
| INS-ASP | [MOOD conditional, TENSE past] | | |
| | 29 | [FRT-FORM volna, SIMT-TYPE decl] | |

5.4. Two LFG analyses

B) a realization-based solution (1)

motivation: the treatment of certain **particle-verb constructions** in Laczkó (2013) (\Leftrightarrow Forst et al. (2010) and Laczkó & Rákosi (2011))

(1) **ki** PRT XLE
(\uparrow PRT-FORM)= **ki**
(\uparrow DIR) = out
(\uparrow CHECK _PRT-VERB) =c +.

(2) **mászik** V XLE
(\uparrow PRED)= 'crawl-out < (\uparrow SUBJ) (\uparrow OBL) >'
(\uparrow CHECK _PRT-VERB) = +
(\uparrow DIR) =c out
(\uparrow PRT-FORM)=c **ki**.

(3) **fej-ez** V *
(\uparrow PRED)= 'express <(\uparrow SUBJ) (\uparrow OBJ)>'
(\uparrow CHECK _PRT-VERB) = +
(\uparrow PRT-FORM)=c **ki**.

**fej-ez*
head-Vsuf

ki # mászik
out # crawl
'crawl out (of sg)'

ki # fej-ez
out # head-Vsuf
'express'

5.5. Two LFG analyses

B) a realization-based solution (2)

(1) *láttál*, V ‘see <(↑SUBJ) (↑OBJ)>’

(↑SUBJ PERS)= 2

(↑SUBJ NUM)= SG

(↑OBJ DEF)= -

{ (↑TENSE)= PAST

(↑MOOD)= INDICATIVE

| (↑MOOD)= IRREALIS

(↑CHECK _PRT-VERB)= +

(↑PRT FORM)=_C VOLNA }.

all the specifications of the given paradigmatic slot are encoded in the lexical verb's entry

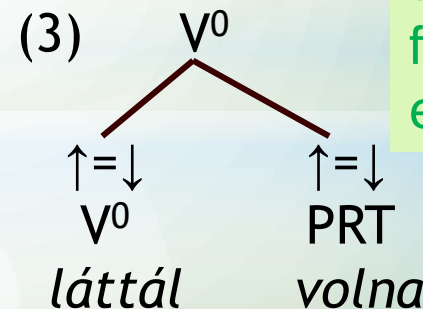
associated with the +Past tag of the morphological analyzer

(2) *volna*, PRT

(↑PRT FORM)= VOLNA

(↑CHECK _PRT-VERB)=_C +.

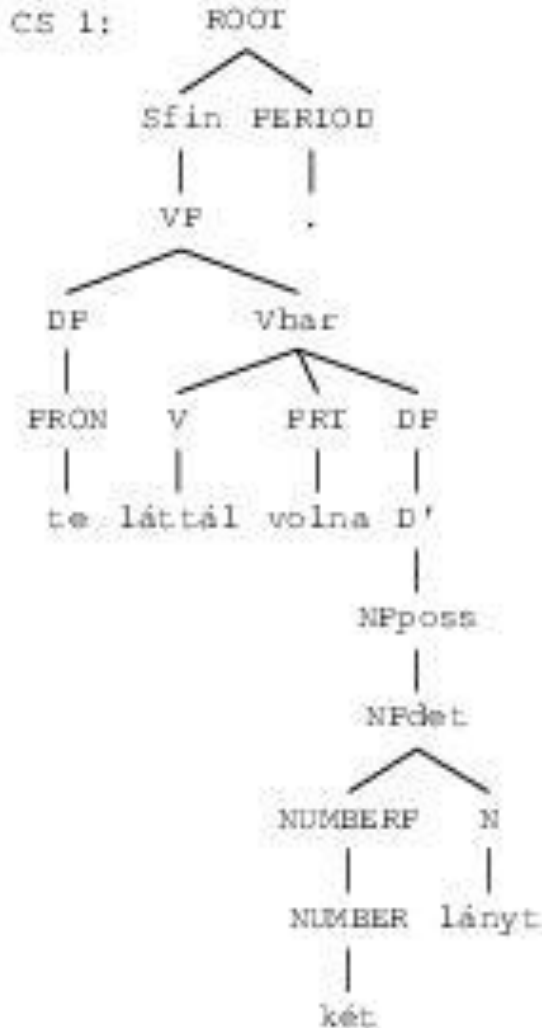
it is more intuitive to have the irrealis feature directly encoded



5.6. Two LFG analyses

B) a realization-based solution (3): XLE implementation

Te lát-t-ál *volna két lány-t.*
you see-PAST-2SG.INDEF VOLNA two girl-ACC
'You would have seen two girls.'



"Te láttál volna két lányt."

| | |
|---------|---|
| FREQ | 'lát<[2:pro], [108:lány]>' |
| SUBJ | [PRED 'pro' ← |
| | 2[CASE nom, NUM sg, PERS 2, PRON-TYPE pers] ← |
| OBJ | [PRED 'lány' |
| | ADJUNCT { [PRED 'két' |
| | 80[CASE nom, NUM sg] } |
| | GLOSS [TRANS girl] |
| | NTYPE [NSEM [COMMON count] |
| | [NSYN common] ← |
| | 108[CASE acc, DEF -, NUM sg, PERS 3] |
| FOCUS | [2:pro] ← |
| CHECK | [_PRI-VERB +] |
| GLOSS | [TRANS see] ← |
| TNS-ASF | [MOOD irrealis] ← |
| 29 | [PRI-FORM volna, SIMT-TYPE decl] |

6. Conclusion

6.1. Conclusion

1. This analysis spells out the (inferential-realizational) approach to periphrasis advocated by Ackerman & Webelhuth (1998) and Ackerman et al. (2011), among others, in an LFG framework *in this particular inflectional domain*.
2. It leaves the widely accepted, *classical view* of lexical encoding in LFG intact: by using an appropriate *checking and cross-referencing* mechanism in the relevant lexical forms, it can *avoid* recourse to *multiple word lexical entries*, which would pose rather severe problems for LFG's general morphological assumptions as well as for implementation. For a discussion, see Laczkó & Rákosi (2011, 2013). “ONE-IN-TWO”
3. The devices can be argued to be *motivated* and justified independently, again, see Laczkó & Rákosi (2011, 2013) for the treatment of *derivational processes* in the case of non-compositional PVCs, and Laczkó (2013) for both compositional and non-compositional PVCs. 23

6.2. Conclusion

4. This analysis is part of my larger project of developing an LFG proposal for treating several categories as *non-projecting words*, in the (modified) sense of Toivonen (2001), or *minor categories*, in the sense of Dalrymple (2001).
 - so far: PVCs, now: *volna*, later: *nem* ‘not’, *is* ‘also’, *-e* ‘QM’, *csak* ‘only’, etc.
5. The construction type shown in (1) requires an entirely different treatment.
 - (1) *fog-ok me-nni*
will-1SG go-INF
‘I will go’
 - the analysis can be similar to that of the English counterpart (the two elements are functional co-heads)
 - except that Hungarian ‘will’ is
 - inflected for (subject–verb) agreement
 - of category V (and not Infl), see Laczkó (2014)

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Appendix 1. Bartos (2000: 728)

a distributed morphological (= syntactic) analysis

- (1) *lát-t-ál* *vol-na*
see-PAST-2SG.INDEF be-COND
'you would have seen'

