Word Order Variation in Hungarian PPs[1]

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Abstract

This paper proposes a syntactic account of the variation Hungarian case assigning adpositions exhibit in their word order and extraction properties. The empirical generalization is that if a P allows the prepositional word order then it can also be stranded by its complement and it also has a particle use, but not vice versa. We suggest that some Ps are inserted in the Place/Path head and cannot move higher. Ps allowing the partice use and P-stranding are inserted in a higher head, namely p. The particle use and P-stranding involve PlaceP/PathP extraction from pP, separating the adposition from its complement. PlaceP/PathP and pP are head-final. A subset of Ps inserted in p may move into a higher, left-headed projection, deriving a prepositional order. We also account for the fact that some case assigning Ps may appear without a complement. We suggest that this is due to a difference in the licensing of deictic $here/there$ complements, which may remain silent: those Ps have a seemingly intransitive use that allow $here/there$ as their complement.

1. *Introduction*

It is well known that Hungarian has two types of postpositions. So-called case-like (a.k.a. dressed or inflecting) postpositions take a morphologically unmarked complement (1). Their syntactic distribution is largely identical to that of affixal case markers. Case assigning postpositions, on the other hand, take an oblique marked complement (2).

(1) a patak mellett
the brook next.to
'next to the brook'

(2) a patak-on túl
the brook-SUP beyond
'beyond the brook'

It is a matter of some debate in the literature whether both classes are genuine adpositions (Marácz, 1986; Marácz, 1989, ch. 8; Kenesei, 1992; Hegedűs, 2006; Asbury et al., 2007; Asbury, 2008; Rákosi, 2010; Dékány, 2011; Hegedűs, 2013),

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or only case-like adpositions belong to the class of Ps, and the case assigning ones are adverbs instead (É. Kiss, 1999; É. Kiss, 2002, ch. 8; Creissels, 2006; Trommer, 2008; Spencer and Stump, 2013). In this paper we are going to assume without argument that both case-like and case assigning adpositions are genuine adpositions inserted in an extended PP-structure. Our findings, however, are going to be relevant for the proponents of the adverb analysis, too. We are going to show that as regards the available word orders, there is a so far uncharted variation within the class of case assigning Ps. The extent of this variation must be captured regardless of whether these lexical entries are adverbs or postpositions.

It has long been appreciated in the literature that the two types of adpositions have a different distribution. Case-like Ps can only occur in the immediately post-nominal position. Case assigning Ps, on the other hand, exhibit a rather free word order within the PP, and they can also be separated from their complement. In this paper we focus on the syntax of case assigning adpositions. A list of these Ps is provided below.

(3) a. with Superessive complement: *alul* 'below', *belül* 'inside of', *felül* 'over', *innen* 'on this side of', *kívülre* 'to outside of/to beside', *kívülről* 'from outside of', *túlra* 'to beyond', *túlról* 'from beyond', *át* 'through, across, via', *keresztül* 'through, across, via', *kívül* 'outside of, beside', *túl* 'beyond', *végig* 'along to the end of'
b. with Instrumental complement: *együtt* 'together', *szembe* 'to opposite', *szemben* 'opposite to', *szemből* 'from opposite to', *szemközt* 'opposite to'
c. with Allative complement: *közel* 'close to'

In the remainder of this section we summarize the observations that have been made about case assigning Ps in the literature.

I. *Complementation*
As already mentioned above, case assigning Ps take an oblique complement (4). However, the complement is not obligatory: these Ps also have an intransitive use (5).

(4) a fal-on át
the wall-SUP through
'through the wall'

(5) János át-jött.
John through-come.PST.3SG
'John came over.'

II. *Agreement*
Case assigning Ps are not involved in PP-internal agreement and concord phenomena. When a case assigning adposition has a pronominal complement, agreement for the complement's ϕ-features surfaces on the subcategorized case marker rather

than on the P itself.

(6) (én)-rajt-*(am) át-(*am)
I-SUP-1SG through-1SG
'through me'

Hungarian has demonstrative concord. The plural marker or case marker (or case-like P) that is borne by the noun must appear on the demonstrative modifier of the noun, too.

(7) ez-ek-et a fal-ak-at
this-PL-ACC the wall-PL-ACC
'these walls'

(8) ez alatt a fa alatt
this under the tree under
'under this tree'

When the complement of the case assigning P has a demonstrative modifier, the oblique case selected by the adposition appears on the demonstrative (9). The P itself cannot appear on the demonstrative (10).

(9) ez-*(en) a fal-on át
this-SUP the fall-SUP through
'through this wall'

(10) *ez-en át a fal-on át
this-SUP through the fall-SUP through
'through this wall'

III. *Word order effects within the PP*
The most neutral place for Hungarian adpositions is the immediately postnominal position. However, postnominal case assigning Ps can also be spearated from their complement by a degree modifier (11).[2] Furthermore, case assigning Ps also have a prepositional use, i.e. they can also precede their nominal complement (12).

(11) a ház-on teljesen kívül
the house-SUP entirely outside.of
'entirely outside of the house'

(12) át a fal-on
through the wall-SUP
'through the wall'

[2]We find the same orders in German and Dutch PPs, where postpositions can be separated from their complement by a degree modifier or an adverbial element. Similarly, we find that in head-final APs, degree modifiers intervene between the (initial) complement and the final A head in German and Dutch, as well as in Hungarian. We would like to thank an anonymous reviewer for drawing our attention to these cross-linguistic and cross-categorial similarities.

IV. *Separability in the clause*
Case assigning Ps and their complements do not necessarily form a constituent in the surface structure. Case assigning Ps can move to the immediately preverbal (so-called Verbal Modifier or VM) position, where they function as verbal particles (13). Furthermore, it is possible for the P's complement to *wh*-extract from the PP and strand the adposition (14).

(13) János át-ment a híd-on.
John through-went the bridge-SUP
'John walked across the bridge.'

(14) Mi-n ment át?
what-SUP go.PST.3SG through?
'What did he go through?'

To summarize, the descriptive generalizations are that case assigning Ps take an optional oblique marked complement, do not participate in DP-internal agreement and concord phenomena, their PP-internal word order is rather free, and they can appear in the clause separated from their complement. This much seems to be conventional wisdom. However, there has been a general failure in the literature to recognize that there is variation within the class of case assigning Ps: not all of these adpositions are equally separable from their complement, not all of them exhibit a free word order PP-internally, and not all of them have an intransitive use. The purpose of this paper is to uncover the extent of this variation and to provide an explanatory account for the observed patterns. While we will focus on case assigning Ps, we will also occasionally make reference to the syntax of case-like Ps. These Ps have a very rigid word order (they must be immediately postnominal), and we must demonstrate that while our account allows for the relative word order flexibility of case assigning Ps, it does not overgenerate for case-like Ps.

The paper is structured as follows. The discussion commences with a re-evaluation of the empirical picture laid out above. Section 2 demonstrates that several case assigning Ps have a more limited distribution than previously thought. Based on the observed patterns we establish a new empirical generalization: if a P allows the prepositional word order then it can also strand (or be stranded by) its complement, but not vice versa. The syntactic analysis of this correlation is taken up in section 3. Case assigning Ps without an overt complement and their analysis will be the topic of section 4. Finally section 5 rounds off the paper.

2. *Variation in word order*

2.1 *Variation in PP-internal word order*

Within the PP, the most neutral place of Hungarian adpositions is the immediately postnominal position. While case-like Ps cannot appear anywhere else, the distribution of case assigning Ps is less constrained: postnominally they can be separated from the complement by a degree modifier, and they can also be prepositional (15).[3] This distributional freedom, however, does not uniformly characterize all case assigning Ps: some of them are degraded when separated from the complement postnominally (16a), and some of them cannot be prepositional, see (16b) and (17b).

(15) a. Csak a tó-hoz egészen közel talált-unk zöld füv-et.
only the lake-ALL fully close find-PST-1PL green grass-ACC
'We only found green grass really close to the lake.'

b. Csak közel a tó-hoz talált-unk zöld füv-et.
only close the lake-ALL find-PST-1PL green grass-ACC
'We only found green grass close to the lake.'

(16) a. ?Csak a vonal-on közvetlenül innen esett le a labda.
only the line-SUP immediately this.side fell down the ball
'The ball only touched ground right on this side of the line.'

b. *Csak innen a vonal-on esett le a labda.
only this.side the line-SUP fell down the ball
'The ball only touched ground on this side of the line.'

(17) a. Csak a bejárat-on közvetlenül belül volt hely a
only the entrance-SUP immediately inside.of was place the
cipők-nek.
shoes-DAT
'There was only place immediately inside of the entrance for the shoes.'

b. *Csak belül a bejárat-on volt hely a cipők-nek.
only inside.of the entrance-SUP was place the shoe-DAT
'There was only place inside of the entrance for the shoes.'

There have been no attempts so far to find out which case assigning Ps allow either or both of the marked PP-internal orders, and whether one of these orders

[3] When case assigning Ps are prepositional, degree modifiers precede them, e.g. *egészen közel a tó-hoz* (really close the lake-ALL) 'really close to the lake'.

is systematically easier to get than the other.[4] In order to address these empirical issues, we checked case assigning Ps one by one in both marked orders (complement > degree expression > P and P > complement).[5] We expected that if one of these orders is available to more Ps, then it is the complement > degree expression > P order, as Hungarian is a strongly postpositional language and this order features a postposition. The results are summarized in Table 1.[6]

postposition	meaning	postpositional separated	prepositional
át	through, across, via	yes	yes
közel	close to	yes	yes
szemben	opposite to	yes	yes
túl	beyond	yes	yes
végig	(along) to the end of	yes	yes
keresztül	through, across, via	yes	?
szemközt	opposite to	yes	?(?)
belül	inside of	yes	no
együtt	together	yes	no
kívül	outside of	yes	no
szembe	to opposite	yes	no
szemből	from opposite to	yes	no
alul	below	?	no
innen	on this side of	?	no
felül	over	??	no

Table 1: Case assigning Ps PP-internally

We have found that most case assigning Ps can be separated from the complement PP-internally by a degree modifier, and this order does not yield severe ungrammaticality with any of these Ps. The prepositional order, on the other hand, is much more restricted: more than half of all case assigning Ps reject it entirely.

[4]Dér (2012, 2013), working in the framework of descriptive grammar, has conducted both a corpus survey and a questionnaire survey with native speakers. She found that not all case assigning Ps have a prepositional use. Her studies, however, do not examine the separated postpositional order or the possibility of P-stranding and the particle use.

[5]We checked both orders in complete sentences rather than in self-standing PPs.

[6]The data in Tables 1 and 2 are based on the judgments of the authors. We expect that there might be dialectal or idiolectal variation in the judgments. However, we also expect that the correlations that we have found (i.e. that the prepositional order is more restricted than the separated postpositional order, P-stranding, and the particle use) will carry over to other dialects and idiolects, too. In other words, we do not expect to find speakers who accept the prepositional order but not the separated postpositional order or P-stranding or the particle use for any specific case assigning P.

There is thus an asymmetry between the availability of the two marked orders, and the asymmetry goes in the direction in which we expected it. Furthermore, there is a correlation between the availability of the two marked orders: all case assigning Ps that allow the prepositional order also allow the separated postpositional order, but not vice versa. In other words, case assigning Ps that allow the prepositional use are a proper subset of case assigning Ps that allow the separated postpositional use.

2.2 *Variation in positions in the clause*

Case assigning Ps can move to the immediately preverbal (Verbal Modifier) position where they serve as verbal particles. In this process they strand their complement. Furthermore, it is also possible for the complement to wh-extract out of the PP and strand the case assigning P inside the PP. Case assigning Ps and their complements thus do not necessarily form a constituent at the final stage of the derivation. Moving out of the PP and being stranded by the complement, however, is not available to all case assigning Ps, cf. (18) and (19).

(18) a. A gyerekek át-másztak a kerítés-en.
the children over-climbed.3PL the fence-SUP
'The children climbed over the fence.'

b. Melyik kerítés-en másztak át a gyerekek?
which fence-SUP climbed.3PL over the children
'Which fence did the children climb over?'

(19) a. *Az index alul-maradt a várt érték-en.
the index under-remained the expected rate-SUP
'The index stayed under the expected value.'

b. *Melyik érték-en maradt alul az index (alul)?
which rate-SUP stayed under the index under
'Which value did the index stay under?'

It has not been examined before which case assigning Ps can serve as verbal particles and which ones can be P-stranded, and whether there is any correlation between the availability of these two configurations. In order to find out what the empirical picture is, we checked case assigning Ps one by one in both types of structures. We expected that if one of these configurations is available to more Ps, then it is the particle use, as P-stranding is a cross-linguistically marked operation (Van Riemsdijk 1978).[7] The results are summarized in Table 2.

[7]As É. Kiss (2002) and Surányi (2009) point out, Source Ps never become particles in Hungarian. It was thus a logical possibility that exceptionally for this subgroup of case assigning Ps, P-stranding is less restricted than the particle use. We found, however, that P-stranding, too, is

postposition	meaning	particle use	P-stranding
át	through, across, via	yes	yes
közel	close to	yes	yes
végig	(along) to the end of	yes	yes
keresztül	through, across, via	yes	yes
együtt	together	yes	yes
szembe	to opposite	yes	yes
szemben	opposite to	restricted	restricted
túl	beyond	restricted	restricted
belül	inside of	restricted	restricted
szemközt	opposite to	??	??
alul	below	no	no
felül	over	no	no
innen	on this side of	no	no
kívül-re	to outside of	no	no
kívül-ről	from outside of	no	no
túl-ra	to beyond	no	no
túl-ról	from beyond	no	no
kívül	outside of	no	no
szemből	from opposite to	no	no

Table 2: Possibility of separating case assigning postpositions from their complement

We have found that about half of the case assigning Ps admit both the particle use and P-stranding, while the rest disallow both configurations. The three Ps that we have marked as "restricted" (i.e. *szemben* 'opposite.at', *túl* 'beyond', and *belül* 'inside of') have a particle use with very few verbs (e.g. *van* 'be', *marad* 'remain', *esik* 'fall'). P-stranding is possible when the verb licenses the particle use and it is degraded otherwise. We can thus conclude that there is no significant asymmetry between the availability of particle use and the availability of P-stranding.

2.3 *Interim summary*

To summarize the properties of case assigning Ps, we can maintain that they uniformly take a case-marked complement and they consistently do not take part in DP-internal agreement and concord processes. However, our empirical findings were that there is considerable variation among case assigning Ps when it comes to the range of available PP-internal positions and the ability to strand or

unavailable for these Ps.

be stranded by their complement. As far as PP-internal positions are concerned, the vast majority of case assigning Ps can be separated from their complement by a degree modifier as long as they remain postpositional. The prepositinal use, however, is fairly restricted: it is available to a proper subset of the Ps that allow the separated postpositional order. As for positions in the clause, not every case assigning P is separable from the complement. The availability of the particle use and P-stranding show a correlation: about half of the case assigning Ps allow both constructions, and the rest reject both. As some (but not all) case assigning postpositions can be separated from their complement either PP-internally or in the clause, but such separation is impossible for all case-like Ps, we conclude that the property of assigning case is a necessary but not sufficient condition for Hungarian Ps to be separable from their complement.

In addition to the above mentioned correlations, there is also a correlation between the available PP-internal orders and the movements that result in P-stranding or the verbal particle use. Specifically, Ps that allow the prepositional use are a proper subset of those Ps that can serve as verbal particles or can be P-stranded. This is shown in Table 3.

postposition	meaning	prepositional	particle use	P-stranding
át	through, across, via	yes	yes	yes
közel	close to	yes	yes	yes
végig	(along) to the end of	yes	yes	yes
keresztül	through, across, via	?	yes	yes
szemben	opposite to	yes	restricted	restricted
túl	beyond	yes	restricted	restricted
belül	inside of	no	restricted	restricted
együtt	together	no	yes	yes
szembe	to opposite	no	yes	yes
szemközt	opposite to	?(?)	??	??
alul	below	no	no	no
felül	over	no	no	no
innen	on this side of	no	no	no
kívül-re	to outside of	no	no	no
kívül-ről	from outside of	no	no	no
túl-ra	to beyond	no	no	no
túl-ról	from beyond	no	no	no
kívül	outside, beside	no	no	no
szemből	from opposite to	no	no	no

Table 3: Word order possibilities of case assigning postpositions

In the next section we work out an analysis that can capture the patterns laid out above.

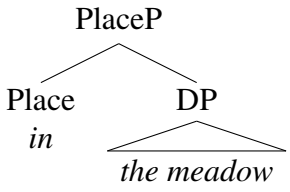
3. *Analysis*

3.1 *Background assumptions about PP structure*

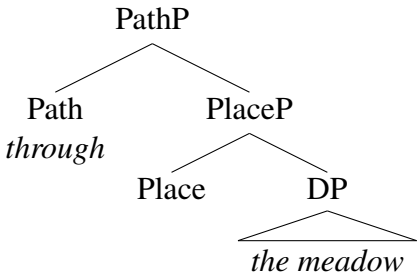
The structure of adpositional phrases has raised wide interest and much discussion in the past 20 years. The fine structure of PPs has been investigated by Van Riemsdijk (1990); Koopman (2000); Cinque (2010); den Dikken (2010); and Svenonius (2010), among many others. The proposals regarding the functional hierarchy of the PP vary in detail, but they share the basic claim that in place-denoting PPs a PlaceP dominates the noun phrase expressing the Ground (20), and in path-denoting PPs there is an additional PathP layer above PlaceP (21). This decomposition is also supported by morphological arguments (Van Riemsdijk and Huyb-

regts, 2002; Pantcheva, 2011) and semantic arguments (Zwarts, 1997; Zwarts and Winter, 2000).

(20)

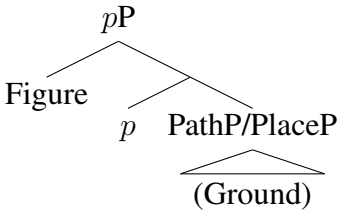


(21)



In addition to the core structures in (20) and (21), we are going to make use of two PP-internal functional heads and their projections: pP and CP$_{PP}$. The p head is parallel to v in the verbal domain: it takes PathP/PlaceP as its complement and introduces the subject of the PP, i.e. the Figure, into the structure via its specifier (Svenonius, 2003, 2007, 2010).

(22)



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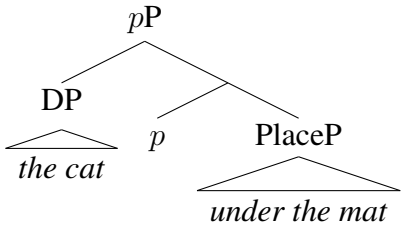
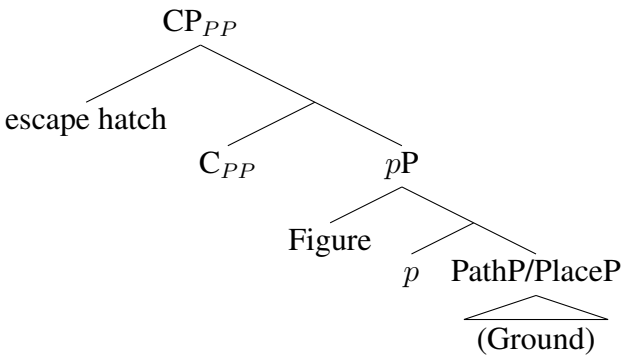


CP$_{PP}$ represents the left periphery of the PP and it is parallel to the highest functional projection in the clause and in DP: its specifier functions as both a landing site for PP-internal movements and as an escape hatch for extraction out of the PP. Koopman (2000, 2010), and den Dikken (2010) call it CP$_{Place}$ in PlacePs and CP$_{Path}$ in PathPs (see also Van Riemsdijk, 1978; Marácz, 1984, 1986 for a complementizer position in PP). In order to simplify the terminology for expository purposes, we call this projection CP$_{PP}$ in both PlacePs and PathPs.

(24)

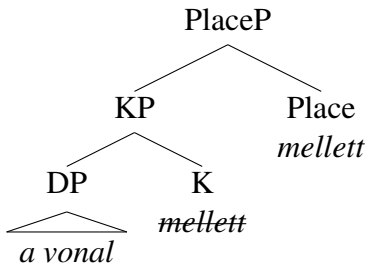


3.2 *Case-like Ps*

Let us now turn to Hungarian adpositional phrases. We assume that the postpositional order (DP >P) is base-generated, that is, PlaceP and PathP are right-headed phrases (26).[8] Case-like postpositions have both case-like and P-like properties (see Asbury, 2008). We suggest that this is because they are inserted in the K head and subsequently raise to the Place head (path-denoting ones raise further to the Path head). That these Ps are merged in the K head also accounts for the fact that their nominal complement does not bear visible case-marking (25).

(25) a vonal mellett
the line next.to
'next to the line'

(26)



(26) also accounts for the fact that similarly to ordinary case markers, case-like Ps also appear on adnominal demonstratives (27). Hungarian demonstratives exhibit case concord with their modified noun. Since case-like Ps are merged in K, they are a type of case, and so they, too, are involved in demonstrative concord.

(27) a(z)-*(mellett) a vonal mellett
that-next.to the line next.to
'next to that line'

(28) az-*(on) a vonal-on
that-SUP the line-SUP
'on that line'

We suggest that PlaceP and PathP are right-headed phrases, and so case-like adpositions end up immediately following their complement. These Ps cannot appear anywhere else but in this position. We take this to indicate that i) case-like Ps do not move out of Place/PathP, and ii) there is no phrasal subextraction from Place/PathP. Differently put, the DP cannot move out of KP, and KP cannot move out of Place/PathP; the smallest constituent that can move further is Place/PathP. Should DP or KP need to undergo additional movements, they can only do so if they pied-pipe PlaceP/PathP. Case-like Ps and their complements thus never get

[8]Right-headed phrases can always be derived from left-headed phrases by movement of the complement across the head. Readers who are committed to generating left-headed phrases can view our trees as being derived from LCA-compliant structures.

separated in the course of the derivation, and these Ps remain postpositional.[9]

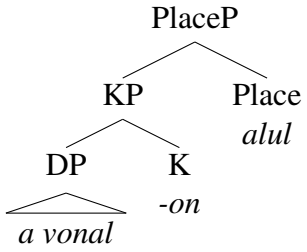
3.3 *'Inflexible' case assigning Ps*

We propose that just like case-like Ps, case assigning Ps are also heads merged in the functional hierarchy CP_{PP} > pP > PathP > PlaceP > KP > DP. Their merge-in position, however, is different from that of case-like Ps. We suggest that the property that unifies all case assigning Ps is that they are all merged higher than K, and the K position is occupied by the case marker that they subcategorize for.

We have seen above that some case assigning Ps , e.g. *kívül* 'outside.of' and *szemből* 'opposite from', behave very much like case-like Ps (modulo the case marking on their complement): they must be postpositional and must form a surface-constituent with their case-marked complement (i.e. the particle use and P-stranding are not possible with them). We propose that these case assigning Ps are merged in the Place/Path head, and like case-like Ps, they cannot move out of PlaceP/PathP. As these Ps cannot move themselves, and there is no phrasal subextraction from PlaceP/PathP either, these Ps are stuck in a postpostional position within PlaceP/PathP.[10]

(29) a vonal-on alul
the line-SUP below
'below the line'

(30)



As these Ps are not occupants of the K head at any point in the derivation, they do not have any case-like properties and cannot be considered to be a type of

[9]That DP cannot move out of KP is straightforward on the assumption that KP closes off the noun phrase. A reviewer asks why KP cannot move out of Place/PathP. We take pP to be a predicational Small Clause, with Place/PathP being the predicate and the Figure being the subject of predication. We suspect that KP cannot move out of Place/PathP because the latter is the minimal predication in the PP, but the matter requires further research.

[10]A reviewer asks if apart from the case-marking of the complement, there is anything about the nature of case-like and case assigning Ps themselves that would lead to the conclusion that they originate in different positions. We suggest that Hungarian Ps split into these two groups the way they do as a result of their history. Case-like Ps were originally nouns. They underwent a grammaticalization process, however: they were affected by semantic bleaching and were concomitantly inserted higher in the extended noun phrase (K instead of N). Case assigning Ps, on the other hand, were originally PlaceP or PathP adjuncts that have been reanalyzed as syntactic heads (see Hegedűs, 2014a). As adjuncts to PlaceP or PathP, they could only be reanalyzed as Place and Path heads but not as a lower K head. See Van Gelderen (2011) for the process of reanalysis from adjunct to head.

case. For this reason, they are not involved in case-concord on demonstratives either. Their subcategorized case marker does appear on adnominal demonstratives, however, as this element is indeed a type of case (30).[11]

(31) az-on (*alul) a vonal-on alul
that-SUP under the line-SUP under
'under that line'

3.4 *'Flexible' case assigning Ps that cannot be prepositions*

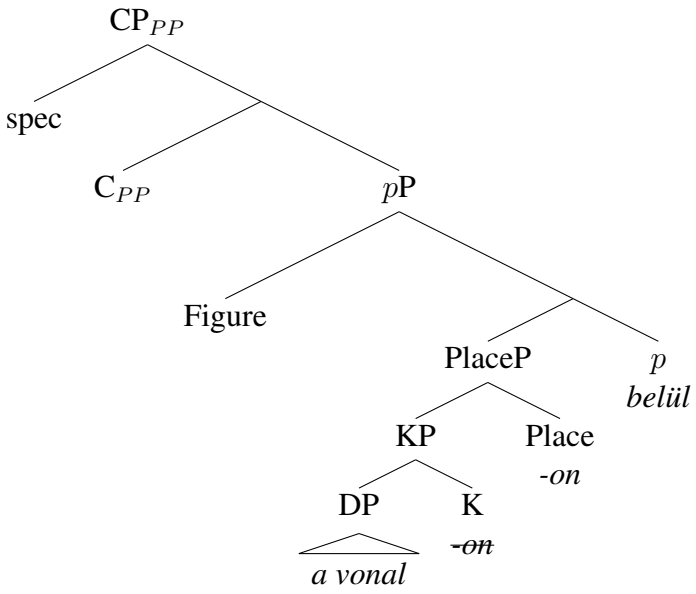
While about half of all case assigning Ps have the same distribution as ordinary case markers and case-like Ps (i.e. they can only be immediately postnominal), the rest allow more word order flexibility. In this section we discuss those case assigning Ps that can be P-stranded and can serve as verbal particles, but cannot be prepositions (e.g. *belül* 'inside of', *szembe* 'opposite to').

We propose that these Ps are inserted in p rather than Place/Path (this is the result of a grammaticalization process that we will elaborate on below). pP, like PlaceP and PathP, is a right-headed projection, and so case assigning Ps inserted in p are also postpositions. The case marker that accompanies these Ps moves from K to Place/Path, like ordinary case markers and case-like Ps.

(32) a vonal-on belül
the line-SUP inside.of
'inside of the line'

[11] We assume with den Dikken (2010) (and contra Grimshaw, 1991) that KP tops off the nominal projection and projections of P belong to a different extended projection. In demonstrative concord certain morphemes that are associated with the noun and spell out heads in the extended NP are 'copied' by the demonstrative; i.e. demonstrative concord is an (extended) NP-internal business. K, as the highest layer in the extended NP, is thus a possible target for demonstrative concord. Elements merged in the P-layers, such as case assigning Ps, however, are in a different extended projection, and so they are not a possible target for demonstrative concord.

(33)



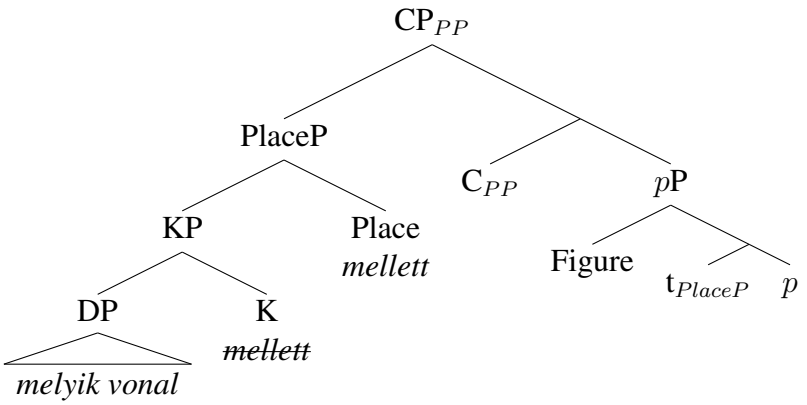
We suggest that PlaceP/PathP can optionally move to spec, CP. This position is the escape hatch of PP, much like Spec,CP in the clause and Spec,DP in the noun phrase: a constituent that moves here may undergo further movement and leave the extended PP. With case-like Ps and case assigning Ps, which cannot move out of PlaceP/PathP, this movement does not yield a new word order possibility: PlaceP/PathP movement to Spec,CP$_{PP}$, and any further movement from this position, takes along the adposition, and so it forms a constituent with the case-marked complement throughout the derivation.

(34) case-like P

a. Melyik vonal mellett vagy?
which line next.to be.2SG
'Which line are you next to?'

b. *Melyik vonal vagy mellett t$_i$?
which line be.2SG next.to
'Which line are you next to?'

(35) case-like P

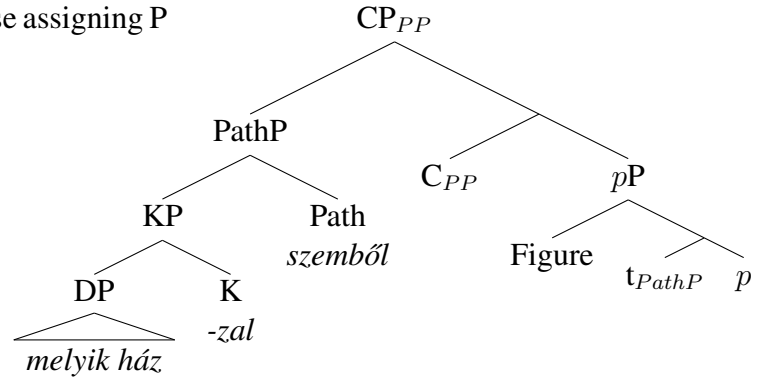


(36) non-separable case assigning P

a. [$_{PathP}$ Melyik ház-zal szemből]$_i$ jöt-t-él t$_i$?
which house-INS opposite.from come-PST-2SG
'Which house did you come opposite from?'

b. *[$_{PathP}$ Melyik házz-al]$_i$ jöttél [$_{CP.PP}$ t$_i$ szemből]?
which house-INS come-PST-2SG opposite.from
'Which house did you come opposite from?'

(37) non-separable case assigning P

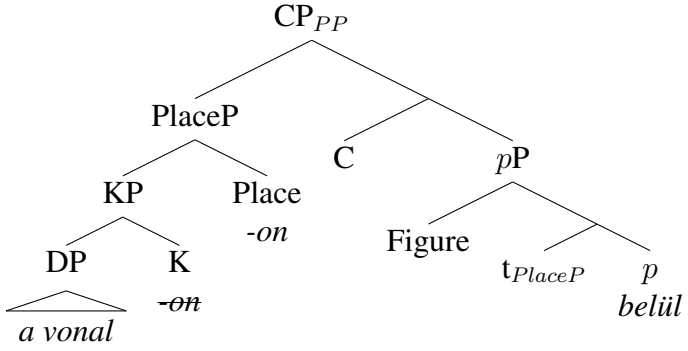


For those case assigning Ps that are inserted in p, however, movement of PlaceP/PathP to the left periphery of the PP and its subsequent extraction out of the extended PP opens up new word order possibilities. When PlaceP/PathP moves out of CP$_{PP}$ via the escape hatch, the adposition is separated form its complement (as the former is left behind inside CP$_{PP}$).[12]

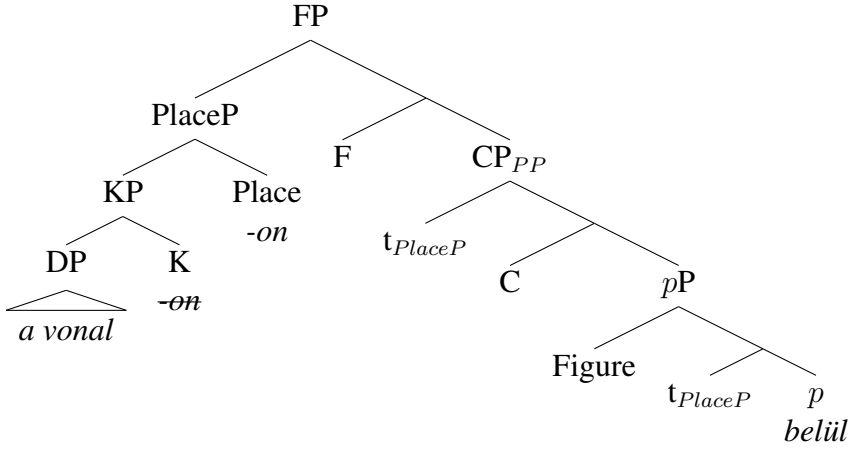
[12]When the adposition's NP-complement bears a +*wh* feature, case-like Ps and inflexible case assigning Ps are always pied-piped for the reasons discussed above, see (34a) and (36a). However, case assigning Ps that are separable from their complement may also be pied-piped along with the complement. That is, in addition to (40), (i) is also possible:

(i) [Melyik vonal-on belül] volt a labda?
which line-SUP inside.of was the ball
'Which line was the ball inside?'

(38) separation configuration for P and complement



(39) P and complement separated



(40) [$_{PlaceP}$ Melyik vonal-on]$_i$ volt [$_{CP.PP}$ t$_i$ belül] a labda?
which line-SUP was inside.of the ball
'Which line was the ball inside?'

We have seen that P-stranding and the verbal particle use correlate: Ps either allow both configurations, or neither. We suggest that this is because (38) is an intermediate step in the derivation of both P-stranding and the particle use, and the availability of (38), in turn, depends on the adposition being in *p*. P-stranding is derived as in (39): PlaceP/PathP is extracted from spec, CP$_{PP}$ to Spec,FocP, the landing site of *wh*-elements in the clause (É. Kiss, 2002), while CP$_{PP}$ remains in situ with the case assigning P in it.

As far as the particle use of case assigning Ps is concerned, we suggest that the

We suggest that in examples like (i) PlaceP/PathP is not extracted from the extended PP; instead, the whole CP$_{PP}$ is moved to spec FP.

derivation proceeds along the following lines. Verbal particles are generated post-verbally (in an extended PP) and they reach their immediately preverbal surface position via phrasal movement (see the contributions in É. Kiss and Van Riemsdijk 2004, among many others). We suggest that this is movement of a remnant CP_{PP} from which the adposition's complement has been extraposed.[13]

(41) A labda [$_{CP.PP}$ t_i belül] volt [$_{PlaceP}$ a vonal-on]$_i$.
the ball inside.of was the line-SUP
'The ball was inside the line.'

That is, for the particle use to work, the configurations in (38) and (39) must be created. The adposition is inserted in p, and PlaceP/PathP movemes to Spec,CP_{PP}. Once this has been achieved, the PlaceP/PathP can be moved out of the escape hatch, and CP_{PP} containing the adposition but not its complement can be moved to the verbal modifier position. That the latter movement is indeed phrasal movement rather than head movement is shown by the facts that verbal particles can have a modifier, they can undergo long-distance movement, and they can be topicalized (see É. Kiss, 2002; É. Kiss and Riemsdijk, 2004; Hegedűs, 2013, among others).

The proposal that adpositions used as particles are in a higher position in the tree meshes well with the general view that particles are more 'functional' (or higher in the tree) than garden variety postpositions or prepositions (Van Riemsdijk, 1990). In our account Ps used as particles are in the *p* position. In fact, we propose that *p* is cross-linguistically the position of verbal particles: some particles move into *p* from Place/Path heads, and some of them are base-generated in *p* (as proposed here for a subgroup of case assigning Ps).

To summarize the main points of the analysis, we suggested that case assigning Ps that have the same distribution as case-like Ps are merged in Place/Path (and do not undergo head movement to p), while case assigning Ps that allow the particle use and P-stranding are merged in p. It is an idiosyncratic, lexical property of case assigning Ps whether they are merged in PlaceP/PathP or p. We hypthesize that adpositions merged in p have undergone a grammaticalizaton process. Grammaticalization typically involves one of two processes (Roberts and Roussou, 2003; Van Gelderen, 2011). In the first type of grammaticalization an adjunct is integrated into the tree as a specifier, and the specifier is later possibly reanalyzed as a head. In the second type of grammaticalization a head or constituent moves to a higher position in the tree first, and later it is merged directly in that

[13]This two-step analysis is similar in spirit to Leu's (2008) analysis of *wat voor* split. It is also in line with Van Riemsdijk's (1997) analysis of Dutch PPs and particles, since he showed that the derivation of Dutch particles form postpositions is a two-step process, since the postposition does not necessarily become a particle when it is separated from the rest of the PP.

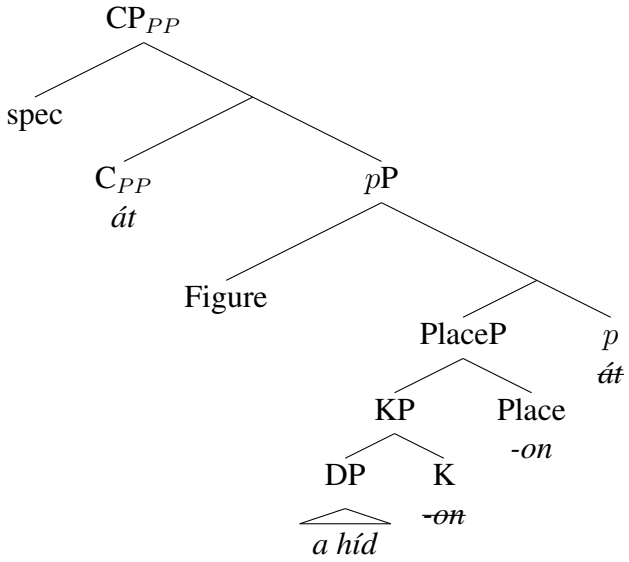
higher position. We hypothesize that case assigning Ps merged in p have undergone the latter type of grammaticalization. They used to be merged in Place/Path and at first underwent optional Place/Path-to-p movement. This movement later became obligatory, and in the last stage they were reanalyzed as P elements inserted directly in p.

3.5 *'Flexible' case assigning Ps that can be prepositions*

Case assigning Ps that allow the prepositional use are a proper subset of those Ps that allow the particle use and P-stranding, so they, too, are merged in p. We propose that Ps that can be prepositions are currently undergoing a further change that allows them to move from p to the C_{PP} head. We suggest that the CP_{PP} projection is a left headed phrase, so this movement yields the prepositional order (43).

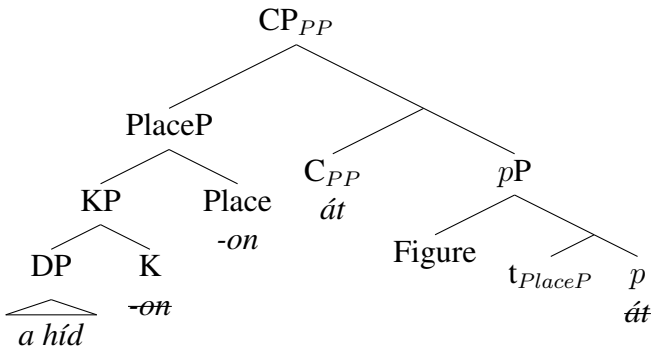
(42) át a híd-on (át)
across the bridge-SUP across
'across the bridge'

(43)



As in the case of case-like Ps and case assigning Ps without a prepositional use, PlaceP/PathP can move to Spec,CP_{PP}. If the adposition has undergone p-to-C_{PP} movement, then this movement restores the default PP-internal postpositional order, and creates the configuration that is the pre-requisite for P-stranding and the particle use. Once PlaceP/PathP moves further on from Spec,CP_{PP}, we get P-stranding, and it also allows the remnant CP_{PP} to move to the Verbal Modifier position and fulfill the verbal particle role.

(44)



(45) a. [$_{PlaceP}$ Melyik híd-on]$_i$ men-t-él [$_{CP.PP}$ t$_i$ át]?
which bridge go-PST-2SG across
'Which bridge did you go across?'

b. János [$_{CP.PP}$ t$_i$ át] men-t [$_{PlaceP}$ a határ-on]$_i$.
John across go-PST.3SG the border-SUP
'John went across the border.'

A crucial ingredient of our analysis is that PlaceP/PathP and pP are head-final projections, while C$_{PP}$ is a head-initial projection. Before we round off this section, we would like to discuss how this fits with the recent literature on the direction of headedness in Hungarian. É. Kiss (2013) and the contributions in É. Kiss (2014b) and É. Kiss (2014d) argue that Proto-Hungarian was an SOV language (see also Radics, 1992). At this stage verbal, clausal, nominal, and adpositional projections were all head-final. By the Old Hungarian period the basic clause structure had changed from SOV to SVO. Many projections in the extended noun phrase and adpositional phrase, too, changed directionality from head-final to head-initial (see Egedi, 2014a,b for DP and Hegedűs, 2014a,b for PP). This change, however, has not been complete: Old Hungarian as well as Modern Hungarian still feature a number of head-final projections (see É. Kiss, 2013, 2014a,c for detailed examples). We submit that the head-finality of PlaceP/PathP and pP is a relic from the Proto-Hungarian SOV period. Thus far the head-final to head-initial change has affected only the topmost layer of PP, CP$_{PP}$, and has not (yet) propagated any lower than this. This proposal is in line with the observations of Biberauer et al. (2007 et seq.) about change in the direction of headedness across languages. Biberauer et al. argue that syntactic structures are constrained by the so-called Final-Over-Final-Constraint (FOFC).

(46) Final-Over-Final-Constraint (Biberauer et al., 2007, 88)
If α is a head-initial phrase and β is a phrase immediately dominating α, then β must be head-initial. If α is a head-final phrase and β is a phrase immediately dominating α, then β can be head-initial or head-final.

A consequence of the FOFC is that when diachronic change turns a head-final extended projection into a head-initial extended projection, the change in directionality must start from the topmost projection, with the lexical projection on the bottom being the last to change. This change proceeds top-down because this is the only way FOFC will be satisfied at all stages of the diachronic change. Our proposal that the head-final to head-initial change in the PP has affected CP_{PP} but not (yet) the lower projections fits with the predictions of the FOFC.

4. *Variation in complementation*

It has been observed before that case assigning Ps may appear without a complement, i.e. they have an intransitive use.[14] The existence of intransitive Ps cross-linguistically has long been noted, but while early analyses, e.g. Jackendoff (1973), regarded them as genuinely intransitive elements, they have recently been considered to be regular transitive Ps with a silent complement (Svenonius, 2010, 137). Particles have also been considered to be intransitive prepositions by Jackendoff (1973), Van Riemsdijk (1978); Emonds (1985), among others, and Horvath (1978) proposed the same for Hungarian particles.

As far as Hungarian Ps are concerned, case-like Ps do not have an intransitive use, while case assigning Ps vary. This variation has not been examined before, but it has been taken for granted that case assigning Ps radically differ from case-like ones in this respect as well (Marácz, 1985, 1986). A close look at the individual case assigning Ps shows that not all of them have such an 'intransitive' use, and the variation is due to the nature of the complement they select.

Those case assigning Ps that can appear without a(n overt) Ground are interpreted as referring to a space with respect to the deictic center of the discourse. For example, the Ps in (48) identify a location or direction with respect to 'here' (the post office is close to here; John came over here).

(47) Case assigning Ps with an 'intransitive use'[15]
alul 'down/below', *belül* 'inside (of)', *fölül* 'above/over', *kívül* 'outside of', *kívülre* 'to outside of', *kívülről* 'from outside of', *át* 'via/through/across', *együtt* 'together', *közel* 'close to', *szemből* 'from opposite to', *szemben* 'opposite to', *szembe* 'to opposite'

[14]This intransitive use has also been claimed to correspond to a different lexical category and projection, see Marácz (1989) in the generative literature.

[15]In addition, we find *túl* 'beyond' and *szemközt* 'opposite to' somewhat degraded but not entirely out.

(48) a. A posta közel van.
the post.office close is
The post office is close by.'

b. János át-jött.
John over-came
'John came over.'

Those Ps that do not have an intransitive use cannot be interpreted with respect to the deictic center by themselves. They need an additional spatial element to identify a location. The case assigning Ps in (50) would need the location of the Ground to be specified, and are ungrammatical without a complement.

(49) Case assigning Ps that must have an overt complement
innen 'on this side of', *keresztül* 'across', *túlra* 'to beyond', *túlról* 'from beyond', *végig* 'along to the end of'

(50) a. *A posta innen van.
the post.office this.side is
'The post office is on this side.'

b. *János végig sétált.
John along.to.end walked
'John walked to the end.'

(51) a. A posta a folyó-n innen van.
the post.office the river-SUP this.side is
'The post office is on this side of the river.'

b. János végig sétált a híd-on.
John along.to.end walked the bridge-SUP
'John walked to the end of the bridge.'

We make use of this observation and propose that there is in fact always a Ground complement in the structure but it can remain silent when it refers to the deictic *here/there* (see Kayne, 2004 on silent *here/there*). The simplified structure is thus the one under (52), with a silent deictic complement (see Svenonius, 2010, 137). Those Ps have an intransitive use that can have such a deictic complement, however, it seems to be incompatible with several members of the case assigning group.

(52) [$_{PP}$ case assigning P [$_{PP}$ ~~(here/there)~~]]

Other than the above mentioned context, there are cases where the complement cannot be interpreted as *here/there* but can be recovered from the speech context, which makes the 'intransitive' use possible. Such an example is given in (53).

(53) Tudtam, hogy túl fogunk menni a jó leágazás-on, és
knew.1SG that beyond will.1PL go.INF the right exit-SUP and
túl is mentünk.
beyond too went.1PL
'I knew that we will drive beyond the right exit and drive beyond we did so.'

In such cases, the speech situation makes it possible to recover the silent Ground, and this suggests that we are dealing with elliptical structures. The recoverable complement is elided but the P has a complement here as well.

We can conclude then that there are no syntactically intransitive case assigning Ps, and those case assigning ones that can appear without an overt complement are only different from the others in that they license a silent deictic complement.[16] For case-like Ps, lack of *here*/*there* as complement may be a syntactic restriction since case assigning Ps take DP complements but *here*/*there* corresponds to a structure that is bigger than DP. For the case assigning Ps, however, it seems to be a semantic restriction whether they license silent *here*/*there* or not.

5. *Conclusions*

We have shown that Hungarian case assigning Ps exhibit variation in their word order and extraction properties and that this variation can be given a syntactic account. Our account boils down to the proposal that some case assigning Ps are inserted into the structure in the Place/Path head and stay there during the derivation, while others are inserted in *p*. A subset of these adpositions can move further, to the C_{PP} head.

The adposition's higher insertion point results in different word order properties because P-stranding and the verbal particle use depend on the adposition being in the p head. We suggested that PlaceP/PathP and pP are head-final projections. All case assigning Ps are inserted in one of these projections, so the default PP-internal word order is postpositional. CP_{PP}, on the other hand, is a head-initial projection, so adposition movement to C_{PP} yields a prepositional order.

We also accounted for the observed variation in the complementation properties of case assigning Ps, namely, that many but not all of them can appear without

[16] As was pointed out to us, this conclusion may be surprising in that it makes PPs radically different from NPs, VPs or APs, which can be genuinely intransitive. We believe there to be a semantic reason for this: Ps denote vectors (see Zwarts 1997; Zwarts and Winter 2000) and as such they are necessarily relational. This assumption does not exclude, however, the possibility that if a P loses some of its spatial meaning components, for example, when it becomes a semantically bleached particle, it may become genuinely intransitive.

a complement. We hypothesized that this is due to a difference in the licensing of deictic complements. Deictic *here/there* may remain silent, however, other complements may only be elided under the right circumstances, thus only those Ps have a seemingly intransitive use that allow *here/there* as their complement.

These proposals derive the properties of case assigning Ps and also account for their difference from case-like Ps. Our analysis also provides a uniform syntactic analysis for verbal particles and sheds some light on the syntactic environment in which they may develop.

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