

# Case suffixes and postpositions in Hungarian

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Hungarian displays an interesting morpho-syntactic puzzle of case suffixes and postpositions. Although these two categories display distributional similarities, they are distinguishable from a phonological and morphological point of view. In this paper, we focus on the similarities and dissimilarities between the two categories and show that an SBCG analysis (Sag, 2010) allows us to provide a descriptively adequate account of the phenomena and to capture their common syntactic behaviour.

## Definitions

The delimitation of the category of case suffixes is a long-debated issue (Kiefer, 2000; Payne & Chisarik, 2000; Creissels, 2006). We define the class of case suffixes based on 3 criteria. Case suffixes may display the possibilities (i) for the noun host to be modified (Kiefer, 2000; Payne & Chisarik, 2000); (ii) for the case suffix to occur with a possessive suffix (Creissels, 2006); (iii) for the case suffix to be combined with the demonstrative (Creissels, 2006). This definition leads to a category containing 17 elements.<sup>1</sup>

As for the class of postpositions, we adopt the analysis of É.Kiss (2002), who limits the category of postpositions to items (i) taking a caseless NP as argument, (ii) realizing morphologically their pronominal argument and (iii) that get duplicated when used with the demonstrative. This class is then composed of 34 elements.

## Differences

**Gradient phonological integration** Case suffixes, but not postpositions, are prosodically bound forms and are monosyllabic. More precisely, if we consider six criteria, we observe that the relevant morpho-phonological properties define a scale rather than a binary distinction, as shown in Table 1. Four of these six criteria correspond to the phenomena of internal sandhi occurring with affixation (Creissels, 2006): vowel harmony (*ház-ban* 'house-INE' vs. *kert-ben* 'garden-INE'); link vowel (*börönd-ö-t* 'suitcase-LV-ACC'; *könyv-e-t* 'book-LF-ACC'); selection of a suppletive stem (*ló* 'horse'; *ló-ban* 'horse-INE'; *lov-on* 'horse-SUP')

<sup>1</sup>Accusative (ACC) *-t*; Dative (DAT) *-nak/-nek*; Instrumental (INS) *-val/-vel*; Causal-final (CAU) *-ért*; Translative (TRA) *-vá/-vé*; Inessive (INE) *-ban/-ben*; Superessive (SUP) *-n*; Adessive (ADE) *-nál/-nél*; Sublative (SUB) *-ra/-re*; Delative (DEL) *-ról/-ről*; Illative (ILL) *-ba/-be*; Elative (ELA) *-ból/-ből*; Allative (ALL) *-hoz/-hez/-höz*; Ablative (ABL) *-tól/-től*; Terminative (TER) *-ig*; Essive (ESS) *-ként*; Temporal (TEM) *-kor*.

; lengthening of *a* and *e* (*alma* 'apple'; *almá-ban* 'apple-INE').

The last two concern: the monosyllabicity of the item (Trommer, 2008); the phonological interaction with the demonstrative (*ez* 'DEM'; *eb-ben* 'DEM-INE'; *e mellett* 'DEM next.to'; *ez allatt* 'DEM under').

**Derivational properties** Postpositions, contrary to case suffixes, can host the derivational suffix *-i* and thus give rise to adjectives.<sup>2</sup>

- (1) *a polc mögött-i könyv*  
the shelv behind-ADJR book  
'the book behind the shelv'
- (2) *\*a János-ról-i könyv*  
the János-DEL-ADJR book  
'the book about János'

These *-i* suffixed words can host inflectional affixes, as adjectives usually do.

- (3) (*Melyik virág-o-k a legszebb-e-k?*) *A fá-k között-i-e-k*  
which flower-LV-PL the most.beautiful-LV-PL the tree-PL between-ADJR-LV-PL  
'Which flowers are the most beautiful? The ones between the trees'
- (4) (*Melyik bolt-ban lát-t-ad a cipő-t?*) *A pályaudvar mellett-i-ben.*  
shop-INE see-PST-2SG the shoe-ACC the station next.to-ADJR-INE  
'(In which shop did you see the shoes?) In the one next to the station'

**Coordination** The behaviour with respect to the coordination can be viewed as the consequence of their different morpho-phonological status: being morphologically bound, suffixes do not have wide scope over NPs coordination, whereas postpositions, as independant words, do.

- (5) *a ház és a garázs előtt*  
the house and the garage before  
'in front of the house and the garage'
- (6) *\*a ház és a garázs-ban*  
the house and the garage-INE  
'in the house and the garage' (intended meaning)

<sup>2</sup>The *-i* suffix is glosed ADJR.

	A	B	C	D	E	F
<b>interaction with demonstrative</b>	+	+	+	+	+	-
<b>monosyllabicity</b>	+	+	+	+	-	-
<b>lengthening of <i>a</i> and <i>e</i></b>	+	+	+	-	-	-
<b>vowel harmony</b>	+	+	-	-	-	-
<b>link vowel</b>	+	-	-	-	-	-
<b>selection of a suppletive stem</b>	+	-	-	-	-	-

Table 1: Gradient phonological integration

Moreover, postpositions, in contrast with case suffixes, can be coordinated (examples (7) and (8)). Note that coordination between a postposition and a case suffix is not possible (example (9)).

- (7) *a ház előtt és mögött*  
the house before and behind  
'in front of and behind the house'
- (8) \**a ház-tól és -ből*  
the house-ABL and -ELA
- (9) \**a ház-ban és mellett*  
the house-INE and next.to

## Common properties

**Combinatorial property** Both postpositions and case suffixes appear on the right edge of an NP (examples (10) and (13)); they are strictly adjacent to the head noun (examples (12) and (15)). If the head noun is elided, both are adjacent to the rightmost element of the NP (examples (11) and (14)).

- (10) *a kék ház-ban*  
the blue house-INE  
'in the blue house'
- (11) *a kék-ben*  
the blue-INE  
'in the blue'
- (12) \**az utca majdnem-ben*  
the street almost-INE  
'almost in the street' (intended meaning)
- (13) *a kék ház mellett*  
the blue house next.to  
'next to the blue house'
- (14) *a kék mellett*  
the blue next-to

with:

- A. accusative, superessive
- B. dative, inessive, elative, illative, adessive, ablative, allative, delative, sublative, instrumental, transformative
- C. terminative, causal-final
- D. temporal, essive
- E. postpositions beginning with consonant
- F. postpositions beginning with vowel

- 'next to the blue'
- (15) \**a ház majdnem mellett*  
the house almost next.to  
'almost next to the house' (intended meaning)

**Demonstrative agreement** Case-marked NPs as well as postpositional phrases (PPs) can combine with a demonstrative (noted DEM in the examples). In this case, they are both obligatorily repeated after the demonstrative.

- (16) *eb-ben a szép ház-ban*  
DEM-INE the beautiful house-INE  
'in this beautiful house'
- (17) *e mellett a szép ház mellett*  
DEM next.to the beautiful house next.to  
'next to this beautiful house'

**Grammatical and predicative uses** Both postpositions and case suffixes (except the accusative suffix) can be used as predicative complements of the copula and are thus fully contentful. Additionally, according to Kiefer (2000), all case suffixes, except the temporal suffix, can be subcategorized by a head. Moreover, according to Szende & Kassai (2001), seven postpositions can introduce a subcategorized dependent of a head (*ellen, előtt, elől, után, iránt, mellett, alól*). Thus, their different morphological statuses do not correspond to different uses in the language.

## Reanalysis of the essive *ként*

Considering the 3 differences between case suffixes and postpositions, the essive *ként* should be reanalysed as a postposition. From a phonological point of view, the essive does not show any affixal properties (cf. table 1). Moreover, using the online Hungarian National Corpus<sup>3</sup>, we observe that

<sup>3</sup>HNC : [http://mnsz.nytud.hu/index\\_eng.html](http://mnsz.nytud.hu/index_eng.html)

essive can host the derivational suffix *-i* (example (18)).

- (18) [...] *amely-ek a növény drog-ként-i*  
 which-PL the plant drug-ESS-ADJR  
*elhasználás-á-ra utal-nak*  
 using-3SG-SUB make.reference-3PL  
 ‘[...] which make reference to the using of the plant  
 as drug’

Finally, using the HNC, we find occurrences of essive suffix with possible wide scope over coordination (example (19)).

- (19) Bloch Móricz, aki aztán később Ballagi Mór  
 Bloch Móricz who then later Ballagi Mór  
 név-en **neves szótáríró** és  
 name-SUP renowned lexicographer and  
**tanulmányíró-ként** is ismer-t [...]  
 essayist-ESS also know-PST.3SG  
 ‘Móricz Bloch, who has later been known as Mór  
 Ballagi and a renowned lexicographer and essayist  
 [...]’

Under this new analysis, monosyllabicity cannot be viewed as a criterion to distinguish between case suffixes and postpositions. This reanalysis should be an issue for the analysis of Trommer (2008). According to his paper, case suffixes and postpositions are both functional heads belonging to the same morphosyntactic category (adposition), and monosyllabic adpositions are integrated to the Phonological Word of their nominal lexical head because they are prosodically too small. As an independent monosyllabic adposition, the essive does not fit into Trommer’s theory of the Phonological Word.

## Person-marked postpositions and personal pronouns

Hungarian postpositions realize their complement as a person suffix, whenever the complement has a pronominal form (cf. Table 2). In that case, the nominative pronoun is optional (example (20) and (21)). These *person-marked postpositions* cannot combine with NPs headed by a noun (example (22)).

- (20) *(én) mellett-em* ; *\*(én) mellett*  
 I next.to-1SG I next.to  
 ‘next to me’
- (21) *(ő) mellett-e* ; *\*(ő) mellett*  
 he/she next.to-3SG he/she next.to  
 ‘next to him/her’
- (22) *\*A ház mellett-e* ; *A ház mellett*  
 the house next.to-3SG the house next.to  
 ‘next to the house’

Furthermore, following Creissels (2006), we consider that Hungarian displays *defective postpositions*, i.e. postpositions that appear only as hosts of person suffixes and cannot combine with non-pronominal NPs (example (23)). They are postpositions since they behave morphologically along the same pattern as *person-marked postpositions* (cf. Table 2) and have the same distributional properties (examples (24)).

- (23) *\*A ház benn(e)*  
 the house in  
 ‘in the house’ (intended meaning)
- (24) *Ott van a bolt és mellett-e a ház*  
 there is the shop and next.to-3SG the house  
 ‘There is the shop and next to it the house’
- (25) *Ott van az erdő és benn-e a ház*  
 there is the garden and in-3SG the house  
 ‘There is the garden and inside the house’

There are only two paradigms of personal pronouns in Hungarian: one for nominative, the other for accusative (Table 3). The other case suffixes are in complementary distribution with the *defective postpositions*. Indeed, where case suffixes cannot appear (*\*én-ben*), a *defective postposition* is used (*benn-em*)<sup>4</sup>. This is true only for 12 case suffixes, since *transformative*, *terminative* and *temporal* have no corresponding *defective postposition* and cannot be employed with a pronominal NP.

Thus, Hungarian displays (i) 35 postpositions that mostly can be inflected with person suffixes, (ii) 16 case suffixes, among which only the accusative has a pronominal form, and three suffixes have not person form, (iii) 12 *defective postpositions* that are in complementary distribution with 12 case suffixes.

## An SBCG account

In the Hungarian grammatical tradition (Kenesei *et al.*, 1998; Szende & Kassai, 2001; Rounds, 2001), postpositions and case suffixes are considered as two different objects, whereas, in the recent linguistic studies (Asbury, 2007; Trommer, 2008), they tend to be analyzed as realizing the same underlying syntactic category. In this paper, we consider case suffixes as inflectional material appearing on nominal heads, thus accounting for derivational and combinatorial specific properties. We use the MARKING feature to capture distributional similarities. Finally, we give an explicit analysis for *defective postpositions*, that accounts for their morpholog-

<sup>4</sup>Spencer & Stump (ms) provide an analysis, in the Paradigm Function Morphology theory, for *defective postpositions* that links case suffixes and *defective postpositions* as realization of a single lexeme. Such an analysis, though probably preferable, cannot directly be implemented in HPSG/SBCG.

	Person-marked postpositions			Defective postpositions		
	'next-to'	'after'	'to before'	'in'	'on'	'to in'
1SG	<i>mellett-em</i>	<i>untán-am</i>	<i>elé-m</i>	<i>benn-em</i>	<i>rajt-am</i>	<i>belé-m</i>
2SG	<i>mellett-ed</i>	<i>untán-ad</i>	<i>elé-d</i>	<i>benn-ed</i>	<i>rajt-ad</i>	<i>belé-d</i>
3SG	<i>mellett-e</i>	<i>untán-a</i>	<i>elé</i>	<i>benn-e</i>	<i>rajt-a</i>	<i>belé</i>
1PL	<i>mellett-ünk</i>	<i>untán-unk</i>	<i>elé-nk</i>	<i>benn-ünk</i>	<i>rajt-unk</i>	<i>belé-nk</i>
2PL	<i>mellett-etek</i>	<i>untán-atok</i>	<i>elé-tek</i>	<i>benn-etek</i>	<i>rajt-atok</i>	<i>belé-tek</i>
3PL	<i>mellett-ük</i>	<i>untán-uk</i>	<i>elé-juk</i>	<i>benn-ük</i>	<i>rajt-uk</i>	<i>belé-juk</i>

Table 2: Person-marked postpositions and defective postpositions paradigms

	1SG	2SG	3SG	1PL	2PL	3PL
nominative	<i>én</i>	<i>te</i>	<i>ő</i>	<i>mi</i>	<i>ti</i>	<i>ők</i>
accusative	<i>engem(et)</i>	<i>téged(et)</i>	<i>őt</i>	<i>minket</i>	<i>titeket</i>	<i>őket</i>

Table 3: Nominative and accusative personal pronouns

ical and syntactic similarities with postpositions, and their distributional likeness to case marked nouns.

Hungarian nouns and adjectives can host a plural suffix, possessive suffixes and a case suffix. The plural suffix and the possessive suffixes belong to the same position class. So we can have: *noun*-(PL)-(CASE) (*ház-ok-ban*, house-PL-INE) or *noun*-(POSS)-(CASE) (*ház-am-ban*, house-POSS. 1SG-INE). In order to account for this, we postulate the hierarchy of *sign* adapted from Sag (2010) and presented in figure 1.

On one hand, the inflectional constructions for plural and possession, *possessive-cxt* and *plural-cxt*, are satisfied only by *uninflected-lexeme* and produce an *incomplete-word*. On the other hand, *case-cxt* can be satisfied by *lexeme*, ensuring that case suffixes appear either directly on the noun or after possessive or plural suffixes.

Each subtype of *case-cxt* concatenates the appropriate suffix to the PHON of the noun or adjective base. It specifies an appropriate value for the MARKING feature. Moreover, we postulate the partial hierarchy of *category* sketched in figure 2: *adjective* and *noun* are both subtypes of *noun-adj* because they share inflectional properties, and *noun* and *postposition* are subtypes of *noun-post* since they have common derivational properties (in particular, derivation with *i* suffix). For example, *inessive-cxt* is as follows:<sup>5</sup>

<sup>5</sup>In this paper, we simplify the morphological rules and do not account for the internal sandhi phenomena that occur with affixation. The notation *bAn* means that the vowel of the suffix undergoes vowel harmony.

*inessive-cxt*:

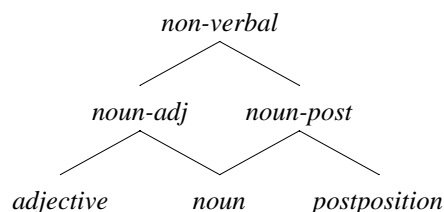
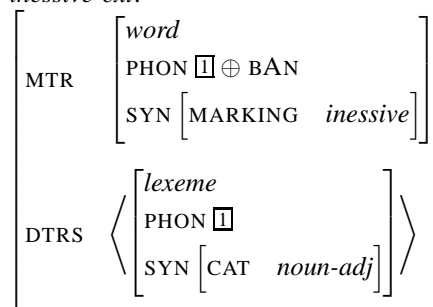


Figure 2: Partial hierarchy for *category* type values

Postpositions are represented as lexemes<sup>6</sup> having a specific CAT value and an inherent MARKING feature, which takes the form of the postposition as value. Postpositions can be realized as *word* either by means of the *naked-post-cxt* or of the *person-marked-post-cxt*.

<sup>6</sup>All the postpositions of Hungarian need to be *uninflected-lexeme* in the lexicon, in order to satisfy the derivational construction introducing the *-i* suffix (*i-deriv-cxt*).

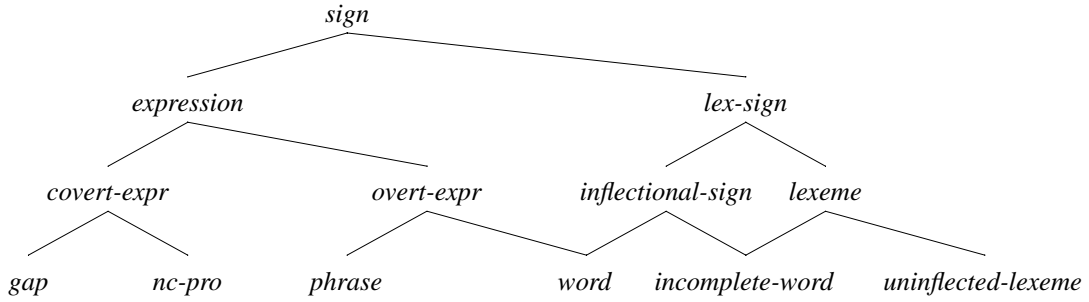
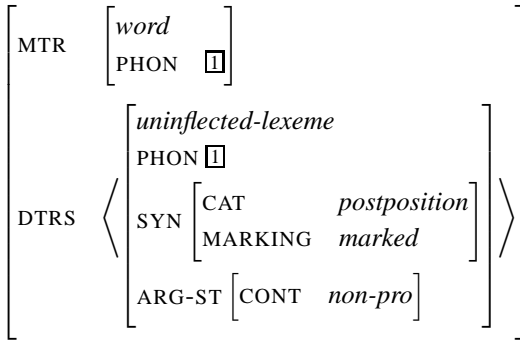
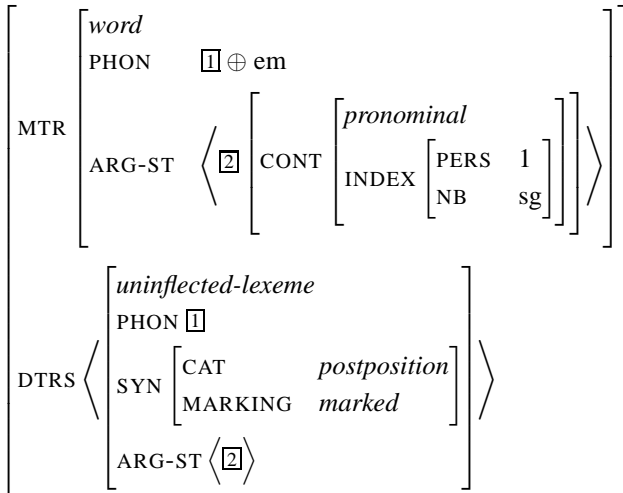


Figure 1: Hierarchy of sign

*nkd-post-cxt*:



*lsg-mrkd-post-cxt*:



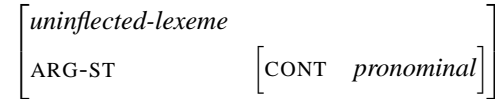
Following the treatment of Bonami & Samvelian (ms) for pro-drop in Persian, we postulate a *nc-pro* subtype of *covert-expr* (cf. hierarchy in figure 1). *nc-pro* is defined as having a *pronominal* value for the feature CONT. The *naked-post-cxt* is satisfied by a *lexeme* containing an argument with *non-pronominal* content, thus giving a *word* which combines syntactically with an NP that cannot be a pronoun. In order to handle the optionality of pronoun with the person-marked postpositions ((*én mellett-em*), the type of sign of the ARG-ST of the MTR of *person-marked-post-cxt* is under-

specified and its argument has *pronominal* content. Thus, the argument can be realized (1) either morphologically if the argument has *nc-pro* type, (2) or morphologically and syntactically, if the argument has *overt-expr* type.

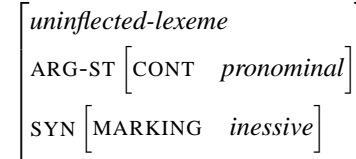
Using the MARKING feature, we can now handle the agreement of postpositions and case suffixes with the demonstrative. We postulate that Hungarian displays a subtype of *head-functor-cxt*, called *demonstrative-head-functor-cxt* (Figure 3) and specifying that the MOTHER and the DAUGHTERS must share their MARKING value when one of the DAUGHTER has a positive value for the DEMONSTRATIVE feature.

*Defective postpositions* are a subtype of *postpositions* which cannot satisfy the *naked-post-cxt*, because they lexically require an argument with *pronominal* content. The MARKING value of each *defective postposition* corresponds to that of the case suffix with which this postposition is in complementary distribution.

*defect-post-lxm*:



*inessive-defect-post-lxm*:



As postpositions, *defective postpositions* head a PP in syntax. Thus, the heads subcategorizing a case suffix select the MARKING feature of their argument, which can be of part of speech noun or postposition.

We also want to provide an account for the fact that *postpositions* can receive the *-i* adjectivizer suffix, unlike case-marked nouns or *defective postpositions*. The construction introducing this derivational suffix (*i-deriv-cxt*) is well formed if its argument has a non-pronominal content, ensuring that *defective postpositions* cannot satisfy this con-

$$dem-hd-func-cxt: \left[ \begin{array}{l} \text{MTR} \left[ \text{SYN} \mid \text{MARKING} \quad \boxed{1} \right] \\ \text{DTRS} \left\langle \left[ \text{SYN} \left[ \text{MARKING} \quad \boxed{1} \right] \right], \left[ \text{SYN} \left[ \text{MARKING} \quad \boxed{1} \right] \right] \right\rangle \end{array} \right]$$

Figure 3: *demonstrative-head-functor-cxt*

struction. The MTR of this construction is a *uninflected-lexeme*, thus allowing that inflectional constructions apply (cf. examples (3) and (4)). Following the hierarchy of category values in figure 2, we use a *noun-post* type in order to capture the fact that both nouns and postpositions can be *-i* suffixed. The impossibility for case inflected nouns to host *-i* suffix is straightforwardly accounted: *i-deriv-cxt* is a lexeme to lexeme construction, while case-marked nouns have the *word* type.

*i-deriv-cxt*:

$$\left[ \begin{array}{l} \text{MTR} \left[ \begin{array}{l} \text{uninflected-lexeme} \\ \text{PHON} \quad \boxed{1} \oplus \text{I} \\ \text{SYN} \left[ \begin{array}{l} \text{CAT} \quad \text{adjective} \\ \text{MARKING} \quad \boxed{2} \end{array} \right] \end{array} \right] \\ \text{DTRS} \left\langle \left[ \begin{array}{l} \text{uninflected-lexeme} \\ \text{PHON} \quad \boxed{1} \\ \text{SYN} \left[ \begin{array}{l} \text{CAT} \quad \text{noun-post} \\ \text{MARKING} \quad \boxed{2} \end{array} \right] \end{array} \right], \left[ \begin{array}{l} \text{ARG-ST} \left[ \text{CONT} \quad \text{non-pro} \right] \end{array} \right] \right\rangle \end{array} \right]$$

Finally, in the case of the accusative suffix, we have an *accusative-cxt*, i.e. a subtype of *case-cxt* introducing an *accusative* value for the noun's feature MARKING. The accusative personal pronouns as well as the nominative ones are lexically specified as having the *word* type, since they cannot satisfy any derivational or inflectional construction.

$$\begin{array}{l} \acute{e}n: \left[ \begin{array}{l} \text{word} \\ \text{ARG-ST} \quad \text{elist} \\ \text{SYN} \left[ \begin{array}{l} \text{CAT} \quad \text{noun} \\ \text{MARKING} \quad \text{unmrkd} \end{array} \right] \end{array} \right] \\ \\ \text{engemet:} \left[ \begin{array}{l} \text{word} \\ \text{ARG-ST} \quad \text{elist} \\ \text{SYN} \left[ \begin{array}{l} \text{CAT} \quad \text{noun} \\ \text{MARKING} \quad \text{accusative} \end{array} \right] \end{array} \right] \end{array}$$

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