Hungarian spatial PPs

Veronika Hegedűs Tilburg University

Abstract

Hungarian spatial adpositional phrases exhibit very similar properties to those in other languages in that they can denote places and paths, and their structural ordering is such that path-denoting postpositions are outside place-denoting ones. One type of postpositional element (the 'dressed' Ps) shares various syntactic properties with oblique case suffixes, while members of the other group of postpositions ('naked' Ps) are more like particles. All of these, however, are generated in an extended PP-structure with designated positions for place, path and direction.

1. Introduction

Hungarian is a language with a rich case system and postpositional system in its inventory for expressing spatial meanings, and it also has spatial particles. The aim of this paper is to show that Hungarian adpositional phrases (PPs) exhibit very similar properties to PPs in other languages (e.g. much analyzed Germanic languages). The spatial PPs in Hungarian denote place or path/direction, and path is always external to place. Particles belong to the PPs, they are generated in extended projections of PPs, however, they often get separated from the rest of the phrase during the derivation, as they move to the preverbal position.

I will first look at the adpositional elements that we find in Hungarian, and discuss their properties. I will show that postpositions have important properties in common with case markers, which has already made people consider them as realizations of the same category (cf. É. Kiss 2002, Asbury 2005), while those elements that are most often taken to be postpositions with an oblique case marked complement ('naked' Ps, as dubbed by Marácz 1986) share few properties with the other postpositions, but rather behave like particles syntactically. In section 3, I will propose analyzing Hungarian PPs along the lines proposed for other languages in the literature (e.g. Van Riemsdijk 1990, den Dikken 2003, Svenonius 2004; 2006), namely as involving several projections instantiated by place Ps, path Ps and particles.

^{*} I would like to thank Henk van Riemsdijk, Hans Broekhuis, Nataša Milićević, and especially Jutta M. Hartmann for all the discussions and comments. Further thanks go to Peter Svenonius for the inspiring course he held at the LOT Winter School 2006 in Amsterdam, and for reading and commenting on an earlier version of this paper. All errors and shortcomings are mine. This research is in the frame of the NWO-supported VIDI-project "Derivations and Evaluations".

^{© 2006} Veronika Hegedűs. Nordlyd: Tromsø Working Papers in Linguistics, 33.2, special issue on Adpositions, ed. Peter Svenonius, pp. 220–233. CASTL, Tromsø. http://www.ub.uit.no/munin/nordlyd/

2. Adpositional elements in Hungarian

Hungarian has postpositional elements — most of which are spatial. Besides postpositions, oblique case suffixes are also used to express spatial relations. Diachronically, most of the postpositions originated in (unmarked) possessive constructions, where the possessum developed into a postposition, and then some of the postpositions lost their morphological independence and became suffixes (Kiss and Pusztai 2003).¹ This change is illustrated in (1): in the first stage, the possessum is a case marked nominal, which later develops into a postposition; at the stage when it becomes a postposition itself has a spatial meaning. In the final stage, the postposition becomes a suffixal element, its form is phonetically reduced (suffixes are mostly monosyllabic), and it also participates in vowel harmony.²

(1) ház bele-n > ház ben > ház-ban house inside-at > house in > house-INE 'at inside of house' > 'in house'

An important property of these spatial elements is that they often have three related forms corresponding to locative ('at'), lative ('to') and ablative ('from') meanings. This goes back to their nominal origin, when they were nouns bearing locative case markers. The three forms are illustrated in (2) and (3), where the examples in (2) contain a postposition, while the ones in (3) have oblique suffixes.³

(2) a. a ház mellett the house beside.at 'beside the house'
b. a ház mellé the house beside.to

'(to) beside the house'

c. a ház mellől the house beside.from 'from beside the house'

 $^{^1{\}rm The}$ possessive construction had no morphological marking in the initial stage, both the agreement marking on the possessum and dative possessors appeared later in the history of Hungarian.

²The abbreviations used in the examples are the following: ABL = ablative case ('from'), ACC = accusative case, ALL = allative case ('to'), DEL = delative case ('off'), ELA = elative case ('out of'), ILL = illative case ('into'), INE = inessive case ('in'), INF = infinitive, INSTR = instrumental case ('with'), SUB = sublative case ('onto'), SUP = superessive case ('on').

 $^{^{3}}$ I will gloss postpositions in a way that indicates which one of the three forms they are, but it is important to note that they are synchronically not really decomposable into the nominal stem and locative suffix that these glosses suggest.

(3) a. a ház-ban the house-INE 'in the house'
b. a ház-ba the house-ILL 'into the house'
c. a ház-ból the house-ELA 'out of the house'

Some of the space denoting elements became verbal particles through history. In neutral sentences, we find the particles in the preverbal position of the clause, where they form a complex predicate with the verb to express complex events (É. Kiss 2004).⁴ Their semantic contribution is most often telicizing, this is what led linguists to treat them as aspectual elements that have to occupy some aspectual position in the clause (É. Kiss 1998; 2002). É. Kiss (2004), however, modifies her earlier analysis by hypothesizing a predicative head where particles, as well as other predicative phrases (for example non-referential bare nouns and secondary predicates), move, and thus she derives their semantics from the telicizing effect of resultative predicates.

Postpositions have been argued to be of two types ('dressed' and 'naked', see the discussion below) and to be a distinct category from case suffixes. Moreover, though the particles have been related to postpositions (both historically and semantically), they have not been syntactically related in the literature. In this section, I will discuss the main topics that have been around related to PPs and propose that 'naked' Ps should be treated on a par with particles, while postpositions and local case suffixes behave very similarly: both of them are of category P.

2.1. 'Dressed' and 'naked' postpositions

The names of the two types of postpositions come from Marácz (1985; 1986), but the distinction has been noticed long before (cf. Sebestyén 1965 for some discussion and references). The classes are distinguished on the basis of the case of the complement they take, but they are different in various other respects as well, namely, in their morphological form when their complement is pronominal, in their word order possibilities, and in their behavior next to demonstratives. These differences are much discussed in the literature on Hungarian PPs: the most detailed references for overview are Marácz (1989) and É. Kiss (2002). Some members of the two classes are listed under (4): the Ps in (4a) belong to the 'dressed' group, while the

⁴Sentences with neutral stress pattern comprise neutral sentences, as opposed to nonneutral sentences, which contain a constituent (focus, wh-phrase, negation) bearing extra stress and thus eradicating any other main stress in the clause (cf. Kálmán 1985).

VERONIKA HEGEDŰS

ones in (4b) are 'naked' $\mathrm{Ps.}^5$

- (4) a. mellett 'beside.at', mellé 'beside.to', mellől 'beside.from'; alatt 'under.at', alá 'under.to', alól 'under.from'; után 'after'; helyett 'instead of'; nélkül 'without'
 - b. át 'across, over'; végig 'along'; belül 'inside'; kívül 'outside'; túl 'over'; szemben 'opposite'; együtt 'together'

As the examples show, we only find the three-way distinction with 'dressed' Ps, but not with 'naked' ones. This is because only the postpositions in the 'dressed' group developed in possessive structures, only they used to be case marked nouns. Many of the 'naked' Ps developed in appositive structures, where the P was in apposition with the case-marked DP (Kiss and Pusztai 2003).

'Dressed' Ps take caseless/nominative-marked complements, while 'naked' Ps go with oblique case marked complements.⁶ This is illustrated in (5a) and (5b), respectively. The oblique case varies with individual 'naked' Ps, but is most often instrumental or superessive case.

- (5) a. a ház mellett the house beside 'beside the house'
 - b. a ház-zal szemben the house-INSTR opposite 'opposite the house'

The two groups are also different when they have pronominal complements. The pronominal complement can be a pro and thus silent, and, in the case of 'dressed' Ps, the postposition bears an agreement marker (cf. (6a). This is where the name 'dressed' comes from: the P has an inflection (Marácz 1986). However, with 'naked' Ps, it is the case marker on the complement of the 'naked' P that is marked for person-number agreement, and not the P, as can be seen in (6b).

(6) a. mellett-ed beside-2sg
'beside you'
b. vel-ed szemben INSTR-2SG opposite
'opposite you'

 $^{{}^{5}}$ Both groups contain non-spatial elements as well, and the properties discussed below hold for all members. I do not have anything insightful to say about the exact structure of non-spatial PPs.

 $^{^6 \}rm Since Marácz$ (1989) assumes that Ps are case-assigners, he takes 'dressed' Ps to assign nominative case (which is morphologically zero in Hungarian). É. Kiss (2002), however, relates Ps to case markers, thus she considers the complements of 'dressed' Ps to be caseless.

This already shows that what should be compared here is actually not 'dressed' and 'naked' Ps in Marácz' classification, but 'dressed' Ps and oblique case suffixes. I will return to this point when I compare Ps and case suffixes.

Another difference between 'dressed' and 'naked' Ps is their ordering possibilities with respect to their complement and to modifiers. 'Dressed' Ps always strictly follow their complement, they can never precede it, while 'naked' Ps can sometimes precede their complement as can be seen in the contrast between (7a) and (7b).

(7) a. *mellett a ház beside the house
'beside the house'
b. szemben a ház-zal opposite the house-INSTR
'opposite the house'

Also, when they are modified, the modifier can never intervene between a 'dressed' P and its complement (as is illustrated in (8)), but it can in the case of 'naked' Ps. As (9) shows, both orders are grammatical in the case of 'naked' Ps.

(8)	a.	*a ház közvetlenül mellett
		the house immediately beside
		'immediately beside the house'
	b.	közvetlenül a ház mellett
		immediately the house beside
		'immediately beside the house'
(9)	a.	a ház-zal közvetlenül szemben
. ,		the house-instr immediately opposite
		'immediately opposite the house'

b. közvetlenül a ház-zal szemben immediately the house-INSTR opposite 'immediately opposite the house'

Marácz (1985; 1986) noticed that 'naked' Ps are different from 'dressed' ones in yet another respect, namely, that they can be used intransitively, while 'dressed' ones can never appear without their complement. Furthermore, 'naked' Ps seem to be extractable from the PP, but 'dressed' Ps cannot be separated from their complement (Marácz 1986).

(10) János át-jött. John over-came 'John came over.'

(11) János át-jött a híd-on. John over-came the bridge-SUP 'John came across the bridge.'

Marácz (1989) says, since in these cases the 'naked' P behaves like a verbal modifier — more precisely, like a particle — and appears in the preverbal position, we had better regard it as one, that is, as a particle (which is of category P) that forms a complex predicate with the verb, and the complex verb governs the oblique marked argument in (11). That is, 'naked' Ps are sometimes postpositions and sometimes particles: they are postpositions when they form a constituent with their complement, but they are particles when they appear in the preverbal position.

A similar thing was proposed by É. Kiss (1999; 2002); in fact, she proposed eliminating the whole category of 'naked' Ps and classifying them as adverbs ($t\acute{u}l$ 'over', $v\acute{e}gig$ 'along', etc.) or participles ($n\acute{e}zve$ 'regarding', kezdve 'beginning', etc.) because of their syntactic properties. This way, the category of Ps would become homogeneous, consisting only of elements that adjacently follow their caseless complements and take an agreement marker when their complement is pronominal.

I take these positions to be essentially correct, that is I agree with saying that 'naked' Ps are not postpositions but are particles (at least the spatial ones, and see further qualifications also in section 3).⁷ However, I will claim that particles originate in extended PPs, thus the preverbal particle in (11) does form a constituent with the post-verbal PP at some point during the derivation.

2.2. Postpositions and local case

As has already been mentioned, Hungarian local case suffixes developed from postpositions. Arguments for their different grammatical status mostly emphasize that suffixes take part in vowel harmony, while postpositions do not alternate. It is true that only suffixes show vowel harmony, but even among them there are exceptions, so this is not a decisive argument for distinguishing between the two.

Another argument for their different status is that postpositions and case suffixes behave differently in conjoined structures, namely, suffixes cannot be elided, but postpositions can (Marácz 1989, É. Kiss 2002). This is illustrated in the contrast between (12a) and (12b), where the complement of the postposition and suffix are elided under co-ordination; and in (13), which shows ellipsis of the postposition and case suffix on the first coordinate and is only grammatical with the postposition again.

(12) a. a ház előtt és mögött the house before and behind 'in front of and behind the house'

 $^{^7\}mathrm{That}$ 'naked' Ps are more like particles was also suggested by den Dikken (2004).

b. *a ház-on és -ban the house-SUP and -INE 'on and in the house'

(13) a. a ház és a garázs mellett the house and the garage beside 'beside the house and the garage'
b. *a ház- és a garázs-hoz the house and the garage-ALL

'to the house and the garage'

Also, it is to some extent possible to add a further inflection to postpositions (under some semantic restrictions), but it is never possible to stack inflectional suffixes. For example, place-denoting postpositions can have an added path-denoting suffix, but the same is not possible with locative suffixes (cf. (14a) versus (14b)).

(14)	a. a ház mögött-re
	the house behind-sub
	'to the back of the house'
	b. *a ház-ban-ra
	the house-ine-sub
	'to in(side) the house

Examples like (14a) are not so frequent, though. This is because there is a competing form, namely (15a).

a.	a ház mögé
	the house behind.to
	'(to) behind the house'
b.	a ház-ba
	the house-ILL
	'into the house'

In (15a), the lative form of the postposition is used instead of the locative one. This is the most frequent way of expressing the relevant meaning, rendering (14a) a somewhat different reading. For me, (14a) has a more special interpretation, which I tried to express with the translation: the space-meaning of the postposition is more transparent, so the phrase means something more like 'to the space behind the house' (e.g. in contexts about where we plan to put a swimming pool), while the postposition in (15a) has simply a path meaning and a wider use. Maybe, (14b) is ungrammatical not only because inflectional suffixes cannot be further inflected, but also because the suffix no longer carries enough lexical information to express the meaning that would make (14b) different from using an illative suffix as in (15b).

The differences mentioned above led Marácz (1989) to consider post-

positions and case suffixes to be fundamentally different categories with P being a case-assigning category. However, I agree with É. Kiss (2002) and Asbury (2005) in assuming that these differences result from the suffixal nature of some of the elements and the morphologically slightly more independent behavior of others, but ultimately, postpositions and case suffixes are instantiations of the same category, which I take to be the category of adpositions.⁸

Indeed, syntactically, postpositions and case suffixes behave in the same way. Their order with respect to the complement is equally fixed (in this respect, they are both different from 'naked' postpositions, see (7b)), and modifiers (e.g. degree phrases) occur in the same position in both cases.

- (16) a. *mellett a ház beside the house 'beside the house'
 b. *ban a ház INE the house 'in the house'
 (17) a. két méter-re a ház mögött two meter-SUB the house behind 'two meters behind the house'
 - b. két méter-re a ház-tól *two meter-*SUB *the house-*ABL 'two meters from the house'

Moreover, their forms next to pronominal complements look the same as well. We have already seen in the examples in (6) that 'dressed' and 'naked' Ps behave differently, and it is the case marker in the complement of 'naked' Ps that is similar to 'dressed' Ps. What we can observe is that the pronominal form is created by adding an agreement suffix to the postposition or the case marker. This is again illustrated in (18).

a. mögött-em behind-1sG
'behind me'
b. től-em ABL-1sG
'from me'

A further similarity between postpositions and case suffixes is that they are both reduplicated on the demonstrative pronoun in demonstrative phrases as can be seen in the examples in (19).⁹

⁸The properties demonstrated in (12)-14) give the impression that postpositions are free morphemes, but their similarities to affixes in (16)-(19) suggest that they are rather bound morphemes.

 $^{^{9}}$ The demonstrative pronoun is *az*, but the final consonant is dropped before Ps

(19) a. a mögött a ház mögött that behind the house behind 'behind that house'
b. ab-ban a ház-ban that-INE the house-INE 'in that house'

Eventually, every syntactic account of PPs has to be able to deal with this phenomenon, but it is beyond the scope of this paper. I just wanted to emphasize that when it comes to syntactic properties, postpositions and case suffixes behave very much alike. This gives an additional argument for treating these two on a par, and not 'dressed' and 'naked' Ps, as 'naked' Ps show none of these properties but share properties with particles. This is what I will turn to now.

2.3. Postpositions and particles

Many of the particles in Hungarian are spatial, but some of them seem to have lost their original spatial meaning and now function purely as telicizers (Kiefer 1992). Spatial particles are directional or locative, and, although the locative ones are not always classified as particles (but as adverbs), they show similar behavior to directional ones.

- (20) a. le 'down' lenn/lent 'down_{LOC}'
 - b. ki ' out_{DIR} ' kinn/kint ' out_{LOC} '
 - c. el 'away'
 - d. vissza 'back'

Particles are most often in the preverbal position in neutral sentences. The general assumption is that they move there in order to form a complex predicate with the verb. In É. Kiss' analysis, particles, just like other predicative elements and focused constituents, move to a Predicate Phrase on top of the VP (É. Kiss 2004).

(21) a. A könyv le-esett. the book down-fell 'The book fell down.'
b. Mari fel-olvasta a level-et. Mary up-read the letter-ACC 'Mary read out the letter.'
c. Mari fel-mászott a hegy-re. Mary up-climbed the hill-SUB

^{&#}x27;Mary climbed up the hill.'

beginning with a consonant, and it assimilates to the next consonant when the pronoun is inflected, hence the form ab- in (19b). The postposition is only duplicated on the demonstrative pronoun and on no other element in the PP.

As can be seen in the examples in (21), particles can be used in similar contexts in Hungarian as in English. However, we find not only a directional particle in (21c), but also another PP that expresses a spatial relation. Under certain semantic conditions, the particle is optional in constructions like (21c), and the PP itself can be preverbal in a neutral sentence. This seems to be an option with verbs expressing directed motion.¹⁰ Source PPs can never be preverbal, however; there is always a particle in the clause, even next to motion verbs.

(22)	a. ?Mari a hegy-re mászott.
	Mary the hill-sub climbed
	'Mary climbed on the hill.'
	b. A könyv az asztal alá esett.
	the book the table under.to fell
	'The book fell under the table.'
(23)	a. *A könyv az asztal-ról esett.
	the book the table-del fell
	'The book fell from the table.'
	b. A könyv le-esett az asztal-ról.
	the book down-fell the table-del
	'The book fell down from the table.'

Sentences that contain a particle and a spatial PP have been mostly regarded as cases where the complex verb formed by the particle and the verb take a PP/oblique DP (cf. Kiefer 1992). Below, I will argue that the particle actually originates in the postverbal PP.

3. Extended PPs in Hungarian

(aa)

.

In the past couple of decades, much research has been devoted to the study of the syntactic structure of adpositional phrases. One early proposal for an extended PP-structure is by Van Riemsdijk (1990), who analyzes German circumpositional phrases (illustrated in (24)) as involving a functional projection on top of the lexical PP.

(24) $[_{pP} [_{PP} \text{ unter der Brücke] durch}]$ *under the bridge through* 'through under the bridge'

Thus, the postpositional element is supposed to occupy a functional position in the extended PP in German. Later analyses, e.g. den Dikken (2003), proposed a much more elaborate structure for Dutch and German with separate projections that host place Ps, path Ps, particles and measure

 $^{^{10}}$ This is a rough generalization, as I have not done a systematic study of the verb classes that allow for spatial PPs in the verb modifier position. Also, when they are focused, PPs can always be preverbal, that is why the fact that we are dealing with neutral sentences is important.

phrases. Also, English PPs have been suggested to involve projections for space-denoting and path-denoting/directional elements (Svenonius 2004; 2006).

In Hegedűs (2005), I suggested that Hungarian PPs should be analyzed along these lines as well. On the surface, Hungarian seems to show the exact mirror image of the German examples that Van Riemsdijk (1990) analyzed, with particles being prepositional and lexical Ps postpositional as is shown in (25).

(25) át a híd alatt through the bridge under.at 'through under the bridge'

As is sometimes the case in German, the particle gets separated from the rest of the PP during the derivation in Hungarian. However, just like in the case of German (shown by Van Riemsdijk 1990), we can find various constituency tests to prove the constituency of the particle and PP. For example, these phrases can be focused together, focus being a unique projection that can only host one phrase in the Hungarian preverbal field. This is illustrated in (26a) where the phrase in capitals is the focus. Extended PPs can also appear in the PP-with-DP construction, a clause type that is used to identify directional PPs (see (26b)).

a.	Mari [FENT A HEGY-EN] akart táboroz-ni.
	Mari up the hill-SUP wanted camp-INF
	'Mary wanted to camp up on the hill.'
b.	[Le az asztal-ról] a könyvek-kel!
	down the table-Del the books-instr
	'Down from the table with the books!'

In fact, the Hungarian examples provide evidence that we need to hypothesize both a location/space projection and a path denoting projection, and both of them are below particles in the structure. As we saw earlier, locative postpositions can combine with directional suffixes, which I take to be evidence that both Place and Path (in terms of Svenonius 2004; 2006) can be instantiated in the structure, and a particle can still be added to this (in a Direction Phrase above PathP according to Svenonius 2006).

(27) ki a ház mögött-re out the house behind.at-SUB 'out (to) behind the house'

Thus, I assume that locative postpositions are in a Place head, while directional ones are in Path. A common property they have is that they are postpositional, so their complement has to be left adjacent to them. The movement of the complement does not have to do with the directional nature of the postposition as it seems to be in Dutch (cf. den Dikken 2003),

but it is obligatory because of the morphological properties of postpositions.

The case of particles is not so straightforward, however. Most of the particles seem to be always preceding their complement (including the ones listed in (20)), but as we have already seen, this is not always the case with 'naked' Ps. In the preceding section, I was suggesting — partly along the lines of Marácz (1989) and den Dikken (2004) — that we should rather treat 'naked' Ps as particles and not as postpositions. But 'naked' Ps do show variation in their word order properties. As can be seen in (28), both orders are grammatical.

(28) a. keresztül az út-on across the road-SUP
b. az út-on keresztül the road-SUP across
'across the road' (directional)

The word order variation could be derived by the optionality of movement to Spec,Dir. But maybe the truth lies somewhere between Marácz' view and the view suggested here previously. It might well be the case that 'naked' Ps actually are in a Path head when they are postpositional (just like other directional Ps), but in a higher projection (together with other particles) when they precede their complement. This means that there is obligatory movement of the complement to PathP, and there is no such movement to the front of particles. But 'naked' Ps following their complement are still different from other postpositions ('dressed' Ps and case suffixes), as we saw in their different modificational properties (cf. the examples in (8) and (9)). To decide on the issue, we need further data and tests to distinguish between the (possibly) two instances of 'naked' Ps.

4. Conclusion

In this paper, I tried to show that Hungarian spatial PPs can be analyzed in terms of extended PP-structures suggested for various other languages, that is as phrases that include separate projections for locative and directional elements. Hungarian postpositions and local case suffixes share a lot of properties, thus I was following recent research in regarding them as instantiations of the same underlying category, in my view, postpositions. I was also arguing that 'naked' Ps are different, and they are rather like particles and not like postpositions. This was, however, reconsidered in the last part of the paper due to the word order variation in the case of 'naked' Ps and lack of variation in the case of other particles.

The questions of what projection particles actually occupy and whether they occupy the same position invariably, together with the issue of how particles move to the preverbal position leaving behind the rest of the PP, are still in need of further investigation.

References

- Asbury, Anna. 2005. Adpositions as case realizations. In *Leiden Papers in Linguistics*, edited by Martin Salzmann and Luis Vicente, vol. 2.3, pp. 69–92. Leiden University, Leiden.
- den Dikken, Marcel. 2003. On the syntax of locative and directional adpositional phrases. Ms. CUNY.
- den Dikken, Marcel. 2004. The syntax of adpositional phrases. Ms. CUNY.
- É. Kiss, Katalin. 1998. Verbal Prefixes or Postpositions? Postpositional Aspectualizers in Hungarian. In Approaches to Hungarian Vol. 6. Papers from the Amsterdam Conference, edited by Casper de Groot and István Kenesei, pp. 123–148. JATE, Szeged.
- É. Kiss, Katalin. 1999. Mi tartozik a névutók osztályába? [What belongs to the category of postpositions?]. Magyar nyelvjárások 37.: 167–172.
- É. Kiss, Katalin. 2002. *The Syntax of Hungarian*. Cambridge University Press, Cambridge.
- É. Kiss, Katalin. 2004. Egy igekötőelmélet vázlata [Outline of a theory of the verbal particle]. Magyar nyelv 50: 15–43.
- Hegedűs, Veronika. 2005. Extended projections extended analogues: A note on Hungarian PPs. In Organizing Grammar: Linguistic Studies in Honor of Henk van Riemsdijk, edited by Hans Broekhuis, Norbert Corver, Riny Huijbregts, Ursula Kleinhenz, and Jan Koster, pp. 197– 205. Mouton de Gruyter, Berlin/New York.
- Kálmán, László. 1985. Word order in neutral sentences. In Approaches to Hungarian 1., edited by István Kenesei, pp. 13–23. JATE, Szeged.
- Kiefer, Ferenc. 1992. Az aspektus és a mondat szerkezete. In Strukturális magyar nyelvtan 1. Mondattan [Structural Hungarian Grammar 1. Syntax], edited by Ferenc Kiefer, pp. 797–886. Akadémiai Kiadó, Budapest.
- Kiss, Jenő and Ferenc Pusztai. 2003. Magyar nyelvtörténet [Hungarian language history]. Osiris Kiadó, Budapest.
- Marácz, László. 1985. A magyar névutós csoportról [On the Hungarian Postpositional Phrase]. Nyelvtudományi Közlemények 87: 173–180.
- Marácz, László. 1986. Dressed or Naked: The Case of the PP in Hungarian. In *Topic, Focus and Configurationality*, edited by Werner Abraham and Sjaak de Meij, pp. 227–252. John Benjamins, Amsterdam/Philadelphia.
- Marácz, László. 1989. Asymmetries in Hungarian. Phd dissertation, Groningen.
- Riemsdijk, Henk van. 1990. Functional prepositions. In Unity in diversity: papers presented to Simon C. Dik on his 50th birthday, edited by Harm Pinkster and Inge Genee, pp. 229–241. Foris, Dordrecht.
- Sebestyén, Árpád. 1965. A magyar nyelv névutórendszere [The system of postpositions in the Hungarian language]. Akadémiai Kiadó, Budapest.

Svenonius, Peter. 2004. Spatial prepositions in English. Ms. University of Tromsø; available at http://ling.auf.net/lingBuzz/000001.

Svenonius, Peter. 2006. P: Anatomy of a category. LOT Winter School Course in Amsterdam.