The nanosyntax of Hungarian postpositions

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Abstract

This article considers evidence for a Nanosyntactic approach to language from Hungarian PPs. Hungarian postpositions can be divided into classes: those which take a complement without morphologically visible case (dressed postpositions), and those which take an oblique complement (naked postpositions). This paper argues that in narrow syntax, both types of postpositions subcategorize for a KP complement. The difference between the two classes is captured in terms of the amount of structure they spell out. Dressed postpositions spell out both material in the P-domain and K, thus no Case is needed or possible on the complement, while naked postpositions spell out only material in the P-domain but not K, therefore their complement needs case. It is shown that from the proposed lexical representations an empirically motivated and insightful analysis of Hungarian postpositions ensues, which elegantly captures the different word-order possibilities of the two classes.

1. Introduction

Hungarian postpositions fall into two natural classes. So-called dressed Ps take complements which have no morphologically visible case. Naked Ps, on the other hand, take oblique complements. The two classes show different word-order possibilities, with naked postpositions being generally more independent of their complement than dressed ones.

The terms come from Marácz (1986) and were meant to suggest that Dressed Ps have something that Naked Ps don't. Hungarian postpositions agree with pronominal DP-complements. Marácz's original observation is that with dressed Ps the agreement is suffixed to the postposition itself,, while with Naked Ps the agreement is suffixed to the case-marker (leaving the P agreementless, or Naked). While this is a very strong tendency, it is not without exceptions. Nevertheless, I will use these labels because they are well-known in the literature on Hungarian PPs. In addition these terms are appropriate for my analysis, too, as I will suggest that Dressed Ps have a K feature that Naked Ps do not. That is, one can think of Dressed Ps as 'wearing' a K feature as an additional garment in addition to what naked Ps have.

* I thank Gillian Ramchand and Peter Svenonius for discussion on the issues dealt with here and generous comments on previous versions of this paper.

 Nordlyd 36.1, special issue on Nanosyntax, ed. Peter Svenonius, Gillian Ramchand, Michal Starke, and Knut Tarald Taraldsen, pp. 41–76. CASTL, Tromsø. http://www.ub.uit.no/baser/nordlyd/

The two types of postpositions are listed in (1) and (2).[1] Note that postpositions are not partitioned into the dressed and naked classes based on their semantics. One finds Place-denoting, Path-denoting and non-spatial postpositions in both groups. Hungarian is thus different from German, for instance, where the choice of case correlates with the Place/Path distinction (Dative case goes with Place and Accusative case goes with Path).

The postpositionhood of the items in (1) has been called into question in É. Kiss (2002). É. Kiss observes that the naked postpositions in the shaded rows are derived from verbs by adding the *-va/-ve* suffix and argues that these are not true postpositions, but participles subcategorizing for case-marked nouns, in fact. I agree with her and exclude these items from the discussion.

This already leads to a significant simplification of the pattern. Above, naked Ps were defined as postpositions taking nouns in some oblique case. The only exception is *kivéve* 'except for', which takes an Accusative-marked complement. Now *kivéve* is transparently built up of the verbal particle *ki* 'out', the verb *vesz* 'take' and the participial suffix *-va*. Compositionally, this should give 'taking X out (from the discussion)', which is exactly what *except for* means. Naked Ps thus can be accurately defined as Ps taking oblique complements.

É. Kiss, however, does not categorize the rest of the items in (1) as postpositions either. She treats them as adverbs instead. I will not take this proposal on board. Adverbs generally don't take case-marked DP complements. Adpositions, on the other hand, frequently do. German and the Slavic languages are well-known examples of this. Russian adpositions, for instance, select for a specific case, just like Hungarian naked postpositions do (Gillian Ramchand, p.c). Spanish prepositions also assign oblique case to their DP complements under specific conditions (Fábregas 2007), and some Turkic postpositions select for a specific oblique case, too (Libert 2008). In addition, naked postpositions have fairly heterogeneous meanings, which is a general characteristic of adpositions in other languages as well. Given these reasons, I will treat the items in (1) as true adpositions and place them inside an extended PP in syntax.

This paper seeks to give an analysis of the two postpositional classes in a Nanosyntactic framework. In Section 2 I examine the morphological and syntactic similarities and differences between dressed and naked Ps. Section 3 lays out the theoretical basis of the analysis. In Section 4 I propose an analysis in which the two types of postpositions correspond to different bits of the functional sequence: naked Ps spell out only material above KP, while dressed Ps span K, too, in addition to some higher material. The analysis yields insight into the workings of Nanosyntax in general,

[1] The list has been compiled on the basis of Kenesei et al. (1997) and Asbury (2008a), the former claims to be near-exhaustive. I have modified the glosses to reflect the three-way distinction of *at*, *to* and *from* marked postpositions. The reason for shading some of the rows in both tables will be clarified later on.

and in particular into how lexical representations can constrain word-order possibilities. Section 5 shows how the proposed representations capture the data. In Section 6 I summarize the main findings and discuss alternative analyses. Further avenues for research will be explored in Section 7.

(1) Naked postpositions

postposition	meaning	case	with a pronoun
alul	below	superessive	no
át	through, across	superessive	no
belül	inside of	superessive	no
dacára	despite	(dative)	no
ellenére	despite	(dative)	no
felül	over	superessive	no
innen	on this side of	superessive	no
kívül-re	outside-to, beside-to	superessive	no
kívül-ről	outside-from	superessive	no
túl-ra	beyond-to	superessive	no
túl-ról	beyond-from	superessive	no
végig	(along) to the end of	superessive	no
(fogva)	as a result of	adessive	no
(fogva)	from (time)	ablative	no
(kezdve)	beginning from	ablative	no
(kivéve)	except for	accusative	yes, on the case-marker
(nézve)	regarding	sublative	yes, on the case-marker
együtt	together	instrumental	yes, on the case-marker
hasonlóan	similarly to	allative	yes, on the case-marker
képest	compared to	allative	yes, on the case-marker
keresztül	through	superessive	yes, on the case-marker
kívül	outside, beside	superessive	yes, on the case-marker
közel	close to	allative	yes, on the case-marker
szembe	opposite.to	instrumental	yes, on the case-marker
szemben	opposite.at	instrumental	yes, on the case-marker
szemből	opposite.from	instrumental	yes, on the case-marker
szemközt	opposite.at	instrumental	yes, on the case-marker
túl	beyond	superessive	yes, on the case-marker

(2) Dressed postpositions

postposition	meaning	agreement with pronouns
alatt	under.at	yes, on the P
alá	under.to	yes, on the P
alól	under.from	yes, on the P
előtt	in.front.of.at	yes, on the P
elé	in.front.of.to	yes, on the P
elől	in.front.of.from	yes, on the P
felett/fölött	above.at, over.at	yes, on the P
fölé	above.to, over.to	yes, on the P
fölül	above.from, over.from	yes, on the P
köré	arond.to	yes, on the P
körül	around.at	yes, on the P
között	between.at, among.at	yes, on the P
közé	between.to, among.to	yes, on the P
közül	between.from, among.from	yes, on the P
mellett	near.at	yes, on the P
mellé	near.to	yes, on the P
mellől	near.from	yes, on the P
mögött	behind.at	yes, on the P
mögé	behind.to	yes, on the P
mögül	behind.from	yes, on the P
felé	towards	yes, on the P
felől	from the direction of	yes, on the P
által	by	yes, on the P
ellen	against	yes, on the P
helyett	instead of	yes, on the P
iránt	towards	yes, on the P
jóvoltából	thanks/due to	yes, on the P
miatt	because of	yes, on the P
nélkül	without	yes, on the P
szerint	according to, in the opinion of	yes, on the P
után	after	yes, on the P
javára	in favour of	yes, even with a lexical DP
kedvéért	for the sake of	yes, even with a lexical DP
létére	despite being	yes, even with a lexical DP
részére	for (DAT)	yes, even with a lexical DP
révén	through, by means of	yes, even with a lexical DP
számára	for (DAT)	yes, even with a lexical DP
ellenére	despite	doesn't co-occur with a pronoun
esetén	in case of	doesn't co-occur with a pronoun
folytán	as a consequence of	doesn't co-occur with a pronoun
gyanánt	as	doesn't co-occur with a pronoun

Table continued

postposition	meaning	person-marking
következtében	as a consequence of	doesn't co-occur with a pronoun
közben	during (time)	doesn't co-occur with a pronoun
mentén	along	doesn't co-occur with a pronoun
módjára	in the manner of	doesn't co-occur with a pronoun
módra	in the mode of	doesn't co-occur with a pronoun
múlva	in, after (time)	doesn't co-occur with a pronoun
nyomán	based on	doesn't co-occur with a pronoun
óta	since (point of time)	doesn't co-occur with a pronoun
során	in the course of	doesn't co-occur with a pronoun
tájban/tájt	around (point in time)	doesn't co-occur with a pronoun
útján	by way of	doesn't co-occur with a pronoun
végett	with the aim of	co-occurs with a pronoun only in nonstandard Hungarian, then yes

2. The distribution of the two classes

In this section I discuss the morphological and syntactic properties of dressed and naked postpositions and introduce the tests used in the literature to distinguish them. Seven tests make a cut among postpositions. Despite what every previous study suggests, these seven tests do *not* all make the same cut.[2]

2.1. Case-marking of the complement

Naked postpositions take oblique complements. The case on the complement is different for different naked postpositions. Most of them take a Superessive-marked complement, but some require a complement in another case such as Instrumental and Allative. Dressed postpositions take complements without visible case. The phrasing 'complement without visible case' may seem to be vague, but was carefully chosen to be theory-neutral. Nominative case is morphologically unmarked in Hungarian, and just by looking at the surface form it is not possible to decide whether these complements are caseless or bear Nominative case.

(3) a fal mellett
the wall next.to
next to the wall

(4) a fal-on keresztül
the wall-SUP *through*
through the wall

(5) a fal-hoz közel
the wall-ALLAT *close.to*
close to the wall

[2]Dressed postpositions will be typified by the so-called 'projective postpositions' throughout the paper.

2.2. Word order

Dressed Ps must follow their complement without exception. Some of the naked Ps, on the other hand, may also precede their complement. In this case they are interpreted contrastively and bear stress.

(6) a. a tó mellett
the lake next.to
next to the lake
b. *mellett a tó
next.to the lake
next to the lake

(7) a. a mező-n keresztül
the field-SUP *through*
through the field
b. keresztül a mező-n
through the field-SUP
through the field

2.3. Degree modification

Modification in PPs is generally restricted to degree-modifers and measures. Such modifiers can never intervene between a dressed P and its complement. The modifier in this case has to precede the DP–P sequence. Some naked Ps, on the other hand, allow degree-modifiers to appear between the DP and the postposition.

(8) a. *a tükör egészen mellett
the mirror wholly next.to
right next to the mirror
b. egészen a tükör mellett
wholly the mirror next.to
right next to the mirror

(9) a. az épület-en egészen kívül
the building-SUP *wholly outside*
totally outside the building
b. egészen az épület-en kívül
wholly the building-SUP *outside*
totally outside the building

2.4. P-stranding with wh-movement

The complement of naked Ps can be extracted by wh-movement, leaving the postposition stranded. This is not possible with dressed Ps: the postposition must be pied-piped with the wh-element.

(10) Mi-n$_i$ mentél t_i át ?
what-SUP *go*-PAST.3SG *through*
What did you go through?

(11) a. *Mi$_i$ men-t-él t_i mögött?
what go-PAST-2SG *behind*
What did you go behind?
b. Mi mellett men-t-él?
what behind go-PAST-2SG
What did you go behind?

2.5. Transitivity

All dressed Ps must have a complement, but some naked Ps can be used intransitively, too. In this case they express a (spatial) relation with respect to a deictic center understood from the context: *here*, unless specified otherwise.

(12) a. A ház a tó előtt van.
the house the lake in.front.of be.3sg
The house is in front of the lake.
b. *A ház előtt van.
the house in.front.of be.3sg
The house is in front of.[3]

(13) a. A hang a szobá-n kívül-ről jött.
the sound the room-SUP *outside.of-from come*.PAST
The sound came from outside of the room.
b. A hang kívül-ről jött.
the sound outside.of-from come.PAST
The sound came from outside.

2.6. Pronominal grounds and agreement in the PP

When postpositions take a pronominal Ground, a person-number agreement marker must appear in the PP. Marácz (1986) made two observations about this agreement marker. Firstly, the agreement paradigm in PPs is identical to the agreement paradigm in possessives.[4] Secondly, postpositions taking a complement without visible case bear agreement themselves, while in the case of postpositions taking an oblique complement the agreement is suffixed to the case-marker. The paradigm for possessives is given in (14), dressed and naked Ps with pronominal grounds are shown in (15) and (16).[5] In (16) 'ALLAT' stands for Allative, the case selected by the postposition *közel* 'close to'. It means *to* and it is a suffix of the personal pronoun, the complement of the postposition.[6] It has the same form as an Allative suffixed to full DPs (*a ház-hoz közel* 'the house-ALLAT close.to' means *close to the house*).

[3]The sentence is grammatical with the interpretation 'It is in front of the house', with a *pro* Figure and *the house* as the Ground complement of the P.

[4]Possessors, however, show agreement with non-pronominal possessees as well.

[5]The third person plural suffix has allomorphs both with and without *-j*, the details of which need not concern us here.

[6]As shown in (16), the personal pronoun is optional but the case-marker and the agreement must be overt. With a covert pronoun we get the mistaken impression that ALLAT is an independent stem.

Possessive agreement paradigm

(14)
a. ház-**am**
house-POSS.1SG
my house
b. ház-**ad**
house-POSS.2SG
your house
c. ház-**a**
house-POSS.3SG
his house
d. ház-**unk**
house-POSS.1PL
our house
e. ház-**atok**
house-POSS.2PL
your house
f. ház-**uk**
house-POSS.3PL
their house

(15) Dressed P with pronominal DP
a. (én) al-att-**am**
(I) under-LOC-1SG
under me
b. (te) al-att-**ad**
(you) under-LOC-2SG
under you
c. (ő) al-att-**a**
(he) under-LOC-2SG
under him
d. (mi) al-att-**unk**
(we) under-LOC-1PL
under us
e. (ti) al-att-**atok**
(you) under-LOC-2PL
under you
f. (ő) al-att-**uk**
(he) under-LOC-3PL
under them

(16) Naked P with pronominal DP
a. (én) hozz-**ám** közel
(I) ALLAT-1SG *close*
close to me
b. (te) hozz-**ád** közel
(you) ALLAT-2SG *close*
close to you
c. (ő) hozz-**á** közel
(he) ALLAT-3SG *close*
close to him
d. (mi) hozz-**ánk** közel
(we) ALLAT-1PL *close*
close to us
e. (ti) hozz-**átok** közel
(you) ALLAT-2PL *close*
close to you
f. (ő) hozz-**ájuk** közel
(he) ALLAT-3PL *close*
close to them

As already mentioned in Section 1, the distribution of the agreement marker has given rise to the names 'dressed' and 'naked' postpositions, and the place of the agreement marker has been treated as the definitive cut among postpositions in all previous work, for instance Marácz (1989), É. Kiss (2002), Hegedűs (2006) and Asbury (2008b). Asbury (2008b) even uses the terms inflecting and non-inflecting postpositions to refer to the two classes.

I believe, however, that the definitive cut is the case-marking on the complement, not the ability to bear person-marking. Inflecting postpositions form a proper subset of postpositions taking a complement without visible case. Several items in (2) do not co-occur with a pronoun at all, hence they cannot bear person-marking and cannot be called inflecting postpositions. Yet they share many properties with the items in (2) that do occur with agreement. Specifically, they pattern in the same way with respect to case-marking on the complement (Section 2.1), the word order test (Section 2.2), the degree modifier test (Section 2.3), the P-stranding test (Section 2.4) and the intransitivity test (Section 2.5).

This means that once a P is specified for having a complement without visible case, it does not matter whether it can bear agreement or not, it is destined to have the same distribution with the aforementioned tests. This makes case-marking the single most important cut among postpositions. Consequently in this article 'dressed' P refers to a P taking a complement without visible case (not to a P bearing agreement), and 'naked' P refers to a P taking an oblique complement (not to a P not bearing agreement).

Let us now turn our attention to those items in (2) that appear in the shaded rows. They have a complement without visible case but bear agreement with a full DP complement, too. Agreement with a full DP is atypical for a postposition but standard in possessive constructions. This raises the question whether these words could be analyzed as NP possessees. As it turns out, there is some evidence for this conjecture. All of them are transparently multi-morphemic, consisting of a noun, an agreement marker and a locative case-marker (18). This is the same as the order of morphemes in possessive constructions (17).

(17) kert-em-ben
garden-POSS.3SG-INESS
in my garden

(18) a. lét-em-re
existence-POSS.1SG-SUBL
despite me being

b. rész-ed-re
share-POSS.2SG-SUBL
for you

c. rév-é-n
ferry-POSS.3SG-SUP
through/by means of him

d. szám-unk-ra
number-POSS.1PL-SUBL
for us

Given that the morphological make-up of these words is exactly like that of possessive constructions and that they agree with full DP complements, I will treat them as possessive-marked DPs and will not have much to say about them. This allows us to maintain the generalization that postpositions only agree with pronominal complements.

2.7. Demonstrative concord

Demonstrative constructions in Hungarian contain both a demonstrative and a definite article.

(19) az a ház
that the house
that house

If the noun has a plural suffix or a case-marker, these must copied onto the demonstrative article:

(20) a. ház-ak-at
house-PL-ACC
houses

b. az-ok-at a ház-ak-at
that-PL-ACC *the house*-PL-ACC
those houses

Some dressed postpositions must also be copied onto the determiner. This property strongly correlates with person-marking: those dressed Ps that are person-marked with a pronominal complement copy onto the determiner, while those that are always person-marked or cannot appear with a pronoun at all do not. In contrast, none of the naked Ps can be copied onto the demonstrative. Being dressed is thus a necessary but not a sufficient condition for this copying.

(21) a(z)-ok *(mellett) a ház-ak mellett
that-PL *next.to* *the house*-PL *next.to*
next to those houses

(22) a(z)-ok-on (*kívül) a ház-ak-on kívül
that-PL-SUP *outside.of* *the house*-PL-SUP *outside.of*
outside of those houses

Compare (22) with its grammatical version (23), in which only the Case-marker gets copied onto the demonstrative:

(23) az-on a ház-on kívül
that-SUP *the house*-SUP *outside.of*
outside of that house

2.8. Interim summary

Let us briefly summarize the distribution of the two classes. Postpositions taking a complement without visible case must follow their complement and cannot be separated from it. They do not allow the intervention of degree-modification, P-stranding in wh-questions and cannot be used intransitively. A subclass of them copies onto the demonstrative and agrees with a pronominal complement.

Postpositions taking an oblique complement do not copy onto the demonstrative and do not bear agreement with a pronominal complement. Some of them can also directly precede their complement and can be separated from it by a degree-modifier or P-stranding, and can be used intransitively. Being 'naked' is thus a necessary but not sufficient condition for being separable from the complement.

(24) Morphological and syntactic characteristics of the two types of Ps

	dressed Ps	naked Ps
visible case on the complement	—	OK
directly precede the noun	—	OK(some)
intervening degree-modification	—	OK(some)
P stranding in wh-questions	—	OK(some)
used intransitively	—	OK(some)
copying on demonstrative	OK(some)	—
bear agreement	OK(some)	—

An optimal analysis of these patterns links the (lack of) visible case on the DP to the (in)separability of the P and the DP. It also prevents naked Ps from copying onto the demonstrative or bearing agreement, but gives them enough flexibility to display heterogenous behavior with respect to the other tests. In the following sections I attempt to outline a proposal that can do this.

I will not be concerned with how word-order is derived in the Hungarian PP. Adpositions in Hungarian are postnominal in the unmarked case, and I will draw head-final trees to represent this fact. This gives the correct word-order without any movements. These head-final trees should be read as an abbreviation of whatever derivation produces the right order, such as base-generation of head-final structures or base-generation of head-first structures followed by roll-up movement as in Cinque (2005).

3. Theoretical background

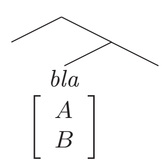
This section describes the theoretical background and tools that will be used in the analysis. The proposal presented in the next section is couched in the framework of Nanosyntax. As Nanosyntax and mainstream Minimalism make different assumptions about how syntactic structures are built as well as how those structures are lexicalized, it will be useful to briefly summarize the Nanosyntactic standpoint on these issues in Section 3.1. This is followed by a description of the structure assumed for the internal make-up of PPs in Section 3.2. Assumptions about KP that will be crucial in the analysis but which are independent of Nanosytax will be laid out in Section 3.3.

3.1. Background to Nanosyntax

3.1.1. Minimalism versus Nanosyntax

Syntactic features play an important role in Minimalist theory: they are responsible for categorial selection and Agree, they trigger Movement and drive the syntactic computation in general. The atoms of structure-building in Minimalism, however, are morphemes, not features. If a morpheme spells out two features, A and B, then these features form an unstructured bundle (25).

(25)



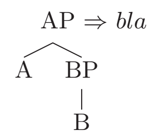
Thus while features have a distinguished role in computation, morphemes have a distinguished role as terminals. The basic tenet of Nanosyntax is that features not only drive the syntactic computation, but they are also the atoms of structure-building.

As syntax builds Phrase-markers out of features, there are no feature-bundles in trees. Every feature is a terminal, a head on its own. This view has far-reaching consequences for what morphemes look like. It is uncontroversial that morphemes often identify more than one feature. Given that in Nanosyntax features are terminals, morphemes that identify several features spell out several terminals. That is, they spell out a chunk of tree structure. In this case terminals become sub-morphemic. Importantly, depending on how many features they identify, morphemes are of different syntactic complexity and so of different size.

3.1.2. Morphemes identifying multiple features

Currently there are two approaches within Nanosyntax as to how morphemes that spell out a piece of structure should be represented. In the so-called Phrasal spell out approach these morphemes spell out a non-terminal node, a constituent. If *bla* spells out the features A and B and A is higher in the functional sequence than B, then *bla* spells out AP. This is graphically represented in (26).

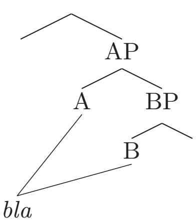
(26)



Phrasal spell out is used in Starke (2009), Caha (2009) and Fábregas (2009), among others. The interested reader is encouraged to examine these works (esp. Caha 2009, chapter 2) for the details. In many cases this view involves extra phrasal movements to create the right context for lexicalization.

The other approach is called Spanning and is advocated in Ramchand (2008a;b) and Ables and Muriungi (2008). Lexical insertion in Spanning does not target constituents. Instead, it targets heads and stretches of heads that select each other's maximal projections. When a lexical item *LI* is specified for multiple (categorial) features then it is multiply associated to different terminals. One can think of this as allowing *LI* to merge, project and later Remerge at a different terminal. The Spanning representation of *bla* from (26) is shown in (27).

(27)



The idea has much in common with head-movement, but it allows *LI* to project more than one category label. It also does not require copies and does not involve a violation of the Extension Condition. (See Ramchand (2008b), chapter 3.2 for discussion of Remerge. For formalization of Spanning, the reader should consult Ables and Muriungi (2008) and Taraldsen (2009).)

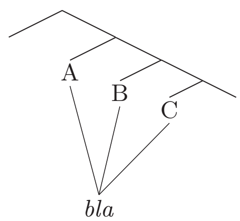
For the purposes of this paper I adopt the Spanning view for convenience. I will draw multiple association lines as in (27) to represent morphemes spelling out more than one feature, since it requires fewer assumptions about phrasal movement for spell out purposes.

3.1.3. Movement affects lexical insertion

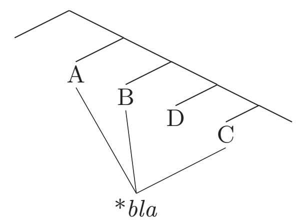
In Nanosyntax, lexicalization of the structure is post-syntactic and consists in matching the features of lexical items to the features in the tree. This matching has structural restrictions in both Phrasal spell out and Spanning. In the Spanning approach used here, this restriction is that the features identified by the lexical item *LI* must be in a contiguous sequence in the tree for *LI* to be able to spell them out. For instance a morpheme identifying the features A, B and C is able to spell out (29), but not (30), as in the latter case A, B and C are not in a contiguous sequence.

(28) Syntactic information in the lexical entry of *bla*:
feature A, feature B, feature C

(29)

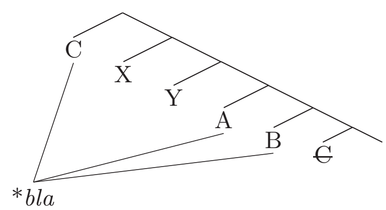


(30)



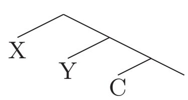
As movement changes the contiguity of features, extraction will have an effect on how the structure can be lexicalized. (By assumption, traces do not count as interveners and are ignored when we determine if a set of features are in a contiguous sequence.) Take *bla* in (29) as an example. If (29) represents the base-generated order and C undergoes movement, as in (31), then movement has destroyed a sequence that could have been spelt out by *bla* and so the insertion of this lexical item is prevented.

(31)

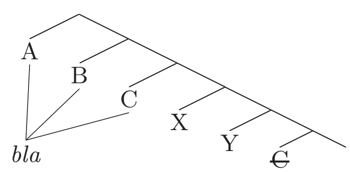


The opposite situation is also possible. If (32) represents the base-generated order, C undergoes movement and then B and A are merged, insertion of *bla* becomes possible. In this case the sequence that can be spelt out by *bla* is created by movement.

(32)



(33)

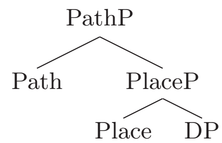


For a detailed discussion of how movement affects the choice of lexical items as well as specific examples, see Caha (2009) and Fábregas (2009).

3.2. The decomposition of PPs

Research on the internal structure of PPs has converged on the conclusion that there exists a rigid and articulated PP-internal functional hierarchy. While different researchers assume different numbers and types of projections, they agree that PPs comprise at least a PlaceP and a PathP, with the latter dominating the former.

(34)



Syntactic arguments for the structure in (34) have been presented in van Riemsdijk (1990), Koopman (2000), den Dikken (to appear) and Svenonius (to appear), among others. Zwarts (2005) and Zwarts and Winter (2000) have shown that this decomposition is motivated on semantic grounds, too, as Paths are compositionally built from Place denotations. The structure in (34) has been applied in the analysis of Hungarian PPs in recent research such as Hegedűs (2006), Asbury et al. (2007) and Asbury (2008b).

Following Pantcheva (2009a;b), I assume that morphemes that project location-denoting phrases always spell out a particular functional projection called Place. Depending on the language or the particular morpheme in question, however, they may spell out some features lower than Place as well. Path-denoting morphemes can be divided into two groups. Those that stack on top of a Place-denoting morpheme spell out only Path, while those that attach directly to the Ground spell out both Place and Path. In order to keep the discussion simple I will use only Place-denoting adpositions in the examples, but everything I say carries over to morphemes with a Path denotation as well.

3.3. DP-movement is KP-movement in Hungarian

The movement of the extended projection of the noun is generally taken to be DP-movement. However, in languages with case-suffixes DP cannot be extracted on its own from below K. What we usually refer to DP-movement is, in fact, KP-movement in these languages. Hungarian is a case in point. There are 16-20 case suffixes in the language (depending on how we count them). These include structural, spatial and other cases. When a nominal is the target of extraction, it is not possible to move NP or DP away from KP and leave the case stranded. If the nominal is moved, it must pied-pipe KP.

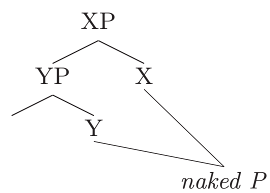
This restriction may be taken to stem from the phonological dependence of case-markers, thus being a morphological or phonological constraint instead of a true syntactic constraint, so it may be specific to languages with case-suffixes. In any event, DP cannot move away from K in Hungarian.[7]

[7] Parallelisms in the extended structure of nominal phrases and clauses have been repeatedly pointed out in the literature, and the nominal equivalent of C has been identified either as K (Lamontagne and Travis 1987, Bittner and Hale 1996) or D (Szabolcsi 1987; 1994, Alexiadou, Haegeman, and Stavrou 2007). If the parallelism between KP and CP is on the right track, then the above-mentioned restriction is possibly universal. It is well-known that T cannot move away from C, and that T can undergo ellipsis but it cannot be absent from the structure if there is a C present. That is, C cannot exist without an adjacent T. If the relationship of D and K is comparable to that of T and C, then we expect that D cannot move away from K, and it can be phonologically deleted but it must be syntactically present in the phrase-marker whenever there is a K. As we will see later, this is precisely what happens in Hungarian, even when K is not expressed

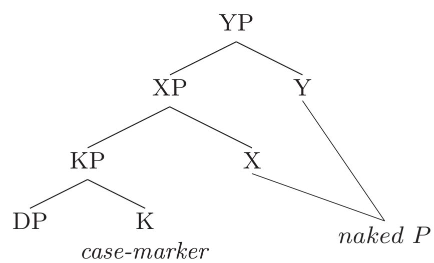
4. 'Dressed' means spelling out K

The analysis of naked postpositions is fairly straightforward in the model used here. Naked Ps spell out some material above KP, inside PP. KP is spelled out by an independent morpheme, the case-marker. That is, all the features spelled out by naked Ps are in the P-domain, none them belongs to the D domain. As there are Place, Path and non-spatial naked Ps as well, there must be variation among the individual naked postpositions as to how many and exactly which features they spell out in the P-domain. In the trees below, X and Y stand for any projection in the extended PP. These structures do not intend to suggest that naked Ps spell out exactly two features, this is merely a representational convenience.

(35) Lexical entry of a naked P



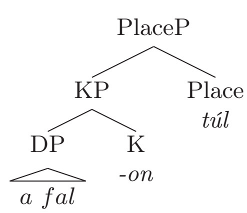
(36) PP with a naked P



A concrete example:

(37) a fal-on túl
the wall-SUP *beyond*
beyond the wall

(38)



Let us turn to dressed postpositions. The complement of these postpositions does not bear morphologically visible case. This fact has been interpreted in the literature in two ways. Marácz (1989) suggests that these complements bear the morphologically null Nominative case, while É. Kiss (2002) and Asbury (2008b) argue that they are caseless.

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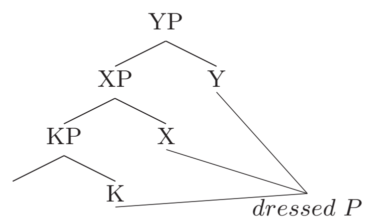
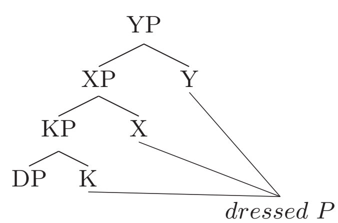
by a suffix.

I propose that the feature shared by all dressed Ps, spatial and non-spatial, is that in addition to some P-feature(s), they spell out K as well. This means that there is a K in the structure of dressed PPs, but that K is swallowed by the P, leaving the complement to be the spell-out of merely DP. Dressed Ps thus span the P and the D domains.

(39) Lexical entry of a dressed P

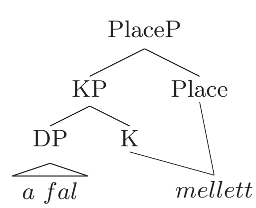


(40) PP with a dressed P



A concrete example:

(41) a fal mellett
the wall next.to
next to the wall



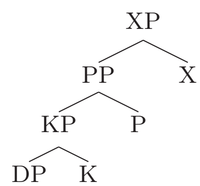
K and D belong to the same domain but K and Y do not, so the relationship of K and DP is arguably closer than that of Y and KP. In consequence, it is expected in in this analysis that dressed Ps, by virtue of spelling out K and so reaching into the D domain, have a tighter connection to their complement than naked Ps do. As we revisit the data in the next section, we will see that this is the case indeed.

5. The data revisited

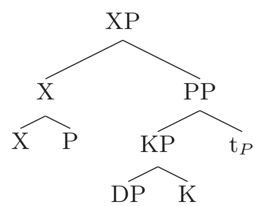
5.1. Word order

Hungarian adpositions follow their complement in the neutral order. For dressed Ps this is the only available order. Some naked Ps can also precede their complement, and this non-neutral order is associated with emphasis on the postposition. Asbury (2008b) suggests that the P > KP order might be a result of movement of the P to a higher focus projection. I capitalize on this idea and analyze the P > KP order as a result of P-movement. Such a movement thus targets a P-feature or P-features, but leaves the Ground, i.e. KP, in situ. The structures before and after movement are schematized in (42) and (43) respectively. P stands for any feature in the extended PP.

(42)



(43)



Keeping in mind that in Nanosyntax the Lexicon is accessed only after the structure has been built, consider how (43) could be lexicalized. Dressed Ps are specified for spelling out both P and K and they can only be matched to a chunk of structure in which these features form a continuous sequence. This is not the case in (43). As a result of the movement, the P-feature and K are not adjacent to each other, the X head intervenes between them. This means that a representation like (43) cannot be matched to a dressed P, and so the P > Ground order is ungrammatical.

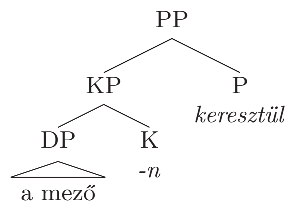
(44) a tükör mellett
the mirror next.to
next to the mirror

(45) *mellett a tükör
next.to the mirror
next to the mirror

The separation of P from K does not pose comparable problems for naked Ps, as in this case P and K are spelt out by different morphemes. In (43) P can be matched to the lexical entry of a naked P and K can be matched to the case-marker, just like when no movement takes place.[8]

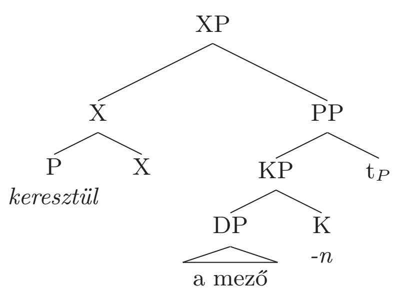
(46) a mező-n keresztül
the field-SUP *through*
through the field

(47)



(48) keresztül a mező-n
through the field-SUP
through the field

(49)



While in principle it is possible to analyze the P > Ground order above as failure of KP to move instead of P-movement, there is a scenario that clearly involves movement of P away from KP. The relevant data involve adpositions functioning as verbal modifiers. The immediately preverbal position in Hungarian is called the verbal modifier position. This position is open to some naked Ps, as evidenced by (50), but not to any of the dressed Ps.

(50) Mari keresztül-ment a mező-n.
Mary through-go.PAST.3SG *the field*-SUP
Mary went through the field

[8]Given that Hungarian adpositions in a prenominal position give rise to a contrastive reading, in (49) I tentatively assume that XP is FocP. In (49) I depict this as head-movement of P to X (i.e. Foc). However, this is only a representational convenience. Whether this extraction is best characterized in terms of head movement or phrasal movement, it does not affect the argumentation. The point is that separating P from KP does not yield the right context for lexicalization by a dressed P.

Note that adpositions in general do not give rise to a contrastive interpretation, therefore there is no Foc feature in their lexical representation. As a result, the movement in (49) could not be represented as one lexical item spanning both P and X.

(51) a. *Mari mellett-ment a tükör.
Mary next.to-go.PAST.3SG *the mirror*
Mary went next to the mirror.

b. Mari a tükör mellett ment.
Mary the mirror next.to go.PAST.3SG
Mary went next to the mirror.

Just as in (44)–(49), we see again that dressed Ps must follow the Ground at all times but some naked Ps may also precede it. The analysis of (50) and (51a) proceeds along the lines outlined above. P and K do not form a contiguous sequence after movement in either (50) or (51a). This is a problem only for dressed Ps, however, as these must be matched to adjacent P and K features. (50) is ruled in because in this case P and K are spelt out by different morphemes.[9]

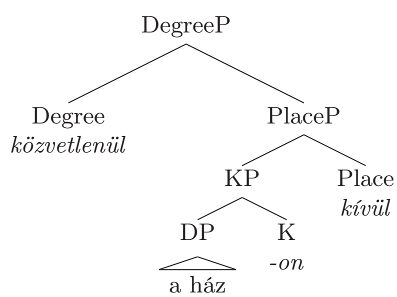
Let us summarize our results so far. In this subsection we have seen evidence that in Nanosyntax, lexical representations can constrain word-order possibilities. Specifically, certain movements are ruled out not because they violate syntactic principles (e.g. locality) and lead to a crash in narrow syntax, but because they yield structures which cannot be properly matched to lexical items and so cannot be spelt out.

5.2. Degree modification

Degree modifiers have been argued to be harboured by a designated functional projection DegreeP in Koopman (2000), den Dikken (to appear) and Svenonius (2008; to appear). I will follow this line of thinking here. As already discussed, degree modifiers can always precede the DP. I take this to be the unmarked option which involves no movement. An example with a naked P is given below.

(52) közvetlenül a ház-on kívül
right the house-SUP *outside.of*
right outside of the house

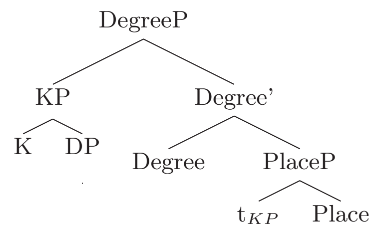
(53)



Structures in which the degree modifier intervenes between the Ground and the postposition are derived by moving KP into the specifier of DegreeP, leaving the P-features behind. This gives the representation in (53).

[9] I will address the issue of why not all naked Ps allow the intervention of degree modification or can appear in the verbal modifier position in Section 5.8.

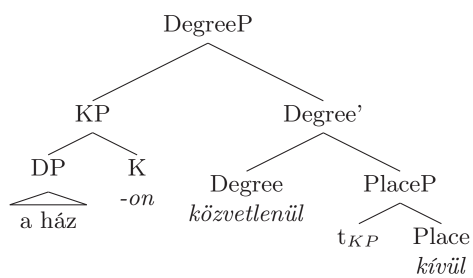
(54)



Consider now how this structure can be lexicalized. In the case of naked Ps the P-feature and K are spelled out by different morphemes. Whether movement takes place or not, at post-syntactic spell-out it is possible to match K to the case-marker and the P-feature to the naked P (56).

(55) a ház-on közvetlenül kívül
the house-SUP *right outside.of*
right outside of the house

(56)



Dressed Ps, however, lexicalize both the P-feature(s) and K. They can be matched to a chunk of structure in which these features form a contiguous sequence. This is not the case in (54). The movement disrupted the K – P sequence, and when it comes to post-syntactic spell-out, there is no span in this tree that is identical to the lexical entry of a dressed P. A structure like (54) thus cannot be lexicalized with a dressed P.

(57) közvetlenül a ház mellett
immediately the house next.to
immediately next to the house

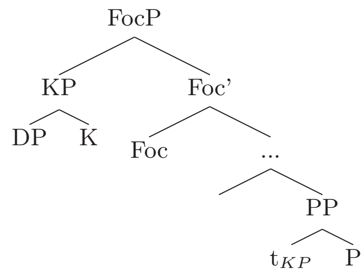
(58) *a tükör közvetlenül mellett
the mirror immediately next.to
immediately next to the mirror

Once again we see that the lexical representation of morphemes has an effect on word-order: if movement scatters the features that should be lexicalized by a single morpheme, the structure has no felicitous spell-out.

5.3. Wh-movement

The account of the data involving wh-movement proceeds along the same lines and it should be obvious by now. The structure of a wh-question with a stranded postposition is as in (59): KP is attracted to spec, FocP and the P-featues stay in situ.

(59)

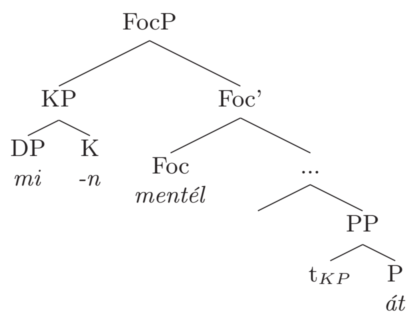


(59) cannot be lexicalized with a dressed P, as K and P are not adjacent, but a naked P can be matched to the P and the case-marker to K without any problems.

(60) *Mi$_i$ mentél t_i alatt?
what go.PAST.3SG *under*
What did you go under?

(61) Mi-n$_i$ men-t-él t_i át ?
what-SUP *go*-PAST-2SG *through*
What did you go through?

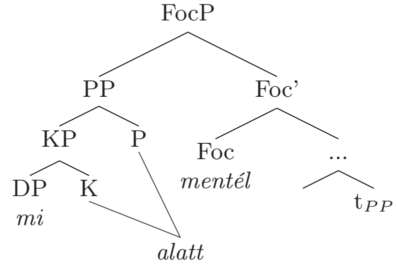
(62)



If PP is pied-piped with KP, the P and K remain adjacent in the structure after movement, too. This makes it possible for a dressed P to spell out the structure.

(63) Mi alatt men-t-él?
what under go-PAST-2SG
What did you go under?

(64)



We have now accounted for all the data points that show that naked Ps are separable from their complement but dressed Ps are not. All sentences with extraction from a dressed PP were ruled out on account of K and the rest of P being separated, and so yielding a structure which has no subpart that could be matched to the lexical entry of a dressed P.

5.4. Potential counter-examples: extraction from dressed PPs?

I have emphasized that the relationship of dressed Ps and their complements is a very close one: these postpositions cannot be separated from their complement either by way of extraction or an intervening degree modifer. Some data, however, seem to contradict this generalization. In (66), the Ground seems to have been extracted from a dressed PP. Its case-marker has concomitantly shifted to the Dative/Genitive and an agreement-marker appears on the postposition. (65) shows the version of this example with the P and its complement adjacent for comparison.

(65) (A fiúk előtt) szép jövő áll a fiúk előtt.
the boy-PL *in.front.of beautiful future stand.*3SG *the boy*-PL *in.front.of*
A beautiful future is ahead of the boys.

(66) A fiú-k-nak szép jövő áll
the boy-PL-DAT *beautiful future stand.*3SG
előtt-e/előtt-ük.
in.front.of-POSS.3SG/in.front.of-POSS.3PL
A beautiful future is ahead of the boys.
(É. Kiss 2002:pg. 190, the glosses have been modified)

This pattern is reminiscent of the case alternation exhibited by the possessive construction. As is well known, Hungarian possessors can appear either in the nominative or in the dative case (67).[10] In her seminal work on the structure of DPs, Szabolcsi (1983; 1994) argues that (67a) is base-generated, with the possessor sitting in spec, NP. In (67b), on the other hand, the possessor raises to the specifier of DP and gets Dative case from D. As only Dative-marked possessors can be separated from their possessum (68), she concludes that Spec, DP serves as an escape hatch in which the moving possessor has to touch down.

(67) a. a fiú-k könyv-e
the boy-PL *book*-POSS.3SG
the book of the boys
b. a fiú-k-nak a könyv-e
the boy-PL-DAT *the book*-POSS.SG
the book of the boys

(68) A fiú-k-*(nak) kicsi a könyv-e.
the boy-PL-DAT *small the book*-POSS.3SG
The book of the boys is small.

Based on the movement analysis of dative possessors, one might argue that the Ground in (66) is moved as well. Such an account would suffer from serious

[10] With a dative possessor, a definite article must precede the possessum

problems, however. If the complement of dressed Ps can be extracted indeed, one cannot make sense of the data in Sections 2.2 and 2.3, which show that dressed Ps and their complements are inseparable. The parallel with dative possessors is not complete either. While dative possessors can be adjacent to their possessum (69), the same is not true of Dative-marked complements of dressed Ps (86).

(69) a. A fiú-k-nak a könyv-e kicsi.
the boy-PL-DAT *the book*-POSS.3SG *small*
The book of the boys is small.

b. Kicsi a fiú-k-nak a könyv-e.
small the boy-PL-DAT *the book*-POSS.3SG
The book of the boys is small.

(70) a. *A fiú-k-nak előtt-e/előtt-ük szép jövő áll.
the boy-PL-DAT *in.front.of*-POSS.3SG/in.front.of-POSS.3PL *beautiful future stand*.3SG
A beautiful future is ahead of the boys.

b. *Szép jövő áll a fiú-k-nak előtt-e/előtt-ük.
beautiful future stand.3SG *the boy*-PL-DAT *in.front.of*-POSS.3SG/in.front.of-POSS.3PL
A beautiful future is ahead of the boys.

In addition, the movement-analysis of (66) leaves unexplained why the agreement marker becomes obligatory on the P once the Ground is separated from it and bears Dative case. The reader will recall that dressed Ps do not agree with full DP-complements. Agreement is possible only with pronominal complements.

(71) (én) mellett-em
I next.to-1SG
next to me

(72) a ház mellett-(*e)
the house next.to-POSS.3SG
next to the house

The example in (66) is more marked than (65) and is an inconvenience to most analyses. É. Kiss' (2002) study contains virtually the only proposal that has something to say about it. She notes that the agreement marker on the postposition may be either singular or plural when the complement is plural. She proposes that the version of (66) with singular agreement on the postposition involves plain extraction, while the version with the plural agreement involves a *pro* possessor. In the latter case the dative possessor is generated outside the PP in a hanging-topic-like construction.

I will not adopt the idea of plain extraction with singular agreement for the reasons mentioned above. Instead, I suggest that both the variant with the singular and the one with the plural agreement have the same structure: one in which the Dative constituent is base-generated in its surface position and is co-indexed with a *pro* inside the PP.[11] This enables us to keep two robust generalisations that we see with dressed postpositions again and again: i) these Ps agree only with pronouns and ii) they are inseparable from their complements.

Examples of the opposite situation to that in (66) can be found in (73) and (74). In these sentences the postposition seems to have been extracted, leaving the complement behind. The standard tests show that the adpositions in (73) and (74) occupy the so-called verbal modifier position (they follow the verb in sentences with focus and negation).[12]

(73) Kata mellett-e áll János-nak.
Kate next.to-POSS.3SG *stand*.3SG *John*-DAT
Kate stands by John

(74) Kata mellé(-je) lő-tt a kapu-nak.
Kate to.next.to-POSS.3SG *shoot*-PAST.3SG *the goal*-DAT
Kate shot beside the goal.

The facts that the complement must be in Dative case and that the adposition bears agreement[13] but has a full DP complement, however, put an extraction-analysis at an important disadvantage here, too, as none of these phenomena follow from a movement account in any way.

An analysis of (73) and (74) involving movement would be theoretically undesirable, too. For the sake of argument, suppose that (73) and (74) involve movement of the postposition. We have already seen that naked Ps can immediately precede their Ground in the marked order, and that this marked order presumably involves P-movement to yield a contrastive interpretation. Whatever the landing site of this movement is, it is certainly PP-internal and unavailable to dressed Ps, as these Ps must always follow their complement. The relevant examples are repeated below.

(75) a. a tó mellett
the lake next.to
next to the lake

[11] The difference in number agreement does not necessarily point to a difference in structure. With plural Dative possessors, too, number agreement on the possessum is optional, it can be either plural or singular. The choice is dialect-based. Den Dikken proposes that the singular is a default value for agreement with plural dative possessors, and I suggest that the same is true with agreement in the PP as well. For an in-depth study of agreeing and anti-agreeing possessums of dative possessors, the interested reader should consult den Dikken (1999).

[12] This is possible only with Place and Goal Ps but not Source Ps. I don't know why and nobody else has an account of this either.

(i) *Kata mellől-e jön János-nak
Kate from.next.to-POSS.3SG *come*.3SG *John*-DAT
Kate comes from beside John.

[13] The agreement is obligatorily overt on place Ps and optionally covert on goal Ps. I have nothing insightful to say about why this should be so. It is important to emphasize, however, that when the complement is in Nominative case and the P follows it, agreement is not grammatical.

b. *mellett a tó
next.to the lake
next to the lake

(76) a. a mező-n keresztül
the field-SUP *through*
through the field

b. keresztül a mező-n
through the field-SUP
through the field

Now if (73) and (74) are indeed derived by extraction of the postposition, then we are faced with an interesting situation: dressed Ps cannot undergo short PP-internal movement, as witnessed by (75b), but long movement to a PP-external landing site is fine, as seen in (73), (74). If only one of these movements is allowed, we would expect rather the opposite situation.

I propose that in this case, too, the adposition has a *pro* complement co-indexed with the Dative-marked ground. All cases in which extraction seems to have applied to a constituent inside a dressed PP are thus best viewed as base-generated constructions.

5.5. Transitivity

Some naked Ps can be used intransitively, but dressed Ps must have a complement. How does this fact follow from the proposed analysis? Let us consider the function of K. Case allows DPs to surface in the clause; it marks the DP as the subject or object of the sentence (structural case) or marks its semantic role (inherent case). All DPs and only DPs need case. Conversely, case needs a DP to surface in the clause, KP can only be erected on top of a DP.

As dressed Ps spell out K, a dressed PP without a DP complement would have a representation in which there is no DP but there is a K, just 'hanging' under the P-layer. But with a DP radically missing from the structure, K has no function at all. I propose that such a structure is simply uninterpretable.

(77)
*PP
KP P
K

By way of contrast, naked Ps do not spell out K, and when they appear without a complement, not only the DP but the whole KP is absent from the structure. Such a PP is entirely interpretable.

5.6. Pronominal grounds

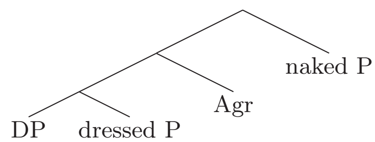
While with naked Ps pronominal agreement appears on the case-marker, with dressed Ps it appears on the P.

(78) (én)-vel-**em** szemben
I-INSTR-1SG *opposite*
opposite to me

(79) (én) alatt-**am**
I *under*-1SG
under me

We can approach the distribution of the agreement marker in two ways. In approach number one, the agreement marker has a fixed position in the PP; it occupies the same structural slot in both dressed and naked PPs. This would entail that dressed Ps are merged lower than the agreement, but naked Ps are merged higher than the agreement and consequently higher than dressed Ps, too.

(80)



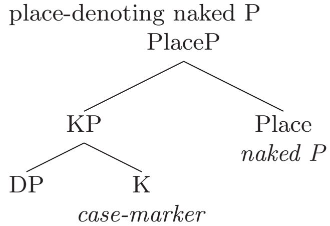
The idea that naked Ps are merged higher than dressed Ps is considered in Hegedűs (2006). Hegedűs argues that verbal particles are merged high, above PathP, and that (at least in some cases) naked Ps are merged in the position of verbal particles. She also points out that it is not the case that naked Ps only combine with case-inflected nouns: they may co-occur with dressed PPs as well.

(81) át a híd alatt
through the bridge under
through under the bridge

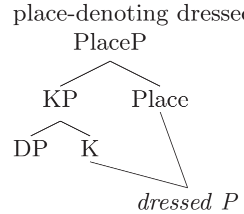
If naked Ps are merged above dressed Ps, this is expected. But such combinations have a peculiar word order: the naked P must precede the noun. This is surprising, as the neutral position of Hungarian adpositions is always postnominal (or in this case, it should be after the noun plus dressed P unit). It thus remains mysterious why the naked P appears where it does. A further complication with a structure like (80) is that naked Ps do have Place and Path denotations, irrespective of whether they occur with an oblique complement or a dressed P. Therefore the natural place for them to be merged are Place and Path. Merging them above Path (or sometimes low, sometimes high, as suggested in Hegedűs (2006)) does not capture this meaning. Given the foregoing considerations, I reject the structure in (80).[14]

This brings us to approach number two, whereby place-denoting dressed and naked Ps always spell out Place, and path-denoting dressed and naked Ps always spell out Path (or Place and Path).

(82) place-denoting naked P



(83) place-denoting dressed P



[14] I will return to naked P plus dressed P combinations in more detail in Section 7.2, where I show that they are compatible with approach number two as well.

This entails that the agreement morpheme cannot appear in the same place in dressed and naked PPs. If agreement is the spell-out of a specific Agr node, then depending on the type of postposition to be used, Agr would have to be merged at different points in the functional sequence. This is undesirable. However, it has already been proposed in Marácz (1989) and in Asbury (2008b) that agreement does not have a dedicated projection in Hungarian. Instead, it is merely the morphological reflex of the operation Agree in the PP. This view is perfectly compatible with the structures in (82) and (83) and I will carry it over to my analysis. I will assume that the agreement is between K and DP, but nothing in the analysis hinges on this. (See Asbury (2008b) for a different proposal on what the agreeing features are.)

Let us compare the place of the agreement in naked and dressed PPs and on simple case-marked pronouns.

(84) (én)-vel-**em** szemben
I-INSTR-1SG *opposite*
opposite to me

(85) (én) alatt-**am**
I *under*-1SG
under me

(86) (én-)hozz-**ám**
I-ALLATIVE-1SG
to me

I propose that the agreement does have a fixed position in some sense, only not fixed with respect to the postposition. It has a fixed place with respect to K, instead. Specifically, agreement cliticizes onto the morphological word that spells out (or contains) K. In such a scenario the analysis presented in Section 4 makes the following predictions. In the case of dressed Ps agreement appears on the postposition, while in the case of naked Ps or simple case-marked pronoun it is on the DP bearing the case-marker. As (84)–(86) show, this is the case indeed.

5.7. Demonstrative concord

Let us turn to demonstrative constructions now. With simple case-marked DPs, the demonstrative agrees with the noun in number and case.

(87) ez-ek-et a ház-ak-at
this-PL-ACC *the house*-PL-ACC
these houses

The simplest way to describe this is that the phonological exponents of Number and Case get copied onto the demonstrative. In the present analysis this immediately entails that there will be a difference between dressed and naked Ps with respect to demonstrative concord. As naked Ps do not spell out K, they cannot copy onto the demonstrative. In a naked PP the case-marker spells out case, therefore the copying of the case-marker is predicted. This corresponds to the facts, as demonstrated in (88).

(88) a. az-ok-on a ház-ak-on belül
that-SUP *the house*-PL-SUP *inside.of*
inside of those houses

b. *az-ok-on belül a ház-ak-on belül
that-PL-SUP *inside.of the house*-PL-SUP *inside.of*
inside those houses

Dressed Ps, on the other hand, spell out K, therefore they have to be copied onto the demonstrative. Again, the prediction is borne out.

(89) az-ok *(fölött) a fá-k fölött
that-PL *above the tree*-PL *above*
above those trees

5.8. All naked Ps are not equal

Before concluding this section, a note is in order about the distribution of naked Ps. We have seen repeatedly that dressed Ps show a more uniform behavior than naked Ps do. All dressed Ps must have a complement, and none of them allow the intervention of a degree modifier or a P > Ground order. Naked Ps do not behave uniformly with respect to these tests. Only some of them can be used intransitively or allow modifier-intervention or P > Ground order. For instance *képest* 'compared to' does not allow the intervention of degree (or other) modifiers, and can only follow its complement. *Szemből* 'opposite-from' allows the intervention of degree modifiers, but cannot precede its complement. *Közel* 'close to' allows both modifier-intervention and P > Ground order. Naked Ps thus form a heterogenous class. This is an important point, often glossed over in other studies of the Hungarian PP, which tend to lump all naked Ps together with respect to these word-order possibilities.

How can the proposed analysis capture the heterogenity of naked Ps? Note that naked Ps are defined negatively in some sense: they spell out some feature(s) in the P-layer but they do not spell out K. Their unifying feature is thus something they do *not* do. There is no reason to expect that all members of a class defined like this behave identically in all respects (just like it is not the case that all free morphemes *not* taking tense marking behave identically either). The analysis allows naked Ps and their complements to move independently of each other, but does not force them to do so. The feature they spell out in the P-domain is not the same for all naked Ps; they carry different lexical-conceptual information and depending on their meaning, may or may not have a suitable landing site.[15] These factors all influence whether a particular naked P allows extraction or not.

6. Interim summary

Let us briefly summarize the results of the foregoing discussion. I have proposed that dressed Ps spell out K and some P-feature(s) as well. Naked Ps, on the

[15] That the meaning of the naked postposition influences whether the P can move is clear when a postposition has both a spatial and a temporal reading (e.g. *át*, which means 'through' both in space and time). In these cases consistently only the spatial reading allows the P to be in pre-nominal position.

other hand, spell out only some P-feature(s). The analysis delivers the following empirical generalizations:

- dressed Ps take complements without visible case, naked Ps take case-marked complements
- movement from the P-layer is illicit with dressed Ps but allowed with naked Ps
- extraction of KP is illicit with dressed Ps but allowed with naked Ps
- dressed Ps must have complements, naked ones can be intransitive
- dressed Ps must and naked Ps cannot copy onto the determiner

Making a further assumption that the agreement morpheme cliticizes onto the phonological word that contains K, we also derive the following fact:

- agreement surfaces on dressed Ps and on the complement of naked Ps

The proposed analysis can capture the facts with very few assumptions. Specifying the feature content of lexical entries is necessary in any theory, as these features determine where the lexical entry can be inserted into the structure. Specifying a single morpheme for multiple features also comes for free. Stating that a single morpheme can spell out only one feature would be an additional assumption and untenable, too, for natural language just does not work this way. If we specify the feature content of dressed and naked Ps in the way I proposed, only one assumption (viz. that DP cannot move away from K) is needed to derive the first five bulleted points, and one further assumption derives the last point.

Let us turn now to the issue of how we can distinguish this proposal from possible alternatives. In a framework that does not allow one morpheme to spell out several terminals we could say that naked Ps are merged in P, while dressed Ps are merged in K and undergo movement to P. The problem is that we know from naked PPs that KP can be the target of extraction, therefore it remains mysterious why a KP from which a dressed P has been moved out cannot extract. Another possible alternative would be that dressed Ps spell out only P-features, like naked Ps do, with the difference that they select for a complement in the (morphologically null) Nominative case. Again, this analysis falls short of explaining why the complement of a dressed P cannot move: it needs to be stipulated that a KP under a dressed P must stay put.

The analysis also solves the problem of how to group case-markers and postpositions. Marácz (1989) proposes that dressed and naked postpositions belong to the same category and case-markers belong to a separate one. For É. Kiss (2002), on the other hand, case-markers and dressed postpositions belong to one category, and naked Ps belong to a different category (that of adverbs, as already mentioned in the Section 1). The intuition behind Marácz's grouping is that naked Ps and dressed Ps have something in common, while É. Kiss's grouping suggests that case-markers and naked Ps share important properties. In fact, both are true. The present analysis captures this. The feature-specification of dressed Ps expresses that they are similar to both case-markers and naked Ps, because they share features with both. It is predicted that tests sensitive to the presence of K group dressed Ps with case-markers, but tests sensitive to the presence of a P-feature are expected to group dressed Ps with naked Ps. This in turn explains why finding a definitive partitioning between case-markers and postpositions has proved to be elusive. As Asbury (2008a) observes: "morphosyntactic diagnostics have been proposed for distinguishing cases and postpositions, but these do not lead to a clear-cut divide" (p. 12).

It is also important that my analysis allows naked Ps to behave differently from each other because they are defined in a negative way. This cannot be emphasized enough, as practically none of the existing analyses is able to capture the heterogeneity of this class. Approaches in which all naked Ps spell out the same terminal cannot derive both the heterogeneity of this class and the non-heterogeneity of dressed Ps in a non-stipulative manner.

7. Remaining issues, further directions

Many more details and subtleties related to Hungarian postpositions remain to be investigated. This section gives a brief glance over data and issues that have been little noted and poorly treated in the literature but are worthy of further study, and I suggest directions in which the answers should (not) be sought.

7.1. The case-marker selected by naked Ps

The choice and status of the case-marker on the complement of naked Ps is definitely among the topics that deserve further attention. The first question that emerges in this regard is whether case-selection is idiosyncratic and unpredictable or there is any pattern.

Case-selection by naked Ps is comparable to the selection of complements with specific prepositions by verbs in Indo-European languages (e.g. *to depend on something*) and to the selection of complements in oblique case by verbs in Hungarian (*függ-ni valami-től* 'depend-INF something-ABLATIVE'). It is desirable to treat case/adposition selection by verbs and Ps in the same way, either both as idiosyncratic or both as principle-based. To my best knowledge, the amount of formal investigation on case/adposition selection by verbs is virtually null, and the issue is usually put aside as an idiosyncratic feature of the selector.

Yet some patterns can be noticed. On my list, four types of cases are selected by naked postpositions: Superessive, Allative, Instrumental and Dative. The majority of naked Ps select for the Superessive case. I assume that selection for the Superessive case is the unmarked or default option. Allative case is selected by *hasonlóan* 'similarly to' and *képest* 'compared to'. Both share the meaning-component of comparison. Instrumental case is selected by *együtt* 'together' (the conceptual content of the P and the case are as close to each other as possible in this case) and *szemközt* 'opposite' *szem-ben* 'opposite-at' *szem-ből* 'opposite-from' *szem-be* 'opposite-to'. The latter four also share the core of their meaning. Finally, the two Ps selecting for a Dative complement both seem to be transparently case-marked nouns, in fact: *dac-á-ra* is defiance-POSS.3SG-SUBLATIVE 'despite', and *ellen-é-re* is against-POSS.3SG-SUBLATIVE 'despite'. They are synonyms.

It seems to be the case, then, that naked postpositions with a synonymous or partly overlapping meaning tend to select for the same case.[16] As Peter Svenonius (p.c.) points out to me, the same phenomenon can be observed with English verbs

[16] Crucially, this does not mean that all naked Ps selecting for a specific case share a meaning component.

selecting for an adposition as well. This gives further support to the idea that case-selection by Ps and adposition/case selection by verbs should be treated as essentially the same phenomenon.

The second issue regarding the case on the complement is how it should be represented in syntax, or in other words what features or nodes these case-markers lexicalize. Asbury (2008b) proposes that a naked P occuring with a case-marked complement is like the combination of a particle and a PP in English, as in (90), with the naked P being a modifier rather than a selector of the case:

(90) a. up in the air
b. down in the river

However, the similarity is only superficial. In (90) the meaning of the particle and the PP add up in a compositional fashion. In (90a) the Figure of which the PP is predicated is both up and in the air. Similarly, in (90b) the Figure is understood to be both down and in the river. This is not the case with the combination of a naked P and its case-marked complement in Hungarian. Example (91) involving the naked P *kívül* 'outside (of)' is illustrative here. This P requires a complement in the Superessive case.

(91) a. a ház-on
the house-SUP
on the house
b. kívül
outside
outside (of)
c. a ház-on kívül
the house-SUP *outside.of*
outside of the house

In a case-marked DP like (91a), the Superessive case denotes a place, (91a) is a PlaceP. When we put (91a) together with *kívül*, compositional semantics yields *outside, on the house*, or *outside of and on the house*. But this is not what (91c) means. It means *outside of the house*, whether or not the Figure is actually *on* the house.[17]

It is clear that *a házon* does not mean the same thing in (91a) and (91c). In the former case, it is a PlaceP. In the latter — contra what the representations in Asbury (2008b) suggest — it does not denote a Place (just like English *on the boat* in *decide on the boat* meaning 'decide to buy the boat' does not denote a Place either).

If *a ház-on* was a PlaceP and the naked P was a modifier rather than a selector of case as suggested by Asbury, then one would have to say that *kívül* modifies a PlaceP. DPs bearing the Inessive or Adessive case are also PlacePs, so the modification analysis predicts that they can co-occur with *kívül*, too. As evidenced by (92b) and (93b), this is contrary to fact.

[17]The *outside, on the house* reading is available only with a comma intonation after *kívül*.

(92) a. a ház-ban
the house-INESS
in the house
b. *a ház-ban kívül
the house-INESS *outside.of*
outside of the house

(93) a. a ház-nál
the house-ADESS
at the house
b. *a ház-nál kívül
the house-ADESS *outside.of*
outside of the house

Naked Ps thus select for case and do not modify it. But if the complement of a naked P is not a PlaceP, then what is it?

To capture the meaning difference between *a házon* in (91a) and (91c), I propose that a case-marker on the complement of a naked P spells out less material than in a simple case-marked DP like (91a). In simple case-marked DPs case spells out a sequence ranging from K to Place (and up to Path in path-denoting cases like Illative or Ablative). On complements of postpositions (and verbs), case spells out the lower range of the same sequence. The 'lower range of the same sequence' might be only K or may include further nodes in addition to K, but it certainly does reach up to Place and Path. Hence a Place or Path interpretation is lacking in these cases. How many and precisely which features are lexicalized by oblique case-markers on complements of Ps (and verbs) is in need of further study.

7.2. Naked Ps co-occuring with dressed Ps

As already mentioned in Section 5.7, naked and dressed Ps can co-occur. But while (94) seems to support the idea that naked Ps are merged high, it also presents a problem with its word order because the naked P cannot be post-nominal (which is the unmarked position for Ps in Hungarian).

(94) a. *a híd alatt át
the bridge under through
through under the bridge
b. át a híd alatt
through the bridge under
through under the bridge

Instead of putting this entirely aside as a topic for further research, we should notice that word order is not the only difference between phrases with a naked P on top of a dressed P, as in (94) and phrases with a naked P on top of a noun with an oblique case, as in (95).

(95) a. a ház-on át
the house-SUP *through*
through the house

b. át a ház-on
through the house-SUP
through the house

I have spent considerable effort in the previous subsection to demonstrate that the meaning of the naked P and its complement do not add up compositionally; the oblique DP does not have a Place (or Path) denotation and the naked P does not modify its complement. This is not the case in (94), however. Here the dressed PP does have a Place denotation, and the meaning of the whole phrase preserves the meaning of its components (so it is compositional). Further, the relationship between the naked P and the dressed PP seems indeed to be that of modification. Note also that the naked P *át* 'through' selects for the Superessive case, but in (94) it does not case-mark *the house*. *The house* has no visible case, as dictated by the dressed P *alatt* 'under'.

Given the syntactic and semantic differences between the two types of constructions, I propose that they do not have the same underlying structure. Naked Ps co-occurring with oblique-marked DPs involve a transitive naked P and have a complementation structure: the P subcategorizes for the DP in the oblique case. (This is the standard assumption about PPs like (95) anyway.) But with naked Ps erected on top of dressed PPs, I take the unavailability of the otherwise default postpositional order to suggest that the naked P and the dressed PP are not on the same projection line. That is, the dressed PP is not a selected complement in this case. I propose that PPs like (94b) involve an intransitive naked P, and that the structural relationship between this P and the dressed PP is that of adjunction. This also immediately accounts for the lack of Superessive case in (94). I do not see how an analysis in which the dressed PP is a complement of the naked P could exclude the expected word order or account for the lack of the Superessive case in a non-stipulative way.

If something along these lines is correct, then data like (94) do not actually provide an argument for the co-occurrence of naked and dressed Ps in the way suggested by Hegedűs. Put differently, (94) does not show that naked Ps are merged above dressed Ps.

References

Ables, Klaus and Peter Muriungi. 2008. The focus marker in Kiitharaka: syntax and semantics. *Lingua* 118 5: 687–731.

Alexiadou, Artemis, Liliane Haegeman, and Melita Stavrou. 2007. *Noun Phrase in the Generative Perspective*. Mouton de Gruyter, Berlin.

Asbury, Anna. 2008a. Marking of semantic roles in Hungarian morphosyntax. In *Approaches to Hungarian 10: Ppapers from the Veszprém Conference*, edited by Chris Piñón and Szentgyörgyi Szilárd, pp. 9–30. Akadémiai Kiadó, Budapest.

Asbury, Anna. 2008b. *The Morphosyntax of Case and Adpositions*. Ph.D. thesis, University of Utrecht, Utrecht.

Asbury, Anna, Berit Gehrke, and Veronika Hegedűs. 2007. One size fits all: prefixes, particles, adpositions and cases as members of the category

P. In *UiL OTS Yearbook 2006*, edited by Cem Keskin, pp. 1–17. Utrecht University.

Bittner, Maria and Ken Hale. 1996. The structural determination of Case and Agreement. *Linguistic Inquiry* 27 1: 1–68.

Caha, Pavel. 2009. *The Nanosyntax of Case*. Ph.D. thesis, University of Tromsø, CASTL, Tromsø.

Cinque, Guglielmo. 2005. Deriving Greenberg's Universal 20 and its exceptions. *Linguistic Inquiry* 36 3: 315–332.

den Dikken, Marcel. 1999. On the structural representation of possession and agreement. The case of (anti-)agreement in Hungarian possessed Nominal Phrases. In *Crossing boundaries: Theoretical Advances in Central and Eastern European Languages*, edited by István Kenesei, pp. 137–178. John Benjamins, Amsterdam.

den Dikken, Marcel. to appear. On the functional structure of locative and directional PPs. In *The Cartography of Syntactic Structures*, edited by Guglielmo Cinque and Luigi Rizzi, vol. 6. Oxford University Press, New York.

É. Kiss, Katalin. 2002. *The Syntax of Hungarian*. Cambridge University Press, Cambridge.

Fábregas, Antonio. 2007. (Axial) Parts and wholes. *Nordlyd: Tromsø University Working Papers in Linguistics. Special issue on space, motion and result.* 34 2: 1–32.

Fábregas, Antonio. 2009. An argument for phrasal spell out: indefinites and interrogatives in Spanish. In *Tromsø Working Papers on Language and Linguistics: Nordlyd 36.1,* Special issue on Nanosyntax, edited by Peter Svenonius, Gillian Ramchand, Michal Starke, and Knut Tarald Taraldsen, pp. 129–168. University of Tromsø, Tromsø. Available at http://www.ub.uit.no/baser/nordlyd/.

Hegedűs, Veronika. 2006. Hungarian spatial PPs. *Nordlyd: Tromsø University Working Papers in Linguistics* 33 2. Special issue on adpositons: 220–233.

Kenesei, István, Anna Fenyvesi, and Robert M. Vago. 1997. *Hungarian*. Descriptive grammar series. Routledge, London.

Koopman, Hilda. 2000. Prepositions, postpositions, circumpositions, and particles. The structure of Dutch PPs. In *The Syntax of Specifiers and Heads. Collected Essays of Hilda Koopman*, edited by Hilda Koopman, Routledge leading linguistics, chap. 8, pp. 204–260. Routledge, London.

Lamontagne, Greg and Lisa Travis. 1987. The syntax of adjacency. In *Proceedings of the West Coast Conference on Formal Linguistics*, edited by Megan Crowhurst, vol. 6, pp. 173–186. Stanford Linguistics Association, Stanford, CA.

Libert, Alan Reed. 2008. Case marking on Turkic adpositional objects. In *Adpositions. Pragmatic, Semantic and Syntactic Perspectives*, edited by Dennis Kurzon and Silvia Adler, Typological Studies in Language

74, pp. 229–255. John Benjamins, Amsterdam.

Marácz, László. 1986. Dressed or naked: the case of the PP in Hungarian. In *Topic, Focus and Configurationality*, edited by Abraham Werner and Sjaak de Meij, pp. 223–252. John Benjamins, Amsterdam and Philadelphia.

Marácz, László. 1989. *Asymmetries in Hungarian*. Ph.D. thesis, Rijksuniversität Groningen.

Pantcheva, Marina. 2009a. Directional expressions cross-linguistically: Nanosyntax and lexicalization. In *Tromsø Working Papers on Language and Linguistics: Nordlyd 36.1,* Special issue on Nanosyntax, edited by Peter Svenonius, Gillian Ramchand, Michal Starke, and Knut Tarald Taraldsen, pp. 7–39. University of Tromsø, Tromsø. Available at http://www.ub.uit.no/baser/nordlyd/.

Pantcheva, Marina. 2009b. The syntactic structure of Locations, Goals and Sources. To appear in *Linguistics*. Available from http://ling.auf.net/lingBuzz/000763.

Ramchand, Gillian. 2008a. Lexical items in complex predications: selection and underassociation. *Nordlyd: Tromsø University Working Papers in Linguistics* 35: 115–141.

Ramchand, Gillian. 2008b. *Verb Meaning and the Lexicon: A First Phase Syntax*. Cambridge University Press, Cambridge.

van Riemsdijk, Henk. 1990. Functional prepositions. In *Unity in Diversity: Papers Presented to Simon C. Dik on his 50th Birthday*, edited by Ham Pinkster and Inge Genee, pp. 229–241. Foris, Dordrecht.

Starke, Michal. 2009. Nanosyntax class lectures. Fall 2009, CASTL, University of Tromsø.

Svenonius, Peter. 2008. Projections of P. In *Syntax and semantics of Spatial P*, edited by Anna Asbury, Jakub Dotlačil, Berit Gehrke, and Rick Nouwen, pp. 63–84. John Benjamins, Amsterdam.

Svenonius, Peter. to appear. Spatial P in English. In *The Cartography of Syntactic Structures*, edited by Guglielmo Cinque and Luigi Rizzi, vol. 6. Oxford University Press, Oxford.

Szabolcsi, Anna. 1983. The possessor that ran away from home. *The Linguistic Review* 3: 89–102.

Szabolcsi, Anna. 1987. Functional categories in the noun phrase. In *Approaches to Hungarian 2: Theories and Analyses*, edited by István Kenesei, pp. 167–189. JATE, Szeged.

Szabolcsi, Anna. 1994. The Noun Phrase. In *Syntax and Semantics 27*, edited by Ferenc Kiefer and Katalin É. Kiss, pp. 179–275. Academic Press, New York.

Taraldsen, Knut Tarald. 2009. The nanosyntax of Nguni noun class prefixes and concords. To appear in *Lingua*. Available from http://ling.auf.net/lingBuzz/000876.

Zwarts, Joost. 2005. Prepositional aspect and the algebra of paths. *Linguistics and Philosophy* 28: 739–779.

Zwarts, Joost and Yoad Winter. 2000. Vector space semantics: a model-theoretic analysis of locative prepositions. *Journal of Logic, Language and Information* 9: 169–211.