## INFLECTING SPATIAL PARTICLES AND SHADOWS OF THE PAST IN HUNGARIAN

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## Abstract

The paper investigates the grammar of two types of inflecting spatial particles in Hungarian. We argue that the attested synchronic variation in the grammar of the particle-verb constructions discussed can directly be correlated with distinct stages of a diachronic grammaticalization path that different particles have trodden to different degrees. We provide an LFG-theoretic analysis and its XLE implementation that captures this variation qua variation in c-structure and f-structure encoding.

## 1. Introduction

The cross-linguistic variation in the encoding of spatial relations has attracted the attention of linguists of different theoretical persuasions, and this attention has produced an extensive literature in the last couple of decades. In this paper, we aim to contribute to this on-going discussion by a study of two particular spatial markers in Hungarian, paying special attention to constructions in which they function as verbal particles.

The two particle-verb constructions (PVCs) that we focus on are represented in (1) below:

(1)	a.	Rá	ugrott-ál	az.	asztal-ra.		
		onto.3SG	jumped-2sG	the	table-onto		
		'You jumped onto the table.'					
	b.	Mögé	ugrott-ál	az	asztal-nak.		
		behind.to.3s	G jumped-2se	d the	table-DAT		
	'You jumped behind the table.'						

(1a) contains what we refer to as a *reduplicating particle*. These particles function elsewhere as suffixal markers, and in the PVC, they are part of a dependency with a lexical noun phrase that bears the same case morphology as what is spelled out by the particle (with possible phonological differences that are irrelevant for us). What we call *possessive particles* are postpositions elsewhere, and as particles, they license a dative case marked associate in the dependency as in (1b).

In this paper, we investigate the grammatical properties of the two types of inflecting particles and the role they play in establishing the dependencies in (1). We present an LFG-theoretic account that has been implemented and tested in our XLE grammar of Hungarian. In Laczkó & Rákosi (this volume), we discuss and analyse two other Hungarian particle-verb constructions, and the two papers together provide a comprehensive description and an in-depth LFG-theoretic analysis of spatial particle-verb phenomena in Hungarian. Our primary objective in this paper is twofold. First, we aim to contribute to the existing LFG-theoretic line of analysis in the domain of particle-verb constructions, building on previous work by Toivonen (2001a, 2002) and by Forst, King & Laczkó (2010). Second, we develop a proposal that recognizes the historical development of the two spatial markers from possessive nominal constructions to particles with reduced feature content and impoverished c-structure properties. We claim that variation in the grammar of the PVCs we discuss here, involving dialectal variation across native speakers in certain instances, is best captured in a synchronic account that reflects this diachrony. It has been shown that LFG is a framework wellsuited to describe diachronic phenomena as well as diachronically motivated synchronic variation (see, especially, Vincent 2001, and Toivonen 2001b), and we hope our work will offer further evidence in support of this claim.

The structure of the paper is as follows. In Section 2, we give a brief description of the grammar of Hungarian inflecting particles, as well as their respective uses as postpositions and case suffixes. In Section 3, we offer an overview of the previous literature on particle-verb constructions involving inflecting particles. In Sections 4 and 5, we present our analysis of possessive particles and inflecting particles, respectively. We round up and conclude in Section 6.

## 2. Inflecting spatial markers in Hungarian: a descriptive overview

### 2.1. Inflecting postpositions and suffixes

Outside of PVCs, possessive particles function as postpositions (2a), whereas reduplicating particles are used as case markers (2b). An obvious argument for the postulation of a categorical difference between the two is that the former can be coordinated but the latter cannot, cf. (3a) and (3b).

(2)	a.			<i>mögé</i> behind.to	<i>ugrott-ál</i> . jumped-280	j
		ʻYou	jumped b	ehind the tab	le.'	
	b.	Az	asztal-ra	ı ugrott-ál	<i>l</i> .	
		the	table-on	to jumped-	2sg	
		'You	jumped o	nto the table.	2	
(3)	a.	az,	asztal	mögé	(vagy	mellé)
		the	table	behind.to	or	beside.to
		'behi	nd or besi	de the table'		
	b.	az,	asztal-ra	ı (*vagy	-ba)	
		the	table-on	to or	into	
		'onto	or into th	e table'		

For a more extensive description, we refer the reader to the overviews in Marácz (1989), É. Kiss (2002) and Asbury (2008).

These postpositions and suffixes have one crucial property that has been discussed several times in the literature and that is especially relevant in the current context: both can take agreement morphology. When they combine with lexical noun phrases, they are used in their default, non-marked form (which is formally identical with the 3SG form, the part of the agreement paradigm that can be unmarked in Hungarian). If their "complement" is pronominal, they agree with it in person and number. The pronominal part is generally *pro*-dropped unless it bears some discourse function like (contrastive) topic or focus. Thus (4a) is a discourse neutral construction, but in (4b), where no *pro*-drop takes place, the oblique pronominal is interpreted in the immediately preverbal position as the exhaustive *focus* of the clause.

(4)	a.	Α	kutya	rá-m	ugrot	t.
		the	dog.NOM	onto-1SG	jumpe	ed.3sG
	'The dog jumped on me.'					
	b.	Α	kutya	ÉN-RÁ-M		ugrott.
		the	dog.NOM	I.NOM-onto-	-1SG	jumped.3SG
'It was ME that the dog jumped on.'						

The agreement paradigm of inflecting postpositions and suffixes is fullyfledged, and shows some crucial similarities to the possessive paradigm. Table 1 below provides a parallel overview of the three paradigms in the singular.

	INFLECTING SUFFIX	INFLECTING POSTPOSITON	Possessive construction
1SG	(én-)rá-m	(én-)mögé-m	az (én) arc-om
	I.NOM-onto-1SG	I.NOM-behind.to-1SG	the I.NOM face-1SG
	'onto me'	'behind me'	'my face'
<b>2</b> SG	(te-)rá-d	(te-)mögé-d	a (te) arc-od
200	you.NOM-onto-2SG	you.NOM-behind.to-2SG	the you.NOM face-2SG
	'onto you'	'behind you'	'your face'
3SG	(ő-)rá	(ő-)mögé	az (ő) arc-a
550	he.NOM-onto.3SG	he.NOM-behind.to.3SG	the he.NOM face-3SG
	'onto him'	'behind him'	'his face'
Ta	ble 1		

The nominative possessor, which agrees with the noun head of the possessive construction in person and number, can be *pro*-dropped. We refer the reader to Laczkó (1995) and É. Kiss (2002) for a detailed account of the Hungarian possessive construction, and we only note here that the apparent optionality

of a pronominal dependent in the presence of agreement morphology on the head is an obvious feature that inflecting spatial markers share with true possessive phrases.

The analogy is certainly not forced, given that we know that the majority of inflecting postpositions and suffixes developed from possessive constructions (see Hegedűs 2011 for a recent overview). For example, the bound stem *mög* of the postposition *mögé* 'to behind' was still in use as a noun in the Old Hungarian period (roughly between 900 and 1500 AD) in the meaning 'area behind something' (Zajácz 2006). Combined with a now extinct directional suffix, it occurred frequently in directional possessive constructions ('to the hind area of someone/something'), and it got grammaticalized by the end of the Old Hungarian period as a postpositional construction ('to behind something/someone').

Inflecting suffixes underwent a similar diachronic development before the beginning of the Old Hungarian period. In fact, Hegedűs (2011) argues that only inflecting postpositions showed a reduced level of possessive behaviour at the end of this period, and inflecting suffixes did not. In this paper we argue that this difference in terms of degrees of grammaticalization still exists, and it is observable to some extent in contemporary Hungarian.

#### 2.2. Inflecting postpositions and suffixes as particles

As has been pointed out in Section 1, both inflecting postpositions and suffixes can function as verbal particles in what prima facie looks like their pronominal form. These particles license an oblique associate together with the verb. The associate of a reduplicating particle shows the same case morphology as the particle, and it is dative-marked in the case of inflecting postpositional particles. We repeat (1) as (5) to illustrate this point.

(5)	a.	Rá	ugrott-ál	az,	asztal-ra.		
		onto.3SG	jumped-2sG	the	table-onto		
		'You jumped onto the table.'					
	b.	Mögé	ugrott-ál	az,	asztal-nak.		
		behind.to.3sc	J jumped-28G	the	e table-DAT		
	'You jumped behind the table.'						

It is a fundamental question in the grammar of inflecting particles whether the particles in (5) are grammatically equivalent to the pronominals we discussed in Section 2.1. We will argue in Sections 4 and 5 that the answer is *yes* in the case of possessive particles (5b), but reduplicating particles are not pronominal (5a). They are agreement markers of a special sort.

We use the term *particle* throughout in a pre-theoretical sense to refer to any verbal modifier that immediately precedes the verb in neutral sentences.

As we argue in Laczkó & Rákosi (this volume), this immediately preverbal position is the specifier of the VP. All of these particles are separable, and the particles are forced to appear in positions other than Spec,VP if the clause contains preverbal focus or negation, cf. (6):

(6)	a.	TE	ugrott-ál	rá	az,	asztal-ra.		
		you.NOM	jumped-2sG	onto.3SG	the	table-onto		
	'It was YOU who jumped onto the table.'							
	b.	Nem ug	grott-ál	mögé	az,	asztal-nak.		
	not jumped-2SG behind.to.3SG the table-DA					table-DAT		
'You did not jump behind the table.'								

Beyond this basic level of identical behaviour, we argue that the two inflecting particles we discuss in this paper are in fact categorically nonidentical. Reduplicating particles are non-projecting words in the sense of Toivonen (2001a, 2002), *PRTs* for short. Possessive particles project a full PP. Irrespective of this divide, Hungarian orthography is somewhat inconsistent as to whether these particle-verb combinations should be spelled as one word or not, and native speakers are often uncertain about which spelling variant they should use. Based on the relevant aspect of our analysis, we consistently spell preverbal particles and their verbs as two distinct orthographical units (contrary to the standard Hungarian spelling practice).

As É. Kiss (1998) and Surányi (2009a,c) show, the two PVCs represented in (5) are subject to a thematic constraint on the choice of the particle that can head the dependency with the oblique associate: only locative and directional particles are licensed in these constructions. A list of reduplicating particles is given in (7), and that of possessive particles is given in (8).

- (7) a. *bele* 'into'
  - b. *benne* 'in'
  - c. érte 'for'
  - d. hozzá 'to'
  - e. neki 'to/against'
  - f. rá 'onto'
  - g. rajta 'on'
- (8) a. *alá* 'to under'
  - b. alatt 'under'
  - c. mellé 'to beside'
  - d. mellett 'beside'
  - e. mögé 'to behind'
  - f. mögött 'behind'
  - g. után 'after'

The list in (7) is exhaustive: it contains all the inflecting suffixes that can function as particles. This is a little more than half of the total number of inflecting case suffixes. The list in (8) is representative of a relatively larger group of inflecting postpositions that can be used as particles. Most of these postpositions form locative-directional pairs (8a-f) and they do so in a more transparent way than the inflecting suffixes that can be paired up on the basis of function and meaning (7a&b, 7f&g). This fact can be interpreted as a sign of the less grammaticalized nature of inflecting postpositions, especially in comparison with inflecting case suffixes.

## 3. Previous literature on locative dependencies

There exists a relatively large body of literature on particle-verb constructions in Hungarian, which we overview in more detail in Laczkó & Rákosi (this volume). Here we focus on what this literature has to say about the particular PVCs that we discuss in this paper. Since the reduplicating construction has received more attention, we start our overview with this PVC type.

The basic divide between various approaches concerns the locus of the particle-verb combination, and two entirely different views can be distinguished. A strong lexicalist account is propagated in a number of papers by Ackerman (1987, 1990, 2003) and Ackerman & Webelhuth (1993). Consider the following examples from Ackerman (2003: 24-25).

(9) a. A gyerekek bele szerettek a tanítójuk-ba. the children.NOM into loved the teacher.their-into 'The children fell in love with their teacher.'

b. *bele szeret* V: 'fall in love with sb <SUBJ, OBL>' OBL CASE = illative

- (10) a. A gyerekek belé-m szerettek. the children.NOM into-1SG loved 'The children fell in love with me.'
  b. belém szeret V: 'fall in love with sb <SUBJ, OBL>'
  - OBL PRED = 'pro' OBL NUM = sg OBL PERS = 1

This is a non-compositional example, but according to Ackerman *any* particle-verb combination is lexical in nature (a claim that covers reduplicating and postpositional particles alike). The difference between the reduplicating particle (9) and the pronoun (10) is that the former is not predicative, i.e. it does not have a PRED (semantic) feature for the oblique argument, but the verb+particle unit is a lexical entry in both cases. To all intents and purposes, Ackerman treats the reduplicating particle *bele* as some

sort of special derivational element, which can take on agreement morphology in the absence of an oblique associate (see *belém* in (10)). É. Kiss (1998), in the same spirit, takes reduplicating particles to be verbal prefixes of an adverbial sort that are selected by the verb.

In what we dub here as the *strong syntactic account*, reduplicating particles do not combine with the verb in the lexicon. Instead, they are assumed to form a syntactic dependency with the oblique associate. We are aware of the existence of three versions of this approach. É. Kiss (2002) takes reduplicating particles to be pronominal PPs which represent the oblique argument of the verb, and the case-marked noun phrase is an adjunct to them in an appositive relation. In Ürögdi (2003), particles and their associates form a chain, and the particle is in fact a feature bundle that represents the oblique argument, and that is spelled out in a higher position as a pronoun corresponding to the respective  $\varphi$ -features. On Surányi's (2009a,b,c) account, too, the two members of a particle-associate chain are related via syntactic movement. These chains involve the multiple spellout of the same syntactic object, where the head of the chain (the particle) is a reduced copy of the associate.

With the exception of É. Kiss (2002), it is a recurrent theme in these analyses that reduplicating particles are reduced pronominals of some sort. This is an assumption that we capitalize on in our analysis. Furthermore, we argue below for an analysis that cross-references the particle and the verb in the lexicon but which nevertheless treats the two as distinct lexical entries. In some sense then, our approach to reduplicating PVCs can be seen as a particular combination of the insights of both lexicalist and syntactic approaches.

Postpositional particles have received less attention in the literature, two notable exceptions being É. Kiss (1998, 2002) and Surányi (2009a,b). É. Kiss explicitly argues for a parallel treatment of possessive constructions and inflecting postpositions, based primarily on data of the following sort:

(11)	a.	NEK-EM	ugrott-ál		mögé-m.	
		DAT-1SG	jumped-2s	G	behind.to	-1SG
		'It is ME th	nat you jumpo	ed be	hind.'	
	b.	NEK-EM	lopt-ák	el	а	bögré-m.
		DAT-1SG	stole-3PL	aw	ay the	cup-POSS.1SG
		'It is MY c	up that was s	tolen	ı.'	_

It is well-known that dative possessors can be extracted in Hungarian if they receive some discourse function (see Laczkó 1995, É. Kiss 2002). Such extracted dative possessors usually refer to participants who have been affected in the event somehow (11b). The extraction trigger is the same in the case of inflecting postpositions acting as particles, and we can indeed treat

this dependency on a par with possessor extraction. It follows from this that the inflected postposition in (11a) has to be a possessive construction *in some sense*. É. Kiss and Surányi mention this fact by assuming that these postpositions project a possessive layer in syntax, but given that their immediate concerns lie elsewhere, they do not spell out this analysis in more detail. Our aim here is to specify what it means for these postpositions to be possessive.

## 4. Possessive particles

Unlike É. Kiss (2009a,b), Surányi observes that extraction of the dative complement of an inflecting postposition is not acceptable across the board. It is only a subset of speakers that find constructions like (11a), repeated as (12), acceptable.

(12)	NEK-EM	ugrott-ál	mögé-m.			
	DAT-1SG	jumped-2sG	behind.to-1SG			
	'It is ME th	ME that you jumped behind.'				

Surányi argues that only those speakers who accept (12) can treat the postposition as a possessive construction of some sort. In our view, this is an important insight, which is supported by other observations that also point toward the conclusion that there is crucial inter-speaker variation in this domain. In what follows we discuss two such observations briefly.

Directional inflecting postpositions have a more complex morphological form in 3SG, which sounds somewhat archaic but which is still widely available dialectally. The standard form of the particle is in (13a), and the non-standard form is in (13b).

(13) a. mögé behind.to.3SG '(to) behind him'
b. mögé-je behind.to-POSS.3SG '(to) behind him'
c. zené-je music-POSS.3SG 'his music'

Notice that the extra morphology in the non-standard variant of the postposition (13b) is remarkably similar to the standard possessive morphology (13c). We argue that the two in fact are the same. This is supported by the fact that whoever accepts (13b) will also generally accept the extraction of the dative complement, cf. (14).

(14)	Mögé-je	ugrott-ál	az,	asztal-nak.
	behind.to-POSS.3SG	jumped-2sG	the	table-DAT
	'You jumped behind	the table.'		

A second, and seemingly unrelated observation concerns the coding of reflexivity in locative PPs in Hungarian. Consider the following minimal pair:

(15)	a.	Le-tett-em	magam mellé		а	könyv-et.
		down-put-1SG	myself beside.	to	the	book-ACC
		'I put the book down beside myself.'				
	b.	Le-tett-em	mellé-m	а	kön	yv-et.
		down-put-1SG	beside.to-1SG	the	boo	ok-ACC
		'I put the book	down beside me	e.'		

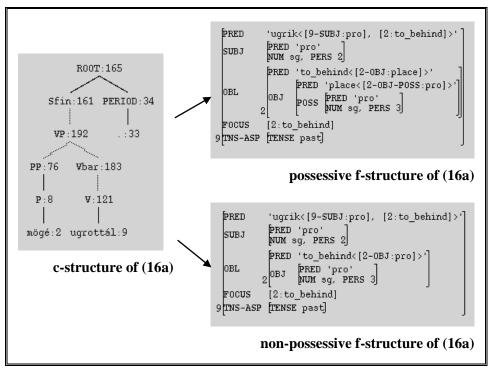
In standard Hungarian, anaphoric coding of reflexivity (15a) is the only choice for many speakers, and only a subset of them accepts pronominal encoding in these contexts (15b). Rákosi (2010) discusses this phenomenon in detail, and he argues that non-standard speakers optionally have a possessive lexical entry for the inflecting postposition in (15b). In particular, this representation includes a silent PLACE predicate, and thus the semantics of (15b) can be roughly described with the English 'I put down the book beside my place'. Because of the presence of this extra possessive layer at f-structure, the referential dependency in question is non-local in nature, and pronominal coding is licensed.

In sum, the dative-type PVC is a marked phenomenon in standard contemporary Hungarian because not every speaker has the required alternative possessive representation for the particle. But whether possessive or not, these particles always project a PP at c-structure, and the difference only manifests itself in the lexical entries and in the respective f-structures. Likewise, irrespective of whether this PP co-occurs with a dative associate or not, it is always the PP itself that spells out (the PRED feature of) the oblique argument of verb.

We illustrate our analysis with the following examples:

(16)	a.	Mögé	ugrott-ál.			
		behind.to.3SG	jumped-2sG			
		'You jumped behind it.'				
	h	Mögá	uarott ál	07		

b. *Mögé ugrott-ál az asztal-nak*. behind.to.3SG jumped-2SG the table-DAT 'You jumped behind the table.'





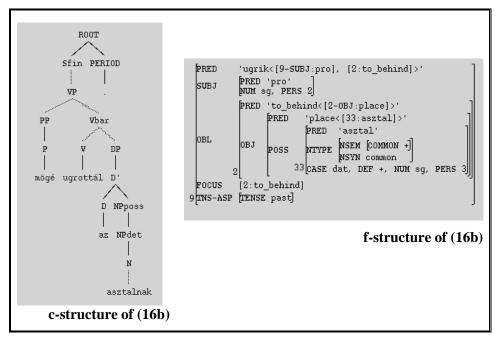




Figure 1 on the preceding page contains c- and f-structure representations that we generated in the XLE-implementation of our grammar for (16a). We claim that (16a) is potentially subject to an f-structure ambiguity: it includes the possessive or the non-possessive variant of the particle. (16b), on the other hand, has to be non-ambiguous in this respect, for only the possessive particle can license the dative associate. The corresponding representations are in Figure 2.

This analysis requires four distinct lexical entries for the particle, which we compress now into one complex entry (as it is actually stored in our XLEbased lexicon of Hungarian):

(17) 
$$m \ddot{o} g \acute{e}: P$$
 ( $\uparrow PRED$ )= 'to\_behind <( $\uparrow OBJ$ )>'  
(OBL  $\uparrow$ ) (i)  
({ ( $\uparrow OBJ PRED$ )= 'place <( $\uparrow OBJ POSS$ )>'  
( $\uparrow OBJ POSS PERS$ )= 3  
( $\uparrow OBJ POSS PRED$ )= 'pro' (ii)  
( $\uparrow OBJ POSS NUM$ )= sg  
|( $\uparrow OBJ PRED$ )= 'place <( $\uparrow OBJ POSS$ )>'  
( $\uparrow OBJ POSS CASE$ )=c dat (iii)  
( $\uparrow OBJ POSS PERS$ )=c 3  
|( $\uparrow OBJ PRED$ )= 'pro' (iv)  
( $\uparrow OBJ PERS$ )= 3  
( $\uparrow OBJ NUM$ )= sg }).

To ease reference, we have marked the four distinct layers of the entry with Roman numbers. The layer that projects the postposition taking lexical complements is (i); (ii) and (iii) are the possessive entries, of which (ii) is pronominal, and (iii) licenses a dative associate; and (iv) is the non-possessive pronominal entry. Informally, (17) reads as follows: if *mögé* is not a postposition, then it can be a possessive particle with a *pro*-dropped possessor or a possessive particle with a dative possessor, or a non-possessive particle. In each case, *mögé* will project a PP.

For the functional annotations of (17/iii) to work, we need to augment the inventory of annotations that can be associated with DPs in Hungarian in the way shown in (18).

(18) ( $\uparrow$ OBL OBJ POSS) =  $\downarrow$  ( $\downarrow$  CASE)=c dat

These two annotations encode the following scenario. The DP in the dative expresses the possessor argument of the object of the main predicate's oblique argument.

This analysis provides an easy way to explain the observed variation across native speakers: the speakers who accept the dative dependency by inflecting particles have a lexical representation of the respective P-element that is possessive in nature (17/ii & 17/iii).

It is to be noted that this account is restricted to constructions which are productive and which involve a compositional particle-verb combination. There also exist idiosyncratic combinations that are non-compositional and which should be regarded as constructional idioms. Consider the following example:

(19)	a.	Után-a	jár-ok	az,	ügy-nek.		
		After-3SG	go-1SG	the	case-DAT		
		'I make inquiries into this case.'					
	b.	*Az ügy	után	jár-ok.			
		The case.NC	M after	go-1SG			
		Intended me	aning: 'I r	nake ing	uiries into this case.'		

Interestingly, in this case the dative-type PVC must be used even in standard Hungarian: (19a). The "plain" postpositional variant is totally unacceptable: (19b).

For such cases, we make use of the CONCAT template of XLE. Referring the reader to Forst, King & Laczkó (2010) and to Laczkó & Rákosi (this volume) for a more detailed description, we only note here that this device allows for concatenation of two independent lexical entries that coreference each other in the lexicon. Thus, to take care of (19a), we need the entry in (20a) for the verb, and the extra entry in (20b) for the particle.

(20)	a. <i>utána</i> :	PRT	(↑PRT-FORM) = utána (↑OBL PERS) = 3 (↑OBL CASE) = dat (↑ CHECK _PRT-VERB) =c +
	b. <i>jár</i> :	V	( <sup>†</sup> PRED)= '%FN <( <sup>†</sup> SUBJ) ( <sup>†</sup> OBL)>' ( <sup>†</sup> PRT-FORM)=c utána ( <sup>†</sup> CHECK _PRT-VERB) = + @(CONCAT ( <sup>†</sup> PRT-FORM) # jár %FN)

The particle and the verb coreference each other via a check feature, which allows them to stay syntactically independent. The CONCAT template creates a name for the resulting complex predicate.

Notice that this analysis requires the particle to be a non-projecting head in the sense of Toivonen (2001a, 2002). This, we believe, is the right analysis of the facts, since the particle in this case (unlike in the compositional cases) cannot be modified, and it shows no phrasal properties. Notice further that this non-projecting particle (or PRT, for short) does not have possessive feature content either. Figure 3 contains the resulting c- and f-structure for (19a).

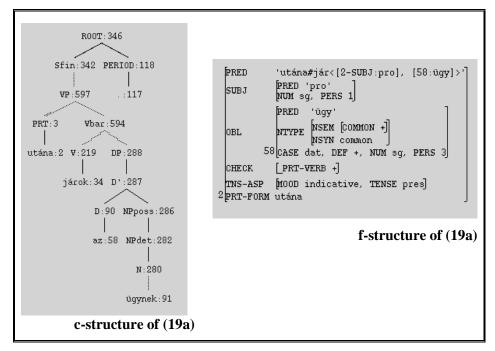


Figure 3

## 5. Reduplicating particles

Capitalizing on a relatively consensual intuition in the literature (see Section 3), we do not treat the pronominal particle and the reduplicating particle on a par in this case. Thus, whereas the particle  $r\dot{a}$  functions as a phrasal pronominal element in (21a), we analyze the reduplicating particle in (21b) as an agreement marker of a special kind that has become completely bleached, and it has lost its semantic content altogether. Our proposal thus owes much in spirit to that of Ackerman (1987, 1990, 2003).

(21)	a.	onto.3SG	<i>ugrott-ál.</i> jumped-2SG d onto it/her/hin	n.'		
	b.	onto.3SG	0	table-onto	<i>az asztal-ok-ra</i> . the table-PL-onto	

The underlying assumption is that inflecting case suffixes have gone much further on the grammaticalization path than inflecting postpositions. This has resulted in the reduplicating construction, where the particle is a non-projecting word (in the sense of Toivonen 2001a, 2002) that has no lexical semantic content. A grammaticalization process whereby a pronominal element becomes an agreement marker is well-attested cross-linguistically (see Bresnan 2001 and Toivonen 2001b in the LFG literature). In fact, Coppock & Wechsler (2010, to appear) have claimed recently that definiteness object agreement morphology in Hungarian is the result of a similar grammaticalization process. If they are on the right track, then their analysis provides language-internal evidence for the availability of the kind of grammaticalization that we propose here for reduplicating particles.

The lexical representation that we assume for the pronominal particle in (21a) is as follows:

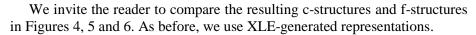
(22) 
$$r\dot{a}$$
: Pron ( $\uparrow$ PRED)= 'pro'  
( $\uparrow$ CASE)= sublative  
( $\uparrow$ PERS)= 3  
( $\uparrow$ NUM)= SG

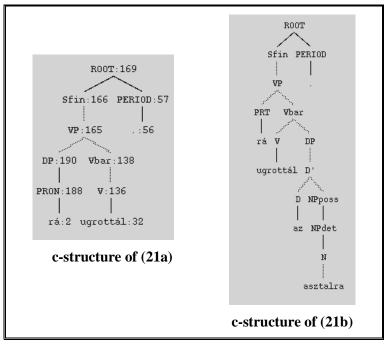
This is relatively straightforward, except for the fact that the whole entry is treated as a pronoun that projects a DP, rather than a PP. We follow Bartos (1999) in making this categorical distinction between inflected case suffixes and inflected postpositions (which project a PP). Furthermore, we also assume that the case suffix itself does not have a PRED feature, but only a CASE feature that can possibly be interpreted compositionally at the level of semantic structure. This reflects the current state of our XLE-implementation, but nothing crucial hinges on this assumption. The essence of our argumentation and the analysis would not change if we treated inflecting case markers as P-elements with a PRED feature, and with concomitant lexical or pronominal P-objects.

The lexical entry of the reduplicating particle is given in (23a).

(23)	a.	rá:	PRT	(↑PRT-FORM) = rá (↑OBL PERS) = 3 (↑OBL CASE) = sublative (↑ CHECK _PRT-VERB) =c +
	b.	ugrik:	V	(^PRED)= '%FN <(^SUBJ) (^OBL)>' (^PRT-FORM)=c rá (^CHECK _PRT-VERB) = + @(CONCAT (^ PRT-FORM) # ugrik %FN)

Such a particle is a non-projecting PRT. Given that it can combine with singular and plural associates alike (see 21b), we assume that it is underspecified for the NUMBER feature (which is formally treated here as the absence of this feature). The particle encodes two pieces of information about the oblique associate: its PERSON and CASE features. We treat reduplicating particles as agreement markers of some sort exactly for the reason that they spell out specific features of their dependent. The particle is specified as forming a complex predicate with the verb (and vice versa) via the machinery that we introduced in Section 4. The appropriate verbal entry is in (23b).







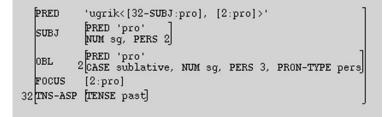


Figure 5: f-structure of (21a)

```
PRED
           'rá#ugrik<[2-SUBJ:pro], [56:asztal]>'
           PRED 'pro'
 SUBJ
           NUM sg, PERS 2
           PRED 'asztal'
                 NSEM [COMMON +]
           NTYPE
 OBL
                 NSYN common
        56 CASE sublative, DEF +, NUM sg, PERS 3
           [PRT-VERB +]
 CHECK
           TENSE past
 TNS-ASP
2 PRT-FORM rá
```

**Figure 6: f-structure of (21b)** 

The use of the CONCAT template might seem unwarranted in the case of a complex predicate like  $r\dot{a}$ #ugrik 'jump onto', which is straightfowardly compositional.

The primary reason why we decided to store every attested reduplicating particle plus verb combination in the lexicon is that the majority of these combinations (both in terms of types and tokens) are in fact non-compositional. It is actually not easy to find compositional reduplicating PVCs in corpora. It should also be added that there is quite a lot of idiosyncracy involved in whether this kind of reduplication is obligatory, possible or unavailable for any potential verbal host. As a rule of thumb, it is the inherent aspectual feature of the particle that drives the combinations. The particle  $r\dot{a}$  onto', for example, has a telic nature. Thus, this particle is usually obligatory if the resulting complex is telic (24a), and it is unavailable if the intended verbal meaning is atelic (24b). However, the particle can be optional in telic complexes (25a), and it can even be obligatory in atelic ones (25b).

(24)	a.	Nem	jövök	*(rá)	a	megoldás-ra.			
		not	come.1s	G onto.3	the	solution-onto			
		'I cannot figure the solution out.'							
	b.	Nem	tartozik	(*rá)	Kati-i	ra.			
		not	belongs	onto.3	Kate-	onto			
		'This	does not	concern K	ate.'				
(25)	a.	Nem	rivall	t-am	(rá)	Kati-ra.			
		not	yelled	l-1sg	onto.3	3 Kate-onto			
'I did not yell at Kate.'									
	b.	Nem	szorul-ok	*(rá)	Ka	itira.			
		not	press-1SG	onto.3	3 Ka	ate-onto			

'I stand in no need of Kate('s help).'

We, therefore, believe that it seems justified to subject reduplicating constructions to a lexical treatment in compositional and non-compositional

cases alike. In this, we follow previous accounts that treat these particles as derivational elements (see especially É. Kiss 1998 and Ackerman 1987, 1990, 2000).

It may seem odd at first sight to assume that a particle that has a derivational character is an agreement marker of some sort at the same time. To give this analysis further substantiation, we would like to conclude by a brief discussion of interesting dialectal variation involving reduplicating PVCs with pronominal obliques. As far as we are aware, these data have only been noted in passim in Ackerman (1987) and Surányi (2009a,b).

It follows from our analysis that reduplicating particles should be able to license pronominal associates. This indeed is the case in third person, a consequence of the fact that the lexical specification of the particle in (23a) involves a third person constraint on the oblique:

(26)	Én	Ő-RÁ	szorul-ok	rá.
	I.NOM	he-onto.3SG	press-1SG	onto.3
	'It is HI			

If, however, the oblique pronominal is in non-third person, there is no optimal reduplicating solution in standard Hungarian (notice that with this particular non-productive combination, reduplication is obligatory, see (25b)). A subset of the speakers, however, can resort to the strategy of generalizing  $r\dot{a}$  as a default form to these cases (27a), and another subset doubles the second person pronominal as a particle (27b):

(27)	a.	<sup>%</sup> Én	TE-RÁD	szorul-ok	rá.	
		I.NOM	you-onto.2SG	press-1SG	onto.	
		'It is YO	U that I stand in	need of.'		
	b.	<sup>%</sup> Én	TE-RÁD	szorul-ok	rád.	
		I.NOM	you-onto.2SG	press-1SG	onto.2SG	
		'It is YOU that I stand in need of.'				

The group of speakers that accept (27a) simply do not have the third person constraint in the reduplicating entry. Those who go for (27b) have developed a non-predicative use of the second person pronominal form of the case suffix, and treat it essentially as a reduplicating particle in the current sense of the term. Variation of this sort is attested in agreement marking systems, and can easily be modelled in the account that we have proposed here.

#### 6. Conclusion

In this paper, we have scrutinized the grammar of two inflecting spatial particle types in Hungarian, both of which developed historically out of possessive nominal constructions. We have argued that traits of this origin are still detectable in contemporary Hungarian, but different particle-verb constructions show non-identical degrees of grammaticalization, and important interspeaker variation is also observable. We have presented an LFG-theoretic analysis of data, and we have shown how this analysis can be implemented in XLE.

The grammar of *possessive particles* and *reduplicating particles* is subject to variation along the following dimensions:

#### *c*-structure

• whether the particle projects a PP (productive possessive particles), or it acts as a non-projecting PRT (non-productive possessive particles and reduplicating particles);

#### *f*-structure

- whether the particle functions as a grammaticalized possessive structure with a silent PLACE-predicate acting as its semantic head (productive possessive particles vs the rest),
- whether the particle encodes a spatial relation or not (possessive or non-possessive postpositional particles vs reduplicating particles),
- and whether the particle constrains the agreement features of its associate or not (dialectal variation across reduplicating particles).

We have argued that LFG provides a suitable framework for the adequate description of this variation, and it also allows the grammar writer to reflect on the known diachrony of the particles – a perspective that, as we have tried to show here, allows for a more insightful treatment of the synchronic facts.

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