

Adpositions and case: Alternative realisation and concord

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ABSTRACT

This paper presents an outlook on ‘inherent case’ that ties it consistently to the category P, in either of two ways: the inherent case particle is either an autonomous spell-out of P or, in Emonds’ (1985, 1987) term, an alternative realisation of a silent P (i.e., a case morpheme on P’s nominal complement that licenses the silence of P). The paper also unfolds a perspective on case concord that analyses it as the copying of morphological material rather than the matching of morphological features. These proposals are put to the test in a detailed analysis of the case facts of Estonian, with particular emphasis on the distinction, within its eleven ‘semantic’ cases, between the seven spatial cases (analysed as alternative realisations of a null P) and the last four cases (treated as autonomous realisations of postpositions). This analysis of the Estonian case system has repercussions for the status of genitive case (structural vs inherent), and for the analysis of (the distribution of) case concord. It also prompts a novel, purely syntactic outlook on case distribution in pseudo-partitives, exploiting a key contrast between Agree and the Spec–Head relation: when agreement involves the Spec–Head relation, it is subject to a TOTAL MATCH condition.

KEYWORDS: adposition, alternative realisation, case, concord, exponence, pseudo-partitive

1 Preliminaries

1.1 Semantic cases as autonomous or alternative realisations of P

Semantic cases of case-rich languages, such as the inessive or the ablative, translate in case-poor languages such as English with the aid of a designated spatial adposition, such as locative *in* (for INESS) or directional *from* (for ABL). Taking this equivalence seriously leads to two plausible options for the treatment of semantic cases: as autonomous spell-outs of P, as in (1a), or as what Emonds (1985, 1987) calls ‘alternative realisations’ of Ps that are themselves silent, licensed as such by the case morphology (K) on the noun phrase that serves as their complement, as in (1b).¹ We argue that not only Universal Grammar but also individual languages exploit both options. Both (1a) and (1b) give an inessive or ablative phrase in a case-rich language the same structure as that of an *in-* or *from-*PP in a case-poor language such as English. In neither (1a) nor (1b) is semantic case an *assigned* case — *contra*, for instance, Nikanne (1993) and Baker & Kramer (2014), who treat semantic cases in Finnish and Amharic, resp., as being assigned by empty Ps to their complement.

- (1) a. $[_{PP} P=K [_{xNP} N]]$
b. $[_{PP} P_{\emptyset} [_{xNP} N+K]]$

1 In this paper, we treat ‘K’ as a case morpheme rather than a functional head. Reworking our analysis of Estonian in terms of a functional head K would not be entirely straightforward (esp. for the account of the case concord facts to be discussed). In (1) and throughout the paper, ‘xNP’ stands for some extended projection of N.

Empirically, we see this particularly clearly in the Semitic languages, which famously evince a difference between pre- and post-verbal subjects regarding agreement. Shlonsky (2004:1496) provides a useful survey of the facts and the literature — we quote him at length here:

Confining ourselves to the Semitic *Sprachbund*, we see that when clausal subjects occupy the specifier position of an agreement-bearing head, they invariably trigger agreement on the verb. When subjects occur in a post-verbal position, however, agreement is unstable, varying from impossibility in normative Standard Arabic, optionality with a variety of existential predicates in both Hebrew, Doron (1983), and the Arabic dialects, Mohammad (1989, 1999), to obligatoriness in Hebrew ‘triggered’ inversion, Shlonsky (1997).

The generalization governing the distribution of subject–verb agreement is the following:

Agreement morphology is *obligatorily* manifested when the subject is in Spec/Agr (or Spec/T) at Spellout, whereas agreement may or may not be displayed on the verb when the clausal subject or agreement trigger is not in that position at Spellout (see Guasti and Rizzi, [2002], for further evidence and elaboration).

Relatedly, Franck *et al.* (2006) discuss in depth the difference between (Downward) Agree and the Spec–Head relation in connection with agreement attraction errors (i.e., failures of total matching).

In light of these familiar observations about the special character of the Spec–Head relation, we formulate (4) as a condition on feature checking in this structural configuration (in line with the literature referred to in the above quotation from Shlonsky 2004).

- (4) *the TOTAL MATCH constraint on Spec–Head agreement*
 Feature checking under the Spec–Head relationship requires total matching of the features of the head and the features of its specifier.

Since cases of case concord such as those in the left-hand examples in (3) evidently fail to satisfy (4) (because there is no φ -feature matching between the subject and the predicate), it follows that the case concord relation between the subject and its predicate nominal seen in these examples cannot be modelled in terms of the (Spec–Head) Agree relation.

We extrapolate from the failure of an Agree approach to case concord in (2) and (3) to the general hypothesis that case concord does not involve feature matching (aka Agree) but morpheme copying instead. It is not the case that the case-concordial predicate (or modifier, for case concord in attributive contexts) has a case feature whose value is matched to that of the case feature of its subject. Rather, the predicate or modifier altogether lacks a case feature in the syntactic representation (as is expected, in view of the fact that predicates/modifiers are not beholden to the Case Filter), and gets a case morpheme copied onto it (‘concord’) in the post-syntactic (PF-) derivation.

Case concord involves the copying of *all and only* the case morphology located, by the end of the morphosyntactic derivation, on the head that serves as the donor in the case-concordial relationship. To see how this works, consider the following scenario (concrete examples from Estonian will follow later in the paper): a possessive noun phrase in the complement of a locative P, in a language with overt case morphology for inessive and genitive case:

$$(5) \quad [_{PP} P_{in} [_{xNP1} [_{xNP2=POSS'OR} N2-K_{GEN}] N1-K_{INESS}]]$$

In (5), the noun labelled N2 serves as the host to a genitive case morpheme (K_{GEN}) in virtue of being the possessor of a noun phrase, and N1 hosts K_{INESS} , which alternatively realises P so that the latter remains silent. Imagine now that the projection of N1 is attributively modified by an AP, and that the language in question has case concord between nouns and their adjectival modifiers. In (6), case concord between AP and N1 results in AP receiving a copy of K_{INESS} . Hereinafter, we mark case concord with cosuperscription.

$$(6) \quad [_{PP} P_{in} [_{xNP1} [_{xNP2=POSS'OR} N2-K_{GEN}] AP-K_{INESS}^i N1-K_{INESS}^i]]$$

Next, imagine that not N1 but N2 is attributively modified by an AP. In the structure in (7), case concord between AP and N2 delivers a copy of K_{GEN} on the attributive AP.

$$(7) \quad [_{PP} P_{in} [_{xNP1} [_{xNP2=POSS'OR} AP-K_{GEN}^j N2-K_{GEN}^j] N1-K_{INESS}]]$$

Finally, consider the following twist to (5): the head of the possessive noun phrase (i.e., the possessed noun, N1) lacks a phonological matrix, for example as a result of an ellipsis operation that fails to expone N1 overtly (cf. English *I like Bill's book, but hate Bob's ___*). N1 is the syntactic locus of the case feature assigned by (and alternatively realising) P. But in the PF component, N1, being silent, cannot host K_{INESS} . The solution is to relocate (at PF) the case morpheme K_{INESS} on N2. This noun will now have *two* case morphemes on it: both K_{GEN} , which it got from being the possessor of a possessive noun phrase, and K_{INESS} , which was dumped on it due to the silence of N1.

$$(8) \quad [_{PP} P_{in} [_{xNP1} [_{xNP2=POSS'OR} N2-K_{GEN}-K_{INESS}] N1_{\emptyset}-\cancel{K_{INESS}}]]$$

The strike-out of the K_{INESS} on N1 does not represent the ‘trace’ of a moved case particle: we are not dealing with syntactic displacement (‘lowering’) here but rather with the question of where the case particle is exponed at PF. Since the head of $xNP1$ is silent in (8), and hence an impossible host for morphology, K_{INESS} cannot be exponed in the position in which the syntax locates it. K_{INESS} , a suffix in the schematic example at hand, can find a suitable host in the morphology by starting a leftward-oriented search and attaching to the right of the first overt element it encounters on that search. In (8), this is the genitival case particle of the head of the possessor. So the wandering K_{INESS} suffix attaches to the right of K_{GEN} and forms a complex with it.

What does this reallocation of K_{INESS} entail for the case in (7), where the possessor has an attributive modifier, in a language that shows case concord? Concord copies *all and only* the case morphology located on the subject of predication/modification (here, N2). Hence, the situation in (9) gives rise to what we will call ‘double concord’: both of the K-morphemes on N2 are copied over to AP.

$$(9) \quad [_{PP} P_{in} [_{xNP1} [_{xNP2=POSS'OR} AP-K_{GEN}-K_{INESS}^k N2-K_{GEN}-K_{INESS}^k] N1_{\emptyset}-\cancel{K_{INESS}}]]$$

We will see such ‘double concord’ in evidence in our discussion of Estonian case in the body of this paper.

1.3 Preview of this paper

At the outset of this paper, we took our time to introduce Emonds' (1985, 1987) perspective on alternative realisation of silent adpositions and our outlook on case concord because both will play a major role in the account of the case facts of Estonian which form the main empirical meat of our discussion.

Estonian has eleven semantic cases. Seven of these are spatial cases,² for which we argue in what follows that the designated case morphology is located inside the complex noun phrase, as an alternative realisation of a postposition (or, for the directional cases, a pair of postpositions) structurally located outside the complex noun phrase (see (10a)). For the remaining four semantic cases,³ K is outside the complex noun phrase that it combines with and represents the surface exponent of a postposition, as in (1a). Here, then, K is not an alternative realisation of a silent P but the autonomous realisation of P itself. In the non-spatial semantic cases, P is autonomously rather than alternatively realised because alternative realisation is structurally impossible in these cases: unlike in the seven spatial cases, xNP in the last four cases is not an argument of the postposition. Rather, in the terminative, abessive, and comitative the postposition takes a small clause as its complement (see (10b.i)), while in the essive, P combines with a predicate nominal within a small clause (see (10b.ii)). (In (10) and throughout the paper, 'RP' stands for 'RELATOR phrase' in the sense of Den Dikken (2006).)

- (10) a. *the spatial semantic cases*
 $[_{PP} [_{xNP} (AP^*-GEN-K^i) N-GEN-K^i] P=\emptyset]$
- b. *the non-spatial semantic cases*
- i. $[_{PP} [_{RP} [_{xNP} (AP^*-GEN^i) N-GEN^i] [_{R'} [PRED] RELATOR]] P=K]$ (TERM, ABESS, COM)
- ii. $[_{RP} SUBJECT_{\emptyset} [_{R'} [_{xNP} (AP^*-GEN^i) N-GEN^i] RELATOR=P=K]]$ (ESS)

These are the central points of this paper, which is structured as follows. Section 2 provides a quick primer on Estonian case. Section 3 subsequently develops our analysis of the seven spatial cases of Estonian as well as the four non-spatial semantic cases. In section 4, we support the key ingredients of our syntax for the non-spatial semantic cases on the basis of an investigation of the case behaviour of the so-called pseudo-partitive, and discuss the consequences of the analysis of the last four cases for the treatment of the genitive in Estonian. Section 5 summarises and closes the paper.

2 By 'spatial', we refer in this paper not just to physical space but also to temporal space. In Estonian, as in Indo-European, the morphology used in the expression of physical spatial relations is resorted to in the expression of temporal relations as well.

3 These are the terminative, essive, abessive, and comitative. Because these cases are standardly ordered last (and in this particular order) in the list of Estonian cases, they are handily referred to collectively in grammars of Estonian as 'the last four cases'. From the discussion in our paper, it will emerge that treating the non-spatial semantic cases separately from the spatial ones is eminently motivated; but from our analytical point of view, it would have made more sense to place the essive at the very bottom of the list because its syntax is different from that of the other three 'last cases'. For the sake of convergence with the extant literature on Estonian, however, we will preserve the order in which the cases are customarily listed, with the essive coming after the terminative and before the abessive and the comitative.

2 Case study: Estonian case

Estonian is traditionally taken to have a case system with fourteen morphologically distinct cases, listed in (11).⁴

(11)		SINGULAR		PLURAL	
	NOM	<i>ilus raamat</i>	‘a beautiful book’	<i>ilusad raamatud</i>	‘beautiful books’
	GEN	<i>ilusa raamatu</i>		<i>ilusate raamatute</i>	
	PAR	<i>ilusat raamatut</i>		<i>ilusaid raamatuid</i>	
	ILLAT	<i>ilusasse raamatusse</i>		<i>ilusatesse raamatutesse</i>	
	INESS	<i>ilusas raamatus</i>		<i>ilusates raamatutes</i>	
	ELAT	<i>ilusast raamatust</i>		<i>ilusatest raamatutest</i>	
	ALLAT	<i>ilusale raamatule</i>		<i>ilusatele raamatutele</i>	
	ADESS	<i>ilusal raamatul</i>		<i>ilusatel raamatutel</i>	
	ABL	<i>ilusalt raamatult</i>		<i>ilusatelt raamatutelt</i>	
	TRANSL	<i>ilusaks raamatuks</i>		<i>ilusateks raamatuteks</i>	
	TERM	<i>ilusa raamatuni</i>		<i>ilusate raamatuteni</i>	
	ESS	<i>ilusa raamatuna</i>		<i>ilusate raamatutena</i>	
	ABESS	<i>ilusa raamatuta</i>		<i>ilusate raamatuteta</i>	
	COM	<i>ilusa raamatuga</i>		<i>ilusate raamatutega</i>	

The terminative, essive, abessive, and comitative (‘the last four cases’) behave differently from the other cases with respect to the inflection of the attributive modifier, *ilus* ‘beautiful’. Whereas in all of the other ten cases, the modifier shows case concord with the head noun, it seems not to do so in the last four cases, where the morpheme representing the case in question (*-ni*, *-na*, *-ta*, *-ga*) does not show up on the modifier.

Closer inspection of all eleven semantic cases (i.e., the seven spatial cases (ILLAT–TRANSL) plus the last four cases (TERM–COM)) reveals that as a set, these have in common the fact that the forms of the nouns and the modifiers that they combine with are based on the form of the genitive (see Blevins 2005:1, 2008:245 and Moseley’s 1994 learners’ grammar of Estonian): in (11), *ilusa* ‘beautiful.GEN’ and *raamatu* ‘book.GEN’ in the singular, and *ilusate* and *raamatute* in the plural.⁵

4 The paradigms in (11) were taken from the Wikipedia page entitled ‘Estonian grammar’. We used these paradigms because they conveniently feature an attributively modified noun phrase inflected for all cases, in both numbers. In (11) and throughout the paper, we set aside the so-called ‘short illative’ or ‘aditive’ (Viks 1982) case, which is part of the paradigm for a sizable subset of words as their ‘fifteenth case’ (see e.g. Lehiste 2012:47). Estonian does not have a morphologically distinct accusative case: abstract accusative case is surface-identical with the genitive for singular ‘total objects’ and with the nominative for plural ones (see Saareste 1926, Hiietam 2005, Tamm 2007, Miljan 2008, Caha 2009:§3.2.3, Norris 2015, 2018b). See section 4.2, below, for relevant discussion.

5 More precisely, in both the singular and the plural, ‘the base of a semantic case form is a morphomic stem, corresponding to the genitive form’ (Blevins 2005: 5), which, in turn, is ‘predictable from the partitive singular’ (p. 6). Descriptively, an airtight generalisation about the morphophonological relationship between the semantic cases and the genitive is difficult to arrive at, especially in light of the fact that for stems such as *sadu* ‘rain’ and *rida* ‘row’, the genitive singular is virtually a stand-alone in the paradigm: in what Blevins (2008:249) calls ‘grade-alternating first declension

The seven locative cases in addition show concordial case inflection on the adjective for the semantic case involved, which we do not see in the last four cases: there, the case marker (*-ni*, *-na*, *-ta*, *-ga*) shows up only on the last element of the noun phrase. Let us bring this out more clearly, as in (12) (which presents the singular forms only, for which the pattern comes out most transparently):

(12)	ILLAT	<i>ilus-a</i>	<i>-sse</i>	<i>raamat-u</i>	<i>-sse</i>
	INESS	<i>ilus-a</i>	<i>-s</i>	<i>raamat-u</i>	<i>-s</i>
	ELAT	<i>ilus-a</i>	<i>-st</i>	<i>raamat-u</i>	<i>-st</i>
	ALLAT	<i>ilus-a</i>	<i>-le</i>	<i>raamat-u</i>	<i>-le</i>
	ADESS	<i>ilus-a</i>	<i>-l</i>	<i>raamat-u</i>	<i>-l</i>
	ABL	<i>ilus-a</i>	<i>-lt</i>	<i>raamat-u</i>	<i>-lt</i>
	TRANSL	<i>ilus-a</i>	<i>-ks</i>	<i>raamat-u</i>	<i>-ks</i>
		A	-GEN-K	N	-GEN-K
	TERM	<i>ilus-a</i>		<i>raamat-u</i>	<i>-ni</i>
	ESS	<i>ilus-a</i>		<i>raamat-u</i>	<i>-na</i>
	ABESS	<i>ilus-a</i>		<i>raamat-u</i>	<i>-ta</i>
	COM	<i>ilus-a</i>		<i>raamat-u</i>	<i>-ga</i>
		A	-GEN	N	-GEN-K

So there is in fact case concord between the modifier and the head noun in ALL cases in Estonian — concord for nominative in the nominative case, for genitive in all other cases (on the partitive, see fn. 5), and additional concord for the dedicated case particle in the seven spatial cases.

The genitive singular is often marked exclusively by what Blevins (2005, 2008) calls the ‘theme vowel’ — but this is not always the case: in declension classes 2c and 4 in Blevins’ (2005:10) Table 6, the genitive marker is *-se*. Lehiste (2012:48) writes that ‘[t]he theme vowel that appears in the genitive could be considered a genitive suffix’. We take this marking to be the exponent of a morphosyntactically genuine genitive case. The genitive case in Estonian for us has a syntactic signature: it is assigned in designated structural configurations, which we will make precise below.

This picture presents us with the following central explananda:

- (a) the ‘double concord’ pattern of the seven spatial cases
- (b) the ‘single concord’ pattern of the last four cases
- (c) the proper treatment of the designated case morphology of the eleven semantic cases
- (d) the proper treatment of genitive case, the *factotum* marking of nominal phrases inside PPs

paradigms’, the genitive singular is represented by the ‘weak stem’ (*saju* and *rea*, resp.), which elsewhere in the paradigm shows up only in the nominative plural. (On the totally systematic morphological containment relation between the nominative plural and the genitive singular in Estonian, see Caha (2016). We fully endorse his view that the nominative plural is a binominal possessive noun phrase, with an overt genitival possessor and a silent head (‘GROUP’).)

The relationship between the partitive and the genitive is a very complex one in Estonian. Unlike in the case of the relation between the eleven semantic cases and the genitive, it is not the case that there is a consistent containment relation between the partitive and the genitive (see Blevins 2008 and Caha 2009:113–5). In the paradigm for *ilus raamat* ‘beautiful book’ in (11), it looks as if the partitive, like the semantic cases, is built on the genitive, via suffixation of *-t*; but the partitive is frequently indistinguishable from the genitive, and ‘[i]n some paradigms, ... the difference between genitive and partitive is realized as a prosodic difference’ (Lehiste 2012:48). We will mostly leave partitive case aside in this paper, though see (45) for a concrete suggestion as to how to accommodate it in our structures.

In the sections to follow, we will approach these explananda from the perspective of specific proposals regarding the syntactic structures of the locative and ‘last four’ cases of Estonian.

3 P, case, and concord

3.1 *The spatial cases as alternative realisations of adpositions, and the structure of spatial PPs*

The semantic cases from the illative down to the translative all involve the category P. In case-poor languages such as English, these cases are rendered with a designated spatial adposition; in case-rich Estonian, by contrast, the spatial cases serve as alternative realisations of Ps that are themselves silent, licensed as such by the case morphology on the noun phrase that serves as their complement. This will help us account for the fact that all spatial cases are concordial. But we will also need to accommodate the fact that the seven spatial cases are all built on the genitive, which also shows concord. This ‘double concord’ pattern dictates very precisely a carefully articulated syntactic analysis for spatial expressions.

An important ingredient of this analysis is the hypothesis that the presence of genitive case on the hosts for the spatial case markers in Estonian indicates that the overt noun phrases on which spatial case is realised are POSSESSORS of a silent noun, which we will represent (following Terzi 2005, 2008, 2010; Botwinik Rotem 2008; Botwinik Rotem & Terzi 2008; Pantcheva 2008; Noonan 2010; Dékány 2018) as PLACE:

- (13) *the nominal core of spatial expressions*
 $[_{xNP1} [_{xNP2=POSS'OR} (AP^*-GEN^i) N2-GEN^i] [N1=PLACE_{\circ}]]$

The overt noun phrase (*ilusa raamatu* ‘beautiful.GEN book.GEN’ in our examples) is marked for the genitive because it is a possessor. In the morphology, the genitive case assigned to the whole possessor phrase appears on the head noun, *raamatu*. In addition, attributive modifiers of genitive possessors in Estonian always show case concord, as shown in (14) (see also Norris 2018a:17). Therefore, via case concord, the adjective *ilusa* also bears genitive case. This derives genitive concord between A and N in the spatial cases.

- (14) [[*selle ilusa tüdruku*] raamat]
 this.GEN beautiful.GEN girl.GEN book
 ‘the book of this beautiful girl’

3.1.1 *The non-directional spatial cases: Inessive, adessive*

In the non-directional spatial cases (the inessive and the adessive), the nominal core of spatial expressions is placed in the complement of a single P-head, which we will represent with their standard English translations: P_{in} for INESS and P_{on} for ADESS. The reason why we are using these labels to name the two basic spatial Ps, rather than the labels ‘INESS’ and ‘ADESS’, is that the P-heads are not themselves realised as inessive or adessive case in Estonian: if they received an exponent by themselves, inessive and adessive case morphology would show up exactly once, in the position of P, just as in English. (For illustration the behaviour of a free-standing postposition in Estonian, see

(18b), below.) The fact that inessive and adessive case are concordial indicates that the two locative Ps (P_{in} and P_{on}) themselves remain silent in Estonian, and are alternatively realised by case morphology attached as a suffix to the material in their complement.

The complement of P_{in} and P_{on} is the structure of the nominal core in (13). It is on this noun phrase that the syntax locates the spatial case features (which we will generalise over as ‘K’) that alternatively realise the silent locative P: see (15a). Since the noun phrase in the complement of $P_{in/on}$ (xNP1) is headed by a silent noun PLACE, the case morphology of xNP1 cannot be expounded on this noun. Instead, it is realised on the possessor.⁶ And since the possessor shows internal case concord, the case morphology that alternatively realises $P_{in/on}$ also participates in concord, as shown in (15b).

- (15) a. $[_{PP}_{loc} [_{xNP1} [_{xNP2=POSS'OR} (AP^*-GEN^i) N2-GEN^i] [N1=PLACE_{\phi}]]-K P_{in/on}]$
 b. $[_{PP}_{loc} [_{xNP1} [_{xNP2=POSS'OR} (AP^*-[GEN-K]^i) N2-[GEN-K]^i] [N1=PLACE_{\phi}]]-K P_{in/on}]$

As a result, the morphologically displaced spatial case particle ends up expounded on the attributive modifier of N2 as well. This is how the ‘double concord’ pattern comes about.

3.1.2 The directional spatial cases: Illative, elative, allative, ablative, translative

For the two locative spatial cases (the inessive and the adessive), the representations in (15a) and (15b) take care, respectively, of their syntax and morphology. The five directional spatial cases involve an extra layer of syntactic structure (see Koopman 2000, Van Riemsdijk & Huybregts 2002, Svenonius 2010, Den Dikken 2010; for a common ancestor addressing the conceptual complexity of PPs, see Jackendoff 1983). For simplicity (abstracting away from the details concerning the functional structure of adpositional phrases, on which there is no consensus), we will represent it in the form of a second PP layer stacked directly on top of the locative PP, and headed by P_{to} or P_{from} (with the labels again chosen on the basis of the English free-standing realisations of these P-elements).

Except for the translative, the structural complexity of the directional cases is neatly reflected in Estonian morphology. The illative (*-sse*) and elative (*-st*) are both based on the inessive (*-s*), and the allative (*-le*) and the ablative (*-lt*) are based on the adessive (*-l*). Movement towards the location is signalled with an additional *-e*, whereas *-t* indicates movement away from the location.

For the translative (*-ks*), the morphological composition is unclear; but here, too, the fact that the marker involves two phonological segments dovetails with morphological complexity. The translative is typically translated as ‘into’, like the illative; but unlike the illative, it expresses change of state (as in *change into a frog*) rather than change of location. We propose that the translative and the illative are composed out of the same basic syntactic building blocks, $P_{in}+P_{to}$, and that the exponence of this P-complex in Estonian is sensitive to the syntactic environment in which it is embedded: in the complement of a change-of-location verb, the P-complex is expounded in the form of illative case; in the complement of a change-of-state verb, it is realised as the translative.

6 Recall from section 1.2 that the strike-out of the ‘K’ on xNP1 does not represent the ‘trace’ of a moved case particle: no syntactic displacement (‘lowering’) is involved.

A reviewer points out that work using alternative realisation (e.g., Emonds 2000:ch. 4) presents other cases where empty intermediate heads allow or force alternative realisation on the next lexicalised head. Thus, subject ϕ -features are alternatively realised on V (only) if the intervening I is empty.

Thus, the morphologically complex markers for the directional cases can ‘alternatively realise’ the *combination* of locative $P_{in/on}$ and directional $P_{to/from}$ in the syntactic structure for the five directional cases: see (16a). The morphological output is represented in (16b).

- (16) a. $[_{PPdir} [_{PPloc} [_{xNP1} [_{xNP2=POSS'OR} (AP^*-GEN^i) N2-GEN^i] [N1=PLACE_{\circ}]]]-K+K P_{in/on}] P_{to/from}]$
 b. $[_{PPdir} [_{PPloc} [_{xNP1} [_{xNP2=POSS'OR} (AP^*-[GEN-K+K]^i) N2-[GEN-K+K]^i] [N1=PLACE_{\circ}]]]-K+K P_{in/on}] P_{to/from}]$

3.1.3 The spatial cases: Summary

Concretely, the analysis gives rise to the following syntactic representations for each of the seven spatial cases of Estonian. (The reader should bear in mind that spatial case is expounded on N2 and, via concord, on any attributive modifiers of N2: recall the morphological structures in (15b) and (16b).)

- (17) a. INESS is the alternative realisation of $P_{in}=\emptyset$
 $[_{PPloc} [_{xNP1} [_{xNP2=POSS'OR} (AP^*-GEN^i) N2-GEN^i] [N1=PLACE_{\circ}]]]-INESS P_{in}]$
 b. ADESS is the alternative realisation of $P_{on}=\emptyset$
 $[_{PPloc} [_{xNP1} [_{xNP2=POSS'OR} (AP^*-GEN^i) N2-GEN^i] [N1=PLACE_{\circ}]]]-ADESS P_{on}]$
 c. ILLAT is the alternative realisation of $P_{in}+P_{to}=\emptyset$ (in change-of-location contexts)
 $[_{PPdir} [_{PPloc} [_{xNP1} [_{xNP2=POSS'OR} (AP^*-GEN^i) N2-GEN^i] [N1=PLACE_{\circ}]]]-ILLAT P_{in}] P_{to}]$
 d. ELAT is the alternative realisation of $P_{in}+P_{from}=\emptyset$
 $[_{PPdir} [_{PPloc} [_{xNP1} [_{xNP2=POSS'OR} (AP^*-GEN^i) N2-GEN^i] [N1=PLACE_{\circ}]]]-ELAT P_{in}] P_{from}]$
 e. ALLAT is the alternative realisation of $P_{on}+P_{to}=\emptyset$
 $[_{PPdir} [_{PPloc} [_{xNP1} [_{xNP2=POSS'OR} (AP^*-GEN^i) N2-GEN^i] [N1=PLACE_{\circ}]]]-ALLAT P_{on}] P_{to}]$
 f. ABL is the alternative realisation of $P_{on}+P_{from}=\emptyset$
 $[_{PPdir} [_{PPloc} [_{xNP1} [_{xNP2=POSS'OR} (AP^*-GEN^i) N2-GEN^i] [N1=PLACE_{\circ}]]]-ABL P_{on}] P_{from}]$
 g. TRANSL is the alternative realisation of $P_{in}+P_{to}=\emptyset$ (in change-of-state contexts)
 $[_{PPdir} [_{PPloc} [_{xNP1} [_{xNP2=POSS'OR} (AP^*-GEN^i) N2-GEN^i] [N1=PLACE_{\circ}]]]-TRANSL P_{in}] P_{to}]$

The abstract noun PLACE in the structures in (17) is the syntactic host for the case morphology that alternatively realises $P(+P)$. But because of its silence, it itself cannot provide support for this morphology. In the postsyntactic component, this case suffix is transferred to PLACE’s possessor, which itself is assigned genitive case. Via ‘Suffixaufnahme’, the overt possessor noun phrase is thus doubly case-marked. Case concord between the head of the possessor and its modifiers proceeds after ‘Suffixaufnahme’ has taken place, and is thus clearly a postsyntactic phenomenon. It gives rise to the characteristic pattern in which both the head and its modifiers show case stacking.

3.2 The last four cases as autonomous realisations of postpositions

The syntax of all Estonian semantic cases (the seven spatial ones and the last four cases) systematically involves one or two P-elements. So the presence of P in their syntax is not what sets the last four cases apart from the other semantic cases. The difference is that the former are what we call autonomous realisations of Ps rather than Emondsian alternative realisations of Ps — put succinctly, whereas the seven spatial cases ‘stand in for’ Ps, the last four cases ARE Ps.

In taking this approach to the last four cases, we are in agreement with Nevis (1986), who argues that the markers for the last four cases in (18a) are postpositions that assign genitive case to their complement, just like the free-standing postposition *eest* ‘for’ in (18b). What makes the last four cases different from a P like *eest* is that they need to lean on something to their left: they are enclitic.⁷

- (18) a. [ilusa raamatu]-{ni/na/ta/ga}
 beautiful.GEN book.GEN-TERM/ESS/ABESS/COM
 ‘until/as/without/with a beautiful book’
 b. [ilusa raamatu] eest
 beautiful.GEN book.GEN for
 ‘for a beautiful book’

If this is correct, it raises the question of why, unlike what we see in the seven spatial cases, the Ps involved in the syntax of the last four cases apparently cannot be alternatively realised by morphology on the noun phrase in their complement.

The answer to this question is that in the last four cases, this noun phrase is not an argument of P, and that this precludes alternative realisation of P by case morphology (which, as we argued in section 1.1, always involves a semantic, selection-based inherent case dependency). The complement of the P in terminative, abessive and comitative phrases is a small clause with a silent predicate, and the complement of P in essives is a predicate nominal with a silent subject. Neither small clauses (which are propositions) nor their predicates are entity-denoting expressions that are subject to the Visibility Condition (Chomsky’s 1986 marriage of the Case Filter and the Theta Criterion). Their subjects are — but these subjects are not selected dependents of the P-head.

Concretely, in the structural configuration in (19), it is possible for P_{\circ} to be alternatively realised by inherent case morphology (‘K’) on xNP, which is directly selected by P_{\circ} .

- (19) $[_{PP} [_{xNP} N+K] P_{\circ}] \rightarrow \checkmark$ alternative realisation

In (20a), P_{\circ} takes a small clause complement (RP), itself not case dependent, and does not select the xNP in the subject position; so alternative realisation is unavailable (regardless of whether case is expressed on the predicate as well: such case is not a reflex of a selectional relation between P and the predicate either). Case assigned by a head to the subject of its small-clause complement is necessarily structural case, never inherent case; and since it is only the inherent case relation between a P and its nominal dependent that permits alternative realisation of P via the case form of its dependent, it is predicted that a silent P cannot be licensed by the case form of the subject of its small-clause complement. Hence, in the configuration in (20), P must perforce be overt itself, as in (20b).

- (20) a. $*[_{PP} [_{RP} [_{xNP} N+K] [_{R'} [PREDICATE=\emptyset] RELATOR]] P_{\circ}] \rightarrow *$ alternative realisation
 b. $[_{PP} [_{RP} [_{xNP} N] [_{R'} [PREDICATE=\emptyset] RELATOR]] P=K] \rightarrow \checkmark$ autonomous realisation

⁷ Hungarian cases are also analysable as enclitic exponents of the category P (see Asbury 2008, Asbury, Gehrke & Hegedűs 2007, Hegedűs 2013, Dékány 2018). But the enclitic Ps of Hungarian do not assign genitive (or any visible case) to their complement, unlike what we see in Estonian. Also relevant in connection with (18) is the second paragraph of fn. 8, below, on free-standing comitative, abessive and terminative *prepositions* in Estonian.

Similarly, in (21), where P is a RELATOR of a predication relation between xNP and the predicate, it is impossible for case morphology on either the predicate or its subject to alternatively realise P, because neither serves as an argument of the RELATOR (which is not an argument-taking element: it is a functional element mediating the predication relation between its two structural dependents). So in (21), too, P has to be autonomously realised.

- (21) a. $*[{}_{\text{RP}} [{}_{\text{xNP}} \emptyset] [{}_{\text{R}'} [\text{PREDICATE+K}] \text{RELATOR=P}]]$ → *alternative realisation
 b. $[{}_{\text{RP}} [{}_{\text{xNP}} \emptyset] [{}_{\text{R}'} [\text{PREDICATE}] \text{RELATOR=P=K}]]$ → ✓ autonomous realisation

The autonomously realised Ps of Estonian's last four cases assign genitive case to the noun phrase in their complement, as free-standing postpositions generally do in the language: in (18b), the complement of *eest* 'for' bears genitive case. Unlike in the spatial P cases discussed in section 3.1, 'beautiful book' is not the possessor of a silent noun PLACE: the last four cases are not spatial; postulating such a silent noun in the syntax of the last four cases would be an anomaly (plainly, *with(out) a beautiful book* is not sensibly rendered as 'with(out) a beautiful book's place'). Genitive case in Estonian is by no means the prerogative of possessors of noun phrases: it is frequently assigned by a head to a noun phrase in its complement. We see this not only in postpositional PPs such as those in (18) but also in the verbal domain: genitive case is assigned to singular 'total objects' of transitive verbs. This latter genitive is commonly treated as a surface exponent of structural accusative case (which is conspicuously absent from the morphological case paradigm of Estonian; see Saareste 1926, Hiietam 2005, Tamm 2007, Miljan 2008, Caha 2009:§3.2.3, Norris 2015, 2018b). Our analysis of the syntax of the last four cases of Estonian provides us with an additional context in the language in which the genitive is the exponent of structural case assignment by a head — this time around, a P-head. The conclusion that the genitive in the last four cases is a structural case will play an important role in section 4, where we will study the behaviour of the so-called pseudo-partitive.

In the following subsections, we support the hypothesis that what characterises terminative, essive, comitative and abessive relations as a group is the fact that the noun phrase with which the Ps involved in these relations combine is not P's selected dependent. In comitative, abessive and terminative relations, P's complement is a small clause, as in (20). The essive also involves a small clause, but this time has P spelling out the RELATOR of the predication relation, as in (21).

3.2.1 *Comitative and abessive*

For the pair of comitative ('with') and abessive ('without'), the hypothesis that they represent Ps that can take a small clause complement finds its inspiration in the fact that the prepositions that correspond to these cases in many languages are well known to be able to combine with a full-blown small clause, in the so-called *with(out)*-absolute construction. Thus, consider the English example in (22a), the relevant portion of which is analysed as in (22b) (see already Beukema & Hoekstra 1984).

- (22) a. with(out) John on third base, we will never win this game
 b. $[{}_{\text{PP}} \text{P=with(out)} [{}_{\text{RP}} \text{John} [{}_{\text{R}'} \text{RELATOR} [\text{on third base}]]]]$

For these *with(out)*-absolutes, a small-clause complementation analysis is inevitable. But we would like to go further than this: not only CAN *with(out)* take a small-clause complement, it MUST. Our proposal for ‘simple’ comitative and abessive phrases, like (23a), is that here, too, *with(out)* takes a small-clause complement, with the predicate of the small clause a silent locative indexical (HERE or THERE) linked to the subject, as shown in (23b).

- (23) a. she went to the movies *with(out)* her parents
 b. $[_{PP} P=with(out) [_{RP} her\ parents [_{R'} RELATOR [THERE]]]]$

The postulation of a silent THERE is well motivated, outside the context of comitative/abessive PPs, for existential constructions that apparently lack a predicate — such as the Hungarian copular sentences in (24), for which (25) is a plausible analysis (see also Kayne 2004).

- (24) A: van-e hely? (Hungarian)
 is-Q space
 ‘is there space?’
 B.i: van B.ii: nincs
 is is.not
 ‘there is’ ‘there isn’t’
 (25) $[_{RP} hely\ ‘space’/pro [_{R'} RELATOR=van/nincs [THERE]]]$

Because of the fact that it always selects a small clause as its complement, $P_{with(out)}$ is unable to be alternatively realised by the comitative/abessive morphology, which is hosted by a constituent (the subject of the small clause) that P does not select. Consequently, $P_{with(out)}$ in (26b) must itself be autonomously realised, with the comitative/abessive morphology serving as its overt exponent. The genitive case on the adjectival modifier in (26) is a concordial genitive, shared with the head of xNP, which is assigned genitive case structurally, by $P_{with(out)}$, in an ECM-type configuration. Abessive and comitative case do not take part in case concord because they are not case morphology on N but exponents of P.

- (26) a. ilusa raamatu- {ga/ta}
 beautiful.GEN book.GEN- {COM/ABESS}
 b. $[_{PP} [_{RP} [_{xNP} A-GEN^i N-GEN^i] [_{R'} [THERE] RELATOR]] P_{with(out)}=ga/ta]$

A few words are in order about the fact that the comitative and abessive in Estonian also have instrumental uses, as in *ta kirjutas kirja pliiatsi-ga* ‘he wrote a letter with a pencil, in pencil’. The analysis presented in this subsection for the comitative and abessive can be applied to their instrumental uses, such that *he wrote a letter with a pencil* would, on this approach, be represented syntactically as *he wrote a letter with* $[_{RP} a\ pencil\ THERE]$ — with the silent indexical that serves as the small-clause predicate being interpreted as something like ‘in his hand’. On this approach, world knowledge leads to the inference that if the agent had a pencil in his hand while writing a letter, this pencil will likely have been used as the instrument for writing the letter. This naturally leads to a certain degree of indeterminacy, with the Estonian examples in (27) being vague on whether the *-ga*-marked item served as an instrument for walking/swimming or just happened to be in the agent’s hand while he was walking/swimming.

- (27) a. Jaan jalutas lipu-ga
 Jaan walk.PST.3SG flag-COM
 ‘Jaan walked with a flag’
- b. Jaan jalutas kepi-ga
 Jaan walk.PST.3SG stick-COM
 ‘Jaan walked with a stick’
- c. Jaan ujus päästevesti-ga
 Jaan swim.PST.3SG life.vest-COM
 ‘Jaan swam with a life vest’

Out of context, the instrument reading is most natural for (27c), not very salient for (27b), and rather implausible for (27a). But from the responses of the five native speakers we consulted it emerges that given appropriate contextualisation, each example can support both instrument and accompaniment interpretations for the comitative-marked noun phrase — thus, for (27a) the instrument reading is enhanced by the preamble ‘he couldn’t find his cane’; and for (27c), ‘Liina was drowning, so Jaan swam to her with a life jacket in his hand’ facilitates the accompaniment interpretation.

3.2.2 *Terminative*

With this analysis of the comitative/abessive on the table, the terminative case (‘until, up to’) is quite readily treated in terms of a structure involving small-clause complementation as well, once again with the abstract locative predicate *THERE*.⁸ Thus, for an English example such as (28a), we propose the syntax in (28b).⁹

8 In terminatives, the predication formed by the abstract locative/existential predicate *THERE* and its overt subject can be interpreted either spatially or temporally. The single abstract predicate *THERE* can take care of both interpretations.

Pavel Rudnev (p.c.) points out to us that, alongside the comitative, abessive and terminative case particles, Estonian also has free-standing words that can be translated as *with*, *without* and *until* — the elements *koos*, *ilma* and *kuni*, resp., illustrated in the examples in (i) (for which we deliberately provided only a prose translation, not a morpheme-by-morpheme gloss; see below). Note that these words are *prepositional*, and that they combine with xNPs that have comitative, abessive and terminative case, resp. From our point of view (which treats *COM*, *ABESS* and *TERM* as autonomous realisations of postpositions), this entails that *koos*, *ilma* and *kuni* do not take the xNPs with which they combine on the surface as their complement. Either *koos*, *ilma* and *kuni* are *prepositions* (rather unusually within Finno-Ugric) that take *postpositional* complements or, probably more plausibly, these elements are phrasal premodifiers of the postpositional phrases whose heads are represented by *COM*, *ABESS* and *TERM* morphology. Suggestive of the correctness of the latter perspective is the fact that *koos* has an adverbial use rendered as ‘together’, *ilma* is also the Estonian equivalent of adjectival ‘less’ and ‘void’, and *kuni* can be translated as ‘up to’.

- (i) a. koos ilusa raamatuga
 ‘with a beautiful book’
- b. ilma ilusa raamatuta
 ‘without a beautiful book’
- c. kuni ilusa raamatuni
 ‘until a beautiful book’

9 The structure in (28b) collapses the locative and directional layers of terminative *until/till* into a single *P*-element, for the sake of simplicity. Both layers are in fact likely to be active in terminatives. The etymology and internal constitution of *until* and *till* are not sufficiently clear to serve as a basis for any claim to this effect. But Dutch terminative

- (28) a. until/till the end
 b. $[_{PP} P=until/till [_{RP} the\ end [_{R'} RELATOR [THERE]]]]$

For the Estonian terminative, this gives rise to the representation in (29b), analogous to that in (26b).

- (29) a. ilusa raamatu-ni
 beautiful.GEN book.GEN-TERM
 b. $[_{PP} [_{RP} [_{xNP} A-GEN\ N-GEN] [_{R'} [THERE] RELATOR]] P_{until}=ni]$

For Estonian, it seems likely that the predicate of the small clauses in (26) and (29) is entirely abstract. But for English (28b), the locative predicate historically has a (partially) overt exponent, with *until* and *till* composed out of smaller morphological parts that have syntactic status: *-til* and *till* are complex elements, in all likelihood consisting of the basic directional P *to* and an *in*+PLACE locative PP denoting the goal (cf. Icelandic *tili* in *aldr-tili* ‘life-end, death’, and German *Ziel* ‘goal’).

3.2.3 *Essive*

The ESSIVE is a semantic case that does not straightforwardly correspond to a P in languages such as English — the status of *as* and its ilk in the Germanic languages as an exponent of P is debatable, although the fact that, in present-day English, essive *as* is strandable under \bar{A} -movement (*what do you regard/think of him as?*) is convergent with an analysis treating it as a P.¹⁰

Emonds (1985:ch. 6) gives a detailed analysis of *as* as a P taking a predicate nominal for its complement. In line with this, Den Dikken (2006) treats *as* as the adpositional exponent of the RELATOR head of a small clause. We will follow this approach here because it is eminently suitable for the analysis of the Estonian facts.¹¹ For English (30a), this delivers (30b) as its structure.

tot has been traced back to a combination of two P-elements: *toe* and *te*. Since *toe* is uniquely directional and *te* is overwhelmingly locative, it makes sense to take *toe* to be the head of the terminative PP, with *te* being the exponent of the locative P-head in its complement.

10 The Hungarian essive *-ként* is also peculiar. It allows suspended affixation in coordinate structures to some degree (see Kenesei 2007), which is entirely impossible with other case suffixes (including the instrumental/comitative and the terminative); see (i). And it does not trigger low vowel lengthening of the stem, while all other cases, including the instrumental/comitative and the terminative, do; see the minimal contrast between *anyá-val* and *anyá-ként* in (ia,b).

- (i) a. anyá-val és életmentő-vel *anya/anyá- és életmentő-vel ‘with mother and life-saver’
 b. anya-ként és életmentő-ként anya- és életmentő-ként ‘as mother and life-saver’

11 The logical alternative would be to treat the essive on a par with the abessive, comitative and terminative as a selector of a small clause (more along the lines of Matushansky 2008), as in (i). A non-trivial technical concern, however, is the structural relationship between P and the subject of the small clause in this structure: in the abessive, comitative and terminative cases this subject is overt and assigned structural genitive case; but in the essive, it is silent and best analysed as PRO — the only analysis that carries over to essives in languages such as English, which do not as a rule license *pro*-subjects. But in the structure in (i), PRO in the position of the small-clause subject would be in a governed position, from which it is generally barred. We do not think this is an insuperable problem for (i); but since we do not know of any considerations pleading explicitly in favour of (i), we will follow the *as*-as-RELATOR approach in the text.

- (i) $[_{PP} P=as [_{RP} ec [RELATOR [a\ beautiful\ book]]]]$

- (30) a. as a beautiful book
 b. $[_{RP} ec=PRO [_{R'} RELATOR=P=as [a\text{ beautiful book}]]]$

For Estonian (31a), we get (31b), with the essive case particle as the exponent of the RELATOR.¹²

- (31) a. *ilusa raamatu-na*
 beautiful.GEN book.GEN-ESS
 b. $[_{RP} ec=PRO [_{R'} [_{xNP} A-GEN N-GEN] RELATOR=P_{as}=na]]]$

The genitive marking on the predicate nominal in Estonian (31) is a reflex of structural case marking. The predicate is not the selected, thematic dependent of the RELATOR head, hence not eligible for inherent case assignment. The case borne by the predicate in (31) is the same as the one assigned to possessors in possessive noun phrases — something in which Estonian behaves like typologically related Hungarian, where dative (rather than genitive) case is used both for possessors and for the predicates of small clauses embedded under verbs such as *tart* ‘find’, as shown in (32).¹³

- (32) *János szép-nek tartja Mari-t* (Hungarian)
 János beautiful-DAT finds Mari-ACC
 ‘János finds Mari beautiful’

In typologically unrelated Dutch, on the assumption that the reflexive following *als* ‘as’ is a predicate nominal, (33) presents an example of accusative case on the predicate (which, in Dutch, is not the default case). Plainly, in neither the Hungarian example nor in the Dutch one are we dealing with case concord: the subject of the small clause is accusative in (32), and nominative in (33).

12 Metslang & Lindström (2017:87) summarise the troubled history and present-day distribution of the Estonian essive as follows: ‘The Estonian essive, with the suffix *-na*, is of the same origin as the essive in other Finnic languages. The essive almost disappeared from Estonian for a time, at least as a productive case, and was brought into the standard language artificially on the example of the Northeastern and Coastal dialects, as well as Finnish. Today, the Estonian essive is a productive case, and there are no restrictions on its formation. All declinable words – nouns, adjectives [see (i), below], pronouns, numerals, participles (present and past, personal and impersonal participles) – can be used in the essive form.’ They note that in South Estonian there is systematic case syncretism with the inessive (p. 63), and that this syncretism is spreading to the north, where the essive has ‘generally vanished’ (p. 64). The primary use of the essive in Standard Estonian is said to be ‘to mark depictive, circumstantial and temporal secondary predications’ (p. 68). Metslang & Lindström (2017:80) point out that the essive ‘typically agrees in number with its controller; however, this agreement is optional. ... The essive form of adjectives often does not show agreement’.

- (i) *kaugelt vaadates tundub maja päris väikese-na*
 from_ afar look.CVB seem.3SG house quite small-ESS
 ‘from a distance, the house seems quite small’

13 The verb *tart* ‘find’ is by no means unique in this behaviour: transitive *néz* N-ACC X-DAT ‘take somebody for something’, *gondol* N-ACC X-DAT ‘think of sy as sth’, *tekint* N-ACC X-DAT ‘consider sy to be sth’, and *vél* N-ACC X-DAT ‘consider sy to be sth’ work the same way as *tart*; and in addition, there are the raising verbs *tűnik* N-NOM X-DAT ‘appears to be something’ and *látszik* N-NOM X-DAT ‘seems/appears to be something’.

Metslang & Lindström (2017:section 4) discuss the use of the Estonian essive on predicates of small-clause complements. They point out (p. 84) that there is an interesting division of labour here between the essive and the translative in this structural environment, and that probably ‘during the essive’s period of decline, its typical functions came to be occupied by the translative, which thus expressed not only the result of change but also a constant state’ (p. 88).

- (33) ik ga als mezelf (Dutch)
 I go as myself.ACC
 ‘I go (to the fancy-dress party) as myself’

The RELATOR head of a small clause can, under certain circumstances (which remain elusive), mark the predicate of the small clause for case. The essive case particle *-na* in Estonian is a genitive case assigner, on a par with the other three last cases of the language. This is structural case, not inherent case. As we mentioned previously, the genitive case assigned in abessive, comitative and terminative constructions (assigned under ‘exceptional case-marking’ to the small-clause subject in the structures in (26b) and (29b)) is likewise structural rather than inherent.

3.3 Case and P in Estonian: Summary

Before proceeding to section 4, let us briefly summarise what we have argued regarding the morpho-syntax of the semantic cases of Estonian, presented in (34) in the order in which they are standardly given in grammars of Estonian (i.e., following the order in (11)):

- | | | |
|------|--------|---|
| (34) | ILLAT | $[_{PPdir} [_{PPloc} [_{xNP} N-GEN PLACE_{\circ}-ILLAT] P_{in}=\emptyset] P_{to}=\emptyset]$ |
| | INESS | $[_{PPloc} [_{xNP} N-GEN PLACE_{\circ}-INESS] P_{in}=\emptyset]$ |
| | ELAT | $[_{PPdir} [_{PPloc} [_{xNP} N-GEN PLACE_{\circ}-ELAT] P_{in}=\emptyset] P_{from}=\emptyset]$ |
| | ALLAT | $[_{PPdir} [_{PPloc} [_{xNP} N-GEN PLACE_{\circ}-ALLAT] P_{on}=\emptyset] P_{to}=\emptyset]$ |
| | ADESS | $[_{PPloc} [_{xNP} N-GEN PLACE_{\circ}-ADESS] P_{on}=\emptyset]$ |
| | ABL | $[_{PPdir} [_{PPloc} [_{xNP} N-GEN PLACE_{\circ}-ABLAT] P_{on}=\emptyset] P_{from}=\emptyset]$ |
| | TRANSL | $[_{PPdir} [_{PPloc} [_{xNP} N-GEN PLACE_{\circ}-TRANSL] P_{in'}=\emptyset] P_{to'}=\emptyset]$ |
| | TERM | $[_{PP} [_{RP} [_{xNP} N-GEN] [_{R'} [THERE] RELATOR]] P_{until}=ni]$ |
| | ESS | $[_{RP} ec=PRO [_{R'} [_{xNP} N-GEN] RELATOR=P_{as}=na]]]$ |
| | ABESS | $[_{PP} [_{RP} [_{xNP} N-GEN] [_{R'} [THERE] RELATOR]] P_{without}=ta]$ |
| | COM | $[_{PP} [_{RP} [_{xNP} N-GEN] [_{R'} [THERE] RELATOR]] P_{with}=ga]$ |

In all eleven semantic cases, the head of xNP bears genitive case. This genitive case participates in case concord with any and all adjectival modifiers of xNP. Only in the seven spatial cases does case concord also involve the semantic case particle: in the last four cases, case concord in xNP is confined to the genitive. This follows from the fact that in the seven spatial cases the semantic case particle is an alternative realisation of a silent P, forming a postsyntactic morphological complex (due to the silence of PLACE) with the genitive case particle, whereas in the last four cases the semantic case particle is an autonomous realisation of P, not located inside xNP.

In our analysis of the seven spatial cases in (34), the genitive case of xNP in is a structural case, assigned to the possessor of the silent noun PLACE. For the genitive case borne by xNP in the last four cases, we have argued that it is also a structural case, assigned by the autonomously realised postposition (recall in this connection the parallel between (18a) and (18b)). This introduces a distinction within the set of semantic cases regarding the mode of assignment of genitive case. One might reasonably ask at this point why we have not chosen to treat all the genitives in the eleven semantic case constructions alike.

In addressing this question, let us begin by repeating from the passage below the structures in (21) that it would not be possible to treat the genitives found on xNP in all eleven semantic case contexts as the reflexes of a possessive relationship between xNP and a silent noun PLACE: the last four cases are not spatial; *with(out) a book* is not paraphrasable as ‘with(out) a book’s place’. But what about the logical alternative, a unification of all the genitives in (34) in terms of case assignment by P? Why is this not feasible for the seven spatial cases?

We have argued, taking our cue from Emonds (1985, 1987), that the seven spatial cases of Estonian are morphemes on N which alternatively realise a silent P. The postulation of silent Ps alternatively realised by specialised case morphology on their complement is the equivalent, from Emonds’ perspective, of what is called ‘inherent case assignment by P’ in other work. From the latter point of view, P assigns inherent case to its complement. Alternative realisation recasts this *without* case assignment being implicated. There are two ways to think about the case relation between P and the xNP in its complement: EITHER P assigns case to xNP and thereby licenses xNP, causing the head of xNP to bear a special case morpheme (‘inherent case assignment’), OR a specialised case morpheme is directly inserted on the head of xNP and thereby licenses P, causing P to remain silent (‘alternative realisation’). The two perspectives cannot both be right: mixing them into a cocktail wherein P both licenses xNP by assigning it case and is licensed to be silent by case morphology on xNP results in circularity. We have taken the alternative realisation approach because we consider it to be more explanatory than the traditional inherent case assignment approach. We therefore have no business with *inherent* case assignment of spatial Ps to their complements. And assuming that a P which is alternatively realised by dedicated case morphology on its complement in addition assigns a *structural* case to this noun phrase would introduce a redundancy. If we think of the relationship between a head and its complement as being in need of formal licensing, *one* means of formal licensing should do in any given case. For the relationship between P and its xNP complement, this means that it is licensed EITHER by structural case assignment of P to xNP OR by alternative realisation of P by case morphology on xNP. From this it follows that Ps that are alternatively realised by case on xNP do NOT assign structural case — and this in turn entails (given our argument that the spatial cases of Estonian are alternatively realised silent Ps) that the genitive case seen on xNP in Estonian spatial case constructions is NOT assigned to it by P. The alternative that remains is the one we developed in section 3.1, above: the genitive in the seven spatial cases is the reflex of xNP being the possessor of a silent noun PLACE.

4 The pseudo-partitive as a window on the last four cases and the genitive

4.1 The pseudo-partitive as further support for the P-analysis of the last four cases

In the discussion section 3.2 of this paper, we have argued that the last four cases of Estonian (the terminative, essive, abessive, and comitative) are exponents of P-heads that assign genitive case, giving rise to genitive case concord in complex noun phrases involving attributive modification — just as in the case of free-standing postpositions such as *eest* ‘for’: recall (18), repeated here as (35).

- (35) a. [ilusa raamatu]-{ni/na/ta/ga} (= (18))
 beautiful.GEN book.GEN-TERM/ESS/ABESS/COM
 ‘until/as/without/with a beautiful book’

- b. [ilusa raamatu] eest
 beautiful.GEN book.GEN for
 ‘for a beautiful book’

Consonant with this is the case pattern of what Tamm (2011) refers to as the Estonian pseudo-partitive construction. When a pseudo-partitive noun phrase such as the equivalent of English *a piece of bread* outwardly bears one of the last four cases, both nouns of the pseudo-partitive are realised with genitive case — a case concord pattern that once again matches the picture presented by free-standing postpositions. Thus, compare (36b), featuring the postposition *eest*, to (36a), exemplifying the last four cases (examples based on Norris 2015; cf. also Erelt *et al.* 1993):

- (36) a. [tüki leiva]-{ni/na/ta/ga}
 piece.GEN bread.GEN-TERM/ESS/ABESS/COM
 ‘until/as/without/with a piece of bread’
 b. [tüki leiva] eest
 piece.GEN bread.GEN for
 ‘for a piece of bread’

What further strengthens the parallel between free-standing postpositions and the last four cases is the fact that in neither (36a) nor (36b) is it possible for the pseudo-partitive to exhibit partitive case on the second noun: the examples in (36’) are ungrammatical.

- (36’) a. *[tüki leiba]-{ni/na/ta/ga}
 piece.GEN bread.PAR-TERM/ESS/ABESS/COM
 b. *[tüki leiba] eest
 piece.GEN bread.PAR for

In this respect, the pseudo-partitives seen in combination with *eest* ‘for’ and *-ni/-na/-ta/-ga* differ strikingly from pseudo-partitives that serve as the definite (so-called ‘total’) object of transitive verbs. The latter, like the objects of lexicalised Ps, are assigned genitive case in the singular — but in opposition to what we see in (36)/(36’), this genitive is expounded only on N1, not on N2; when the pseudo-partitive serves as the ‘total object’ of V, N2 must be adorned with partitive case:

- (37) tõin [tüki leiba]
 bring.PST.1SG piece.GEN bread.PAR
 ‘I brought the piece of bread’
 (37’) *tõin [tüki leiva]
 bring.PST.1SG piece.GEN bread.GEN

This parallel between simple postpositions and the last four cases, and their collective distinctness from the genitive case realised on definite (so-called ‘total’) objects of transitive verbs, is significant not only in that it solidifies the link between the last four cases and the category P: it also raises the question of how to treat the apparent fact that there are two different genitive cases in Estonian. We turn to this next.

4.2 *The two genitives of Estonian: A structural versus inherent contrast?*

Norris (2015, 2018b) interprets the facts in (36)–(37) as demonstrating that Estonian makes a syntactic distinction between two different genitive cases. He follows previous proposals to the effect that, surface morphophonological appearances notwithstanding, Estonian has accusative case (see Saareste 1926, Hiietam 2005, Tamm 2007, Miljan 2008, Caha 2009:§3.2.3), and calls the genitive borne by singular ‘total objects’ of transitive verbs ‘accusative’.¹⁴ This forges a parallel between Estonian and familiar nominative–accusative case systems, and fills an otherwise rather conspicuous gap in the Estonian case paradigm, which features no morphologically discrete accusative form.

Treating the genitive of (37) as a structural accusative makes sense in light of the fact that in the nominative case, the Estonian pseudo-partitive behaves with respect to the concord/partitive distinction just like it does with transitive verbs, and unlike what we see with Ps: (38). For the nominative case it is of course entirely standard to treat it as a structural case, assigned or valued in the course of the derivation by a case-valuing probe (T).

(38)	[tükk leiba]	(38')	*[tükk leib]
	piece.NOM bread.PAR		piece.NOM bread.NOM

Norris (2015, 2018b) argues plausibly that the genitive case seen in (37) is likewise a structural case, valued by the probe *v* — which enhances the parallel with the accusative. This leads Norris to the generalisation in (39) regarding the distribution of the case-concordial and partitive marking patterns of the Estonian pseudo-partitive.

- (39) *case in Estonian pseudo-partitives: take 1* (Norris 2018b)
 The case value of the N2 phrase is determined by the case value of N1 in the following ways:
- a. if N1 is nominative or accusative, the pseudo-partitive will show the partitive pattern;
 - b. otherwise, it will show the matching pattern (case concord).

The logic of (39) and the way Norris’ proposal derives it is that when the pseudo-partitive noun phrase has its case value determined early (i.e., inherently), there is case concord, whereas when it has its case value determined late (i.e., structurally), unmarked (partitive) case is realised on N2 (cf. also Rutkowski 2001, 2002). This approach makes a clean distinction between structural cases, on the one hand, and semantic/inherent cases (‘otherwise’), on the other, saying that the concordial pattern manifests itself only with the latter. Concretely, for Norris the genitive in (37) (which he refers to as the ‘accusative’) is structural whereas the genitive in (36) is inherent.

We believe that the latter hypothesis is untenable. In particular, the genitive assigned in (36a) (repeated below) cannot be an inherent case. Recall that we argued in section 3.2 that the last four cases are exponents of a P that takes a small clause (as in the comitative, abessive, and terminative) or a predicate nominal as its complement: the relevant part of (34) is repeated in (40) as a reminder.

14 Recall from fn. 4 that abstract accusative case in Estonian is surface-identical with the genitive for singular ‘total objects’ and with the nominative for plural ones. For the latter, we assume with Norris that it is a zero-exponed abstract accusative case, assigned by *v*.

- (36) a. [tüki leiva]-{ni/na/ta/ga}
 piece.GEN bread.GEN-TERM/ESS/ABESS/COM
 ‘until/as/without/with a piece of bread’
- b. [tüki leiva] eest
 piece.GEN bread.GEN for
 ‘for a piece of bread’
- (40) TERM [PP [RP [xNP N-GEN] [R' [THERE] RELATOR]] P_{until}=ni]
 ESS [RP ec=PRO [R' [xNP N-GEN] RELATOR=P_{as}=na]]
 ABESS [PP [RP [xNP N-GEN] [R' [THERE] RELATOR]] P_{without}=ta]
 COM [PP [RP [xNP N-GEN] [R' [THERE] RELATOR]] P_{with}=ga]

And we also emphasised in section 3.2 that in the configurations in (40), P cannot assign inherent case to the noun phrase present in its complement: there is no selectional relationship between P and this noun phrase (which is a small-clause subject in the comitative, abessive and terminative, and a predicate nominal in the essive). In (36b), the genitive borne by the pseudo-partitive in the complement of P=*eest* can conceivably be inherent because P selects the noun phrase directly; but in (36a), an inherent case relation between P and the pseudo-partitive cannot be established: we must be dealing here with structural genitive case.

This conclusion compels us to look for an alternative to Norris’ (2015, 2018b) account for the facts in (36)–(38) — one in which the inherent *vs* structural dichotomy is NOT the key player. In the following subsection, we will present a syntactic analysis of these data hinging on (a) a particular treatment of the case profile of the pseudo-partitive and (b) the difference between case-valuation under Agree and the Spec–Head relation. The conclusion that will emerge from our discussion is that for those cases whose valuation involves displacement of the case-bearing noun phrase into a derived specifier position, case concord in the pseudo-partitive is impossible. This will group together the nominative and those instances of the genitive that are valued by *v*, and distinguishes them as a group from other genitives, regardless of whether they should be inherent or structural.

4.3 *The two genitives remodelled: Case-valuation under Agree or the Spec–Head relation*

4.3.1 *Derived specifiers versus the rest*

What Norris calls the accusative case of Estonian is the case assigned to so-called ‘total objects’ — objects for which it is entirely standard in the literature on differential object marking to place them in a derived specifier position in the *v*-domain. The exact nature of this specifier position will be of no immediate concern for us: what matters is just the fact that the ‘total object’ is spelled out in a derived specifier position. For concreteness, we will follow Chomsky (1995:Chapter 4) in taking the derived specifier position to be an outer specifier of *v* (i.e., Spec_vP).

For nominative case it is universally agreed that it is a structural case, assigned or valued in a designated structural configuration. For Estonian, we assume that nominative case is valued in very much the same way as the structural genitive (‘accusative’) assigned to ‘total objects’ — in a derived specifier position. Concretely, the bearer of structural nominative case is in a Spec–Head relation with the inflectional head of finite clauses, which we will refer to as T.

In contrast to genitival ‘total objects’ and nominative subjects of finite clauses, the bearers of the structural genitives in the small clauses in (40) are not in derived specifier positions: these genitival noun phrases do not move to value their case; they get their case valued *in situ*. In this respect, the genitives in (40) are on a par with the genitive that a simple postposition such as *eest* ‘for’ assigns to its complement. All the semantic cases also belong to the family of case-assigners which fulfil their function without causing displacement of the case-bearer to a derived specifier position.

A new empirical generalisation now presents itself regarding the distribution of the two case patterns in the Estonian pseudo-partitive construction:

- (41) *case in Estonian pseudo-partitives: take 2* (this paper)
 The case value of the N2 phrase is determined by the way in which the pseudo-partitive noun phrase values its case:
- a. if the pseudo-partitive values its case in a DERIVED specifier position, the pseudo-partitive will show the partitive pattern;
 - b. otherwise, it will show the matching pattern (case concord).

The generalisation in (41) is our substitute for Norris’ (2015, 2018b) generalisation in (39). It is empirically more adequate than Norris’ original, and as an additional bonus, it also derives the distribution of case concord and the partitive in purely syntactic terms, without an appeal to specific assumptions about case distribution. Key to it all is a conjunction of what we called the ‘TOTAL MATCH’ condition on the Spec–Head agreement relation (recall (4) from section 1.2, repeated below as (42)) and a proposal for the featural syntax of case-concordial pseudo-partitives (which we will lay out in section 4.3.2). Taken together, these will subsequently be shown (in section 4.3.3) to deliver an analysis of the case facts of the Estonian pseudo-partitive. In section 4.3.4, we then address numeral-noun constructions, which also obey (41).

- (42) *the TOTAL MATCH constraint on Spec–Head agreement*
 Feature checking under the Spec–Head relationship requires total matching of the features of the head and the features of its specifier.

4.3.2 *Feature union in case-concordial pseudo-partitives*

A quintessential fact about case-concordial pseudo-partitives in the Germanic languages is their ‘ambidexterity’: both N1 and N2 are visible for selection, as we see in Dutch (43) *vs* (44) (cf. Broekhuis & Den Dikken 2012:626). In the presence of *met* between N1 and N2, only N1 can engage in a selectional relation with V — and since it is not customary for humans to eat up plates, (43b) is infelicitous. When there is no linking P, we derive the pseudo-partitives in (44), for which the felicity of both examples shows that either of the two nouns can be selected by the matrix environment.

- (43) a. eet [je bord met aardappelen] leeg! (Dutch)
 eat your plate with potatoes empty
 ‘finish your plate with potatoes!’

- (44) b. #eet [je bord met aardappelen] op!
eat your plate with potatoes up
#‘eat up your plate with potatoes!’
- cf. #eet je bord op!
eat your plate up
#‘eat up your plate!’
- a. eet [je bord aardappelen] leeg!
eat your plate potatoes empty
‘finish your plate of potatoes!’
- b. eet [je bord aardappelen] op!
eat your plate potatoes up
‘eat up your plate of potatoes!’

We take (44) to show that the case-concordial pseudo-partitive involves the *union* of the features of N1 and N2. More precisely, the case-concordial pseudo-partitive involves a relationship between two sets, mediated by a (silent) RELATOR whose maximal projection is labelled by the union (\cup) of the feature sets of the constituent noun phrases.¹⁵

- (45) *the case-concordial pseudo-partitive*
 $[_{RP=\{FF1\}\cup\{FF2\}} [_{xNP1} N1_{\{FF1\}}] [_{R'} [_{xNP2} N2_{\{FF2\}}] RELATOR=\emptyset]]]$

For the pseudo-partitive with a partitive-marked N2, on the other hand, we assume that the RELATOR of the relationship between the projections of N1 and N2 is represented by partitive case. In (46), the complement of the RELATOR is itself fully licensed within the pseudo-partitive. This prevents the features of N2 from participating in the labelling of the RP: they have been deactivated as a result of the case-valuation relationship with the RELATOR. Therefore, N1’s is the only feature bundle that could deliver the label for the pseudo-partitive with a partitive-marked N2:

- (46) *the partitive-marked pseudo-partitive*
 $[_{RP=\{FF1\}} [_{xNP1} N1_{\{FF1\}}] [_{R'} [_{xNP2} N2_{\{FF2\}}] RELATOR=PARTITIVE]]]$

4.3.3 Case in Estonian pseudo-partitives: Analysis

For selectional relationships that are sensitive to the features of the noun phrase as well as for (Downward) Agree, the structure in (45) entails that $\{FF1\}$ and $\{FF2\}$ are simultaneously accessible, and the selector or probe can choose freely which set of features it targets. Under selection and (Downward) Agree, it is sufficient that the features of the selector/probe be fully satisfied; it is not necessary for all of the features of the goal to be satisfied.

15 Chomsky (1995:244) says regarding the labelling of a complex object formed out of α and β that its label is that of either α or β , depending on which of the two projects. Chomsky explicitly rules out labelling via intersection of α and β , or via the union of α and β : ‘The intersection and union options are immediately excluded: the intersection of α , β will generally be irrelevant to output conditions, often null; and the union will not be irrelevant but “contradictory” if α , β differ in value for some feature, the normal case.’ See Boeckx (2008:85, fn. 25) for discussion of the less than compelling nature of Chomsky’s reasoning against labelling via intersection or union. Our point in the main text is obviously not that ALL labelling of complex objects proceeds via union of the feature sets of the constituent parts: rather, such labelling is an option only for the case-concordial pseudo-partitive. We would also like to point out that the hypothesis that the silent RELATOR’s projection in the pseudo-partitive is labelled via feature union is not a semantic claim about the pseudo-partitive: in particular, we are not claiming that the RELATOR is (necessarily) a semantic union operator; the meaning of *a plate of potatoes* is not the union of the meanings of *plate* and *potatoes*.

By contrast, the Spec–Head relation (under which a probe and a goal in a derived specifier position agree) demands a TOTAL MATCH between probe and goal. In the case-concordial pseudo-partitive in (45), labelling is performed via the union of the feature sets of N1 and N2. This makes it impossible for the TOTAL MATCH condition imposed on the Spec–Head relation to be satisfied: no single probe can have a match for the union of {FF1} and {FF2}.

From this it follows immediately that the case-concordial pseudo-partitive is impossible in a DERIVED specifier position in which it is the target of a Spec–Head relation involving total matching with the probe. It is this which is responsible for the fact that the case-concordial pseudo-partitive is impossible in the structural subject position (SpecTP) and the position for ‘total objects’ (SpecvP).

The pseudo-partitive with a partitive-marked N2, analysed as in (46), has just a single feature set (that of N1) represented on RP. This has the beneficial consequence of making the partitive-marked pseudo-partitive possible in derived specifier positions. For the structural environments in which the case-concordial pseudo-partitive in (45) is not a candidate, the pseudo-partitive with a partitive-marked N2 in (46) is therefore a readily available alternative.

We have now derived (41a) (i.e., the fact that if the pseudo-partitive values its case in a DERIVED specifier position, the pseudo-partitive will show the partitive pattern). But we still need to say a few words about the fact that the pseudo-partitive with a partitive-marked N2 is apparently not welcome to structural contexts in which no derived specifier position is involved: (41b) says that in those environments only the case-concordial option is available. The ancillary hypothesis that we will advance for this purpose mobilises the notion of ‘markedness’.

The partitive-marked pseudo-partitive is marked compared to the case-concordial pseudo-partitive. This is because the partitive-marked pseudo-partitive features an additional lexical element, viz., partitive case as an exponent of the RELATOR of the part-whole relationship between the two noun phrases. Though (45) and (46) are not competitors in terms of economy of derivation or representation (because their RELATOR-heads have different properties), they ARE in a markedness relationship at PF, in terms of exponence: the latter involves selection of the overt partitive morpheme, whereas the former employs a zero exponent for the RELATOR. The hypothesis is that whenever there is a choice between (45) and (46) (i.e., whenever the use of both (45) and (46) converges in syntax), the structure that will be favoured is the one that keeps use of the overt vocabulary down to a minimum.¹⁶ So since (45) recruits fewer overt vocabulary items than does (46) (with its partitive as the overt exponent of the RELATOR), (45) will be picked whenever its syntax is convergent; (46) is the last resort option. For pseudo-partitives that are displaced into a derived specifier position (subjects of finite clauses and ‘total objects’ of transitive verbs), (45) does not converge, for reasons discussed two paragraphs back, so (46) is the only option, by way of last resort. In all environments not involving displacement of the pseudo-partitive to a derived specifier position, (45) is the user’s first and only resort.

16 Distributed Morphology, Nanosyntax and Optimality-based approaches to morphosyntax all espouse the view that spelling out a structure with fewer lexical items is preferable to using more lexical items — see e.g. DM’s ‘Minimise Exponence’ (Siddiqi 2009), Nanosyntax’s ‘Maximize Span Principle’ (Pantcheva 2010, Dékány 2011, Starke 2009), and OT’s ‘Minimal Vocabulary Access’ (Newson & Szécsényi 2012). Although extant proposals have tended not to make an appeal to phonological (PF) properties of morphemes in this connection, languages have the right in principle to apply the dictum that it is better to spell out a structure with fewer vocabulary items than with more in such a way that reference is made to phonological features. This is what we take Estonian to do in adjudicating between (45) and (46).

Having thus explained why (45) MUST be used whenever it CAN be used, we have fully derived the observed distribution of the two pseudo-partitives in Estonian. The generalisation in (41) falls out from (a) the independently supported hypothesis that the case-concordial pseudo-partitive is labelled by the union of the feature bundles of the two constituent noun phrases, which makes this pseudo-partitive an impossible target for the Spec–Head agreement relationship (requiring TOTAL MATCH), and (b) the last-resort status of the pseudo-partitive with a partitive-marked N2.

It is important to re-emphasise at this point that (41) (unlike Norris’ (39)) does not make a two-way distinction between instances of structural case-assignment, on the one hand, and instances of semantic/inherent case-assignment on the other. The importance of this lies, of course, in the fact that the genitive cases assigned by the last four cases are structural cases, yet the case pattern of pseudo-partitives with any of the last four cases is the case-concordial one, not the partitive-marking one. From (41), this falls out straightforwardly: the genitival noun phrase in the complement of the P-heads represented by the last four cases, while structurally case-marked, is not displaced into a derived specifier position; it values its case under (Downward) Agree rather than the Spec–Head agreement relationship, so nothing prevents the use of the case-concordial pseudo-partitive in (45) — which, because of markedness considerations, then makes recourse to (46) impossible.

4.3.4 *A note on numeral-noun constructions*

The case alternation between concord and partitive assignment seen in the Estonian pseudo-partitive also surfaces in the numeral-noun construction, illustrated in (47) (taken from section 5.1 of Norris 2018b).¹⁷

- (47) a. [kolme [koti kartuli-te]] kõrval
 three.GEN bag.GEN potato.PL.GEN next.to
 ‘next to three bags of potatoes’
 b. [kolm [kotti kartileid]]
 three.NOM bag.PAR potato.PL.PAR
 ‘three bags of potatoes’

(47a) shows the case-concordial pattern corresponding to the pseudo-partitive in (36b) (repeated below as (48a)), while (47b) replicates the partitive pattern in (38) (repeated as (48b)).

- (48) a. [tüki leiva] eest
 piece.GEN bread.GEN for
 ‘for a piece of bread’
 b. [tükk leiba]
 piece.NOM bread.PAR

17 See also Rutkowski (2001, 2002), and, for a wider cross-linguistic perspective on numeral-noun constructions, Danon (2012). We should mention in passing the fact that the numeral corresponding to English ‘one’ does not participate in this case alternation: it can never assign partitive case, and hence always takes part in the case-concordial pattern. This is also the case in Finnish and Inari Sami (and low numerals in Polish behave this way, too, as Rutkowski shows). See the next footnote for a related observation from Dutch, opening up a possible perspective.

Norris analyses the numeral (*kolm* ‘three’ in (47)) as a noun. This noun is assumed to take a NumP as its complement — a structure that is parallel in every relevant respect to the more familiar binominal pseudo-partitive. With this hypothesis in place, Norris immediately accounts for the fact that the numeral-noun construction gives rise to the same case patterns as the pseudo-partitive, based on (39). But we have shown that (39), recast by Norris in terms of the timing of structural and inherent case assignment, will not do. We replaced (39) with (41), and derived it in section 4.3.3 from (a) the TOTAL MATCH condition on Spec–Head agreement and (b) the feature-union analysis of the case-concordial pseudo-partitive. So in order for us to successfully integrate (47) into the analysis, we need to verify that the numeral-noun construction patterns with ordinary pseudo-partitives regarding (b). Is there any indication that feature union is at play in the numeral-noun construction?

We believe there is. Dutch, which served as our guide towards the feature-union analysis of case-concordial pseudo-partitives in section 4.3.2, once again leads the way. There is a transparent counterpart to the Estonian numeral-noun construction in Dutch — one for which the nominal status of the numeral element is in no way in doubt. In (49a), *driet* ‘three.count’ is a compound consisting of the numeral *drie* ‘three’ and the noun *tal* (which by itself is largely obsolete in present-day Dutch, but shows up as the right-hand member of the two bimorphemic nouns corresponding to English *number*, viz., *aantal* ‘number (as in “a number of *x*”)’ and *getal* ‘number (as in “the number *x*”)’).¹⁸ This noun can combine directly with another noun to form the Dutch equivalent of the Estonian numeral-noun construction, as shown in (49b).

- (49) a. een *driet*
 a three.count
 ‘a set of three, a threesome, a trio’
 b. een *driet* mensen/aardappelen
 a three.count people/potatoes
 ‘a set of three people/potatoes’

The interesting thing to note about this Dutch numeral-noun construction is that it behaves very much like the case-concordial pseudo-partitive, not just when it comes to the absence of a linking P between the two nominal elements but also with respect to the selectional ‘ambidexterity’ that we observed for case-concordial pseudo-partitives in section 3.3.3. For (49a) (which does not feature a second noun) one finds that it is generally usable only with reference to humans (or, at least, animate entities), even if there is a salient inanimate available in the context: see (50a). But (49b) is not sensitive to this restriction; and as a result, (50b) with *aardappelen* makes perfect sense (whereas (50b) without *aardappelen* included is felicitous only in a cannabilistic context).

18 The numeral+*tal* combination is possible with all numerals from 2 through 15 (e.g., *zevental* ‘seven.count’, *dertiental* ‘thirteen.count’), becomes harder with the numerals from 16 to 19 (*achttiental* ‘eighteen.count’), and beyond this point is fine only with round figures (*twintigtal* ‘20’, *honderdtal* ‘100’, *zeshonderdtal* ‘600’, *duizendtal* ‘1000’), up to and excluding *miljoen* ‘million’, which is itself a noun, unable to compound with *tal*. In the higher ranges, the numeral+*tal* combination shows a tendency to be approximative (thus, *een duizendtal demonstranten* ‘a thousand.count demonstrators’ is particularly suitable as a ballpark figure while *duizend demonstranten* ‘a thousand demonstrators’ can only be exact). If our analysis is on the right track, the fact that the numeral+*tal* combination is unavailable for the numeral 1 (**éental*) is intimately related to the fact that in Estonian (as well as Finnish, Sami) the case-concordial pattern is unavailable for the numeral 1. What explains the absence of **éental* ‘one.count’ is a question that we have no answer to.

- (50) a. (wat {taalkundigen/#aardappelen} betreft), ik zie een drietal op deze foto
 what linguists/potatoes concerns I see a three.count on this picture
 ‘as regards {linguists/potatoes}, I see a threesome in this picture’
 b. Jan heeft een drietal #(aardappelen) opgegeten
 Jan has a three.count potatoes up.eaten
 ‘Jan ate up a set of three (potatoes)’

Recall from the discussion in section 4.3.2 that (43b) (repeated as (51a)) is infelicitous since it is unusual for humans to eat up plates, but that in the pseudo-partitive in (44b) (repeated as (51b)), the second noun can be selected by the matrix environment.

- (51) a. #eet [je bord met aardappelen] op!
 eat your plate with potatoes up
 b. eet [je bord aardappelen] op!
 eat your plate potatoes up

In (50b) we see very much the same thing: although *drietal* by itself typically makes sense only with reference to humans (as we pointed out above, (50b) without *aardappelen* ‘potatoes’ included would be sensible only in a situation in which Jan is a cannibal), in the presence of *aardappelen* ‘potatoes’ (50b) is perfectly felicitous, with *aardappelen* satisfying the selectional restrictions imposed by the particle verb *opeten* ‘eat up’.

We take this to show that the Dutch numeral-noun construction exhibits the same ‘ambidexterity’ as does the familiar pseudo-partitive: the features of both the counting element and the noun immediately following it are represented on the nominal complex, via feature union. The representation of case-concordial pseudo-partitives in (45) can thus be carried over to the numeral-noun construction, as in (52).

- (52) *the numeral-noun construction*
 $[\text{RP}=\{\text{FF1}\}\cup\{\text{FF2}\}] [\text{xNP1 numeral-N1}_{\{\text{FF1}\}}] [\text{R}' \text{RELATOR}=\emptyset [\text{xNP2 N2}_{\{\text{FF2}\}}]]]$

It is this feature union which now gives us the explanation for the fact that the Estonian numeral-noun construction does not allow case concord in derived specifier positions (i.e., in the nominative and in the ‘total object’ accusative), where the partitive strategy must be used instead. Thus, the case pattern of the Estonian numeral-noun construction falls out from the analysis of the distribution of case concord and the partitive offered in section 4.3.3.

4.4 *Postlude on case concord and displacement to derived specifier positions*

Now that we have the distribution of the two different case patterns of pseudo-partitives and numeral-noun constructions in Estonian under control, we would like to quickly ascertain that the analysis proposed for the distribution of case concord in pseudo-partitives does not overgeneralise. There are two cases of potential overgeneralisation to consider. We discuss them in separate subsections.

So it is thanks to the fact that the L-related features involved in feature union in the concordial pseudo-partitive have been deactivated prior to displacement to SpecCP that the example in (53b) averts a conflict with (41a).

4.4.2 Concordial attributive modification

In (11) (the relevant portion of which is reproduced below as (54)), we saw that adjectival attributive modifiers of nouns systematically show case concord with the head noun. This is true even in the nominative and the genitive (aka ‘accusative’) of singular ‘total objects’ of transitive verbs.

(54)	a.	ilus	raamat	ilusad	raamatud
		beautiful.NOM	book.NOM	beautiful.PL.NOM	book.PL.NOM
	b.	ilusa	raamatu	ilusate	raamatute
		beautiful.GEN	book.GEN	beautiful.PL.GEN	book.PL.GEN

It is important to stress that the way in which we have derived (41) does NOT predict that case concord as such is impossible in the nominative and ‘total object’ genitive: the case-concordial pseudo-partitive is blocked in these cases not because of concord *per se* but because of the peculiar way in which this pseudo-partitive is labelled, via feature union. Attributive adjectives do manage to show case concord in the nominative and ‘total object’ genitive because their features do not participate in the labelling of the containing noun phrase: it is only the features of the modified noun that contribute to the labelling of the modified noun phrase; the modifying adjective is inert outside the confines of the noun phrase, and cannot be engaged in selectional or feature-checking relationships outside it. Only in case-concordial pseudo-partitives do we find labelling via union of the features of the two constituent noun phrases, and its concomitants in the realms of selection and feature checking.

5 Conclusion

This paper has proposed an outlook on inherent case and case concord. We have tied inherent case consistently to the category P, in either of two ways: the inherent case particle is either (a) an autonomous spell-out of P or, in Emonds’ (1985, 1987) term, (b) an alternative realisation of a silent P. In neither scenario is inherent case *assigned* to a noun phrase: in (a), it expones a P, and in (b) it is directly deployed on P’s nominal complement, identifying the P-head selecting the case-marked noun phrase, and thereby licensing P’s silence. In our account of case concord, the central player is the idea that it involves copying of morphology rather than matching of morphological features, and is therefore not an instantiation of Agree, for whose Spec–Head instantiation which we have put forward a TOTAL MATCH condition.

This outlook on *wh*-constituents and their displacement to SpecCP (in which one of our reviewers finds an interesting parallel with Kuroda 1969) is a rather radical departure from the standard approach. It may well be motivated on a number of grounds — but for the simple purpose of understanding the fact that a case-concordial pseudo-partitive can be \bar{A} -moved to SpecCP, we do not need to take such a radical step: the simpler suggestion made in the text is sufficient. When wedded to the idea that the [Q] feature is merged to the *wh*-phrase late, after the L-related features have been valued, the two approaches actually have a very similar effect: in the clausal core, a *wh*-phrase behaves in every respect like its non-*wh* counterpart because in the clausal core, this phrase is not adorned with the [Q] feature (yet).

We have put these central ingredients of our perspective on case and case concord to the test in a detailed analysis of the case facts of Estonian, with particular emphasis on the distinction, within its eleven ‘semantic’ cases, between the seven spatial cases and the last four cases. All semantic cases involve a syntax projected by a P-head; but while the spatial cases were analysed as alternative realisations of a null P, the last four cases were treated as autonomous realisations of postpositions.

In the realm of the seven spatial cases, we have recognised two subgroups organised around a primitive locative P: the illative, inessive, elative and translative are based on P_{in} , and the allative, adessive and ablative on P_{on} . The directional members of each group feature an additional PP-layer outside their locative core, headed by a directional P — P_{to} (for the illative, allative and translative) or P_{from} (for the elative and the ablative). The translative is structurally identical with the illative: the two feature the same basic syntactic building blocks, $P_{in}+P_{to}$. We have hypothesised that the exponence of $P_{in}+P_{to}$ in Estonian is sensitive to the syntactic environment in which this adpositional complex is embedded: in the complement of a change-of-location verb, the P-complex is exponed as illative case; in the complement of a change-of-state verb, it is realised as the translative.

Throughout these seven spatial cases, the P-heads are themselves silent, and select as their complement a noun phrase headed by the abstract noun PLACE, which is the syntactic host for the case morphology that alternatively realises P. The abstract noun PLACE itself cannot provide support for this morphology; in the postsyntactic component, this case suffix is reassigned to PLACE’s possessor, which itself is assigned genitive case. Via ‘Suffixaufnahme’, the overt possessor noun phrase is thus doubly case-marked, yielding the case stacking pattern characteristic for these cases.

The four cases that are traditionally ordered last in the list of Estonian’s fourteen cases (the terminative, essive, abessive and comitative) are also adpositional — in fact, more directly so than the seven spatial cases above them on the list. While the Ps involved in the syntactic representation of the latter are silent and alternatively realised by case morphology in their complement, the last four cases are perforce the spell-outs of their Ps themselves. This is because the noun phrases with which these Ps combine are not selected by them: in the essive, this noun phrase is the predicate of a small clause, and in the terminative, the abessive and the comitative it is the subject of a small clause. Alternative realisation is strictly restricted to selectional dependencies. In the absence of such a dependency, the case morphology has no choice but to spell out P (a postposition) autonomously.

Like free-standing postpositions, the affixal P in the last four cases assigns genitive case to the noun phrase with which it combines. This genitive is a structural case, assigned by P to a noun phrase that it does not select. This conclusion rules out an analysis of the case distribution in Estonian pseudo-partitive and numeral-noun constructions along the lines of Norris (2015, 2018b), for whom the idea that the genitive case assigned by P is an inherent case is essential. We have proposed an alternative outlook on the distribution of genitive and partitive case in the pseudo-partitive of Estonian, mobilising the purely syntactic distinction between (Downward) Agree and Spec–Head agreement relations. The independently well-established fact that Spec–Head agreement requires a total matching of the features of the head and its specifier, in conjunction with the observational fact that the case-concordial pseudo-partitive is labelled via the union of the features of its component parts and is thereby excluded from engaging in Spec–Head relations, gave us the descriptively adequate result that case concord in the pseudo-partitive is possible (as a first resort) unless this construction finds itself in a derived specifier position. This result was finally shown to carry over to what Norris (2015, 2018b) refers to as the numeral-noun construction, which we structurally assimilated to a numeral pseudo-partitive found overtly in Dutch.

The results in the realm of case concord and its complex interrelation with partitive case assignment, while (we think) interesting, are strictly speaking ‘extras’ emerging from the analysis of the relationship between case and P. It is this analysis that forms the centrepiece of this paper. We believe that Estonian presents a particularly interesting case for the idea that the syntax of ‘semantic’ case revolves around the category P, and for the insight that P can remain silent and be alternatively realised by case morphology on its nominal complement under very specific circumstances.

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References

- Asbury, Anna. 2008. The morphosyntax of case and adpositions. PhD diss., University of Utrecht.
- Asbury, Anna, Berit Gehrke & Veronika Hegedűs. 2007. One size fits all: Prefixes, particles, adpositions and cases as members of the category P. In *Uil OTS Yearbook*, ed. Cem Keskin. Utrecht: Utrecht University.
- Baker, Mark & Ruth Kramer. 2014. Rethinking Amharic prepositions as case markers inserted at PF. *Lingua* 145: 141–72.
- Beukema, Frits & Teun Hoekstra. 1984. Extraction from *with*-constructions. *Linguistic Inquiry* 15: 689–98.
- Blevins, James. 2005. Word-based declensions in Estonian. *Yearbook of Morphology 2005*, 1–25.
- Blevins, James. 2008. Declension classes in Estonian. *Linguistica Uralica* XLIV: 241–67.
- Boeckx, Cedric. 2008. *Bare syntax*. Oxford: Oxford University Press.
- Botwinik-Rotem, Irena. 2008. Why are they different? An exploration of Hebrew locative PPs. In *Syntax and semantics of spatial P*, eds. Anna Asbury, Jakub Dotlačil, Berit Gehrke & Rick Nouwen, 331–364. Amsterdam: John Benjamins.
- Botwinik-Rotem, Irena & Arhonto Terzi. 2008. Greek and Hebrew locative prepositional phrases: A unified case driven account. *Lingua* 118: 399–424.
- Broekhuis, Hans & Marcel den Dikken. 2012. *Syntax of Dutch: Nouns and noun phrases*, Vol. 2. Amsterdam: Amsterdam University Press.
- Caha, Pavel. 2009. The nanosyntax of case. Ph.D. dissertation, University of Tromsø.
- Caha, Pavel. 2016. [GEN.SG]=[NOM.PL]: A mystery solved? *Linguistica Brunensia* 64: 25–40.
- Chomsky, Noam. 1986. *Knowledge of language: Its nature, origin, and use*. New York: Praeger.
- Chomsky, Noam. 1995. *The minimalist program*. Cambridge, MA: MIT Press.
- Cinque, Guglielmo. 2010. Mapping spatial PPs: An introduction. In *Mapping spatial PPs. The cartography of syntactic structures 6*, ed. Guglielmo Cinque & Luigi Rizzi, 3–25. New York: Oxford University Press.

- Danon, Gabi. 2012. Two structures for numeral-noun constructions. *Lingua* 122: 1282–1307.
- Dékány, Éva. 2011. A profile of the Hungarian DP: The interaction of lexicalization, agreement and linearization with the functional sequence. PhD diss., University of Tromsø.
- Dékány, Éva. 2018. The position of case markers relative to possessive agreement: Variation within Hungarian. *Natural Language & Linguistic Theory* 36: 365–400.
- Dikken, Marcel den. 2006. *Relators and linkers*. Cambridge, MA: MIT Press.
- Dikken, Marcel den. 2010. On the functional structure of locative and directional PPs. In *Mapping spatial PPs. The cartography of syntactic structures 6*, ed. Guglielmo Cinque & Luigi Rizzi, 74–126. New York: Oxford University Press.
- Doron, Edit. 1993. Verbless predicates in Hebrew. Ph.D. dissertation, University of Texas at Austin.
- Emonds, Joseph. 1985. *A unified theory of syntactic categories*. Dordrecht: Foris.
- Emonds, Joseph. 1987. The Invisible Category Principle. *Linguistic Inquiry* 18: 613–32.
- Emonds, Joseph. 2000. *Lexicon and grammar: The English syntacticon*. Berlin: Mouton de Gruyter.
- Erelt, Mati, Reet Kasik, Helle Metslang, Henno Rajandi, Kristiina Ross, Henn Saari, Kaja Tael & Silvi Vare. 1993. *Eesti Keele grammatika II: Süntaks; Lisa: Kiri* [Estonian grammar II: Syntax; Appendix: Written language]. Tallinn: Eest Teaduste Akadeemia Keele ja Kirjanduse Instituut.
- Franck, Julie, Glenda Lassi, Ulrich Frauenfelder & Luigi Rizzi. 2006. Agreement and movement: A syntactic analysis of attraction. *Cognition* 101: 173–216.
- Guasti, Maria-Teresa & Luigi Rizzi. 2002. Agreement and tense as distinctive syntactic positions: Evidence from acquisition. In *Functional structure in DP and IP. The cartography of syntactic structures, Vol. 1*, ed. Guglielmo Cinque, 167–94. Oxford/New York: Oxford University Press.
- Hegedűs, Veronika. 2013. Non-verbal predicates and predicate movement in Hungarian. PhD diss, Tilburg University.
- Hietam, Katrin. 2005. Case marking in Estonian grammatical relations. *The University of Leeds Working Papers in Linguistics and Phonetics* 10.
- Jackendoff, Ray. 1983. *Semantics and cognition*. Cambridge, MA: MIT Press.
- Kayne, Richard. 2004. Here and there. *Lexique, syntaxe et lexique-grammaire*, 253–75. Amsterdam: John Benjamins.
- Kenesei, István. 2007. Semiwords and affixoids: The territory between word and affix. *Acta Linguistica Hungarica* 54: 263–93.
- Koopman, Hilda. 2000. Prepositions, postpositions, circumpositions, and particles: The structure of Dutch PPs. In *The syntax of specifiers and heads*, ed. Hilda Koopman, 204–60. London: Routledge. Originally circulated in 1997; <http://www.linguistics.ucla.edu/people/koopman/papers/pp.pdf>
- Kuroda, Shige-Yuki. 1969. On attachment transformations. In *Modern studies in English: Readings in transformational grammar*, eds. David Reibel & Sanford Schane, 331–51. Englewood Cliffs, NJ: Prentice-Hall.
- Lehiste, Ilse. 2012. Prosodic allomorphs in the Estonian declension system. In *Understanding prosody: The role of context, function and communication*, ed. Oliver Niebuhr, 47–54. Berlin: Walter de Gruyter.
- Matushansky, Ora. 2008. A case study of predication. In *Studies in formal Slavic linguistics. Contributions from formal description of Slavic languages 6.5*, ed. Franc Marušič & Rok Žaucer, 213–39. Frankfurt/Main: Peter Lang.
- Metslang, Helle & Liina Lindström. 2017. The essive in Estonian. In *Uralic essive and the expression of impermanent state*, ed. Casper de Groot, 57–90. Amsterdam: John Benjamins.
- Miljan, Merilin. 2008. Grammatical case in Estonian. Ph.D. dissertation, University of Edinburgh.
- Mohammad, M.A. 1989. The sentential structure of Arabic. Ph.D. dissertation, University of Southern California.
- Mohammad, M.A. 1999. Checking and licensing inside DP in Palestinian Arabic. Ms., UTexas at Austin.
- Moseley, Christopher. 1994. *Colloquial Estonian: The complete course for beginners*. London: Routledge.

- Nchare, Abdoulaye Laziz & Arhonto Terzi. 2014. Licensing silent structure: The spatial prepositions of Shupamem. *Natural Language and Linguistic Theory* 32: 673–710.
- Nevis, Joel. 1986. The comitative, terminative, abessive and essive as clitics in Estonian. *Ural-Altische Jahrbücher* 7: 79–98.
- Newson, Mark & Krisztina Szécsényi. 2012. Dummy auxiliaries and late vocabulary insertion. *The Even Yearbook* 10. 80–125. Budapest: ELTE Department of English Linguistics.
- Nikanne, Urpo. 1993. On assigning semantic cases in Finnish. In *Case and other functional categories in Finnish syntax*, eds. Anders Holmberg & Urpo Nikanne. Berlin: Mouton de Gruyter. 75–88.
- Noonan, Máire. 2010. À to zu. In *Mapping spatial PPs. The cartography of syntactic structures 6*, ed. Guglielmo Cinque and Luigi Rizzi, 161–95. New York: Oxford University Press.
- Norris, Mark. 2015. Case-marking in Estonian pseudopartitives. In *Proceedings of the 41st annual meeting of the Berkeley linguistics society*, ed. Anna E. Jurgensen, H. Sande, S. Lamoureux, K. Baclawski, and A. Zerbe, 371–95. Berkeley, CA: Berkeley Linguistics Society.
- Norris, Mark. 2018a. Nominal structure in a language without articles: The case of Estonian. *Glossa* 3: 41, 1–39. DOI: <https://doi.org/10.5334/gjgl.384>
- Norris, Mark. 2018b. Unmarked case in Estonian nominals. *Natural Language & Linguistic Theory* 36: 523–62. DOI: <https://doi.org/10.1007/s11049-017-9377-9>
- Pantcheva, Marina. 2008. The place of place in Persian. In *Syntax and semantics of spatial P*, ed. Anna Asbury, Jacub Dotlačil, Berit Gehrke & Rick Nouwen, 305–30. Amsterdam: John Benjamins.
- Pantcheva, Marina. 2010. The syntactic structure of locations, goals, and sources. *Linguistics* 48: 1043–81.
- Riemsdijk, Henk van & Riny Huybregts. 2002. Location and locality. *Progress in grammar: Articles at the 20th anniversary of the Comparison of Grammatical Models group in Tilburg*, ed. Marc van Oostendorp & Elena Anagnostopoulou, 1–23. Amsterdam: Meertens Instituut.
- Rutkowski, Paweł. 2001. Numeral phrases in Polish and Estonian. In *Proceedings of the 18th Scandinavian Conference of Linguistics*, ed. Arthur Holmer, Jan-Olof Svantesson, and Åke Viberg, volume 2, 181–90. Lund: Lund University Press.
- Rutkowski, Paweł. 2002. The syntax of quantifier phrases and the inherent vs. structural case distinction. *Linguistic Research* 7: 43–74.
- Saareste, Andrus. 1926. Akusatiivist meie grammatikais [On accusative in our grammars]. *Eesti Keel* 5, 101–5.
- Shlonsky, Ur. 1997. *Clause structure and word Order in Hebrew and Arabic: An essay in comparative Semitic syntax*. New York: Oxford University Press.
- Shlonsky, Ur. 2004. The form of Semitic noun phrases. *Lingua* 114: 1465–1526.
- Siddiqi, Daniel. 2009. *Syntax within the word. Economy, allomorphy and argument selection in Distributed Morphology*. *Linguistik Aktuell/Linguistics Today* 138. Amsterdam: John Benjamins.
- Starke, Michal. 2009. Nanosyntax. A short primer to a new approach to language. In *Nordlyd* 36: 1–6. Tromsø: University of Tromsø. Available at www.ub.uit.no/munin/nordlyd/.
- Svenonius, Peter. 2010. Spatial P in English. In *Mapping spatial PPs. The cartography of syntactic structures 6*, ed. Guglielmo Cinque & Luigi Rizzi, 127–60. New York: Oxford University Press.
- Tamm, Anne. 2007. Perfectivity, telicity, and Estonian verbs. *Nordic Journal of Linguistics* 30: 229–55.
- Terzi, Arhonto. 2005. Locative prepositions as possessums. In *Selected papers from the 16th International Symposium on Theoretical and Applied Linguistics*, ed. Marina Mattheoudakis & Angeliki Psaltou-Joycey, 133–44. Thessaloniki: University of Thessaloniki.
- Terzi, Arhonto. 2008. Locative prepositions as modifiers of an unpronounced noun. In *West Coast Conference on Formal Linguistics (WCCFL) 26*, ed. Charles B. Chang & Hannah J. Haynie, 470–71. Somerville: Cascadilla Press.
- Terzi, Arhonto. 2010. Locative prepositions and Place. In *Mapping spatial PPs. The cartography of syntactic structures 6*, ed. Guglielmo Cinque & Luigi Rizzi, 196–224. New York: Oxford University Press.
- Viks, Ü. 1982. *Klassifikatoorne morfoloogia*. Tallinn: Valgus.

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