

**PARTITIVE MORPHOSEMANTICS
ACROSS ESTONIAN GRAMMATICAL
CATEGORIES, AND CASE VARIATION
WITH EQUI AND RAISING**

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Abstract

This article discusses two related case marking phenomena in Estonian. The first issue is representing partitive morphosemantics as it is expressed in the language specific aspectual, epistemic modal and evidential grammatical categories. A DRT based sketch of propositional attitudes and speaker-hearer relationships explicates several semantic links between the categories. The second case marking issue concerns the nature of empty categories and the distinction of raising and equi with perception verbs. Raising but not equi is the syntactic environment for variation and non-partitive case marking on the subject argument of the predicate that is embedded under mental epistemic verbs. The non-partitive case is an instance of a default accusative on the embedded subject under atelic matrix verbs in raising constructions.

1 Introduction

1.1 The problem

The Estonian case marking phenomena and, specifically, the partitive marking and its relationships with the aspectual, epistemic modal and evidential semantics are a challenge in many areas of linguistic subdisciplines and language modules. The Estonian partitive case marking appears on arguments and predicates, for instance, on the objects *Toomas-t* ‘Thomas’ and *raamatu-t* ‘book’ and the non-finite form *kirjuta-va-t* ‘writing’ respectively in examples (1.1) and (1.2).¹ The object case on the subject of the embedded predicate, *Toomas*, is either partitive, or it varies between partitive and non-partitive (glossed as accusative).

- (1.1) *Mari* *arvas* *Tooma /Toomast* .
M[NOM] think-3S.PST T.ACC/ T.PART
- raamatut* *kirjuta-va-t*.
book.PART write-PERS.PRES.PTCP.PART
‘Mary thought that Thomas was writing a book.’
‘Mary thought of/about Thomas that he was writing a book.’

¹ The glosses follow the Leipzig glossing rules, available at <<http://www.eva.mpg.de/lingua/files/morpheme.html>>. Additional abbreviations: ADE adessive, ALL allative, DA_INF t-stem non-finite form (the ‘da-infinitive’), ELA elative, ILL illative, IMPERS impersonal, INDIR indirect, INE inessive, JUSS jussive, ACT_PTCP active/personal past participle, PERS.PRES.PTCP.PART/PART_EV – personal present participle partitive (morphological gloss)/partitive evidential (gloss for the functional category), PART partitive, PERS personal, PRT particle, TOT total (semantic accusative), TRANSL translative (transformative), PASS_PTCP passive/impersonal past participle.

- (1.2) *Mari* *kuulis* *Toomast/#Tooma*
M[NOM] heard-3S.PST T.PART/T.ACC
- raamatut* *kirjuta-va-t.*
book.PART write-PERS.PRES.PTCP.PART
‘Mary heard Thomas writing a book.’

This article discusses only the perception readings of the verb ‘hear’. The translation of example (1.2) can be ‘Mary heard Thomas was writing a book’ in its literal meaning. For instance, Mary can hear the pen scratching on the paper or the keys of the typewriter being hit. Although the partitive agreement or spreading pattern (Thomas-part – writing-part) may seem to be a plausible synchronic analysis of the two instances of partitive, I argue that in Modern Standard Estonian there is no agreement relationship between the object and the participle. Object case generally encodes aspect in simple sentences. The aspectually telic counterparts of the atelic base predicates with partitive objects in (1.1) and (1.2) have a total object in the embedded predicates as in (1.3) and (1.4).

- (1.3) *Mari* *arvas* *Tooma /Toomast*
M[NOM] think-3S.PST T.ACC/ T.PART
- raamatu* *kirjutavat.*
book.TOT write-PERS.PRES.PTCP.PART
‘Mary thought that Thomas would write a book.’
‘Mary thought of/about Thomas that he would write a book.’

- (1.4) *Mari* *kuulis* *Toomast/#Tooma*
M[NOM] heard-3S.PST T.PART/T.ACC
- raamatu* *kirjutavat.*
book.TOT write-PERS.PRES.PTCP.PART
‘Mary heard that Thomas would write a book.’

There is, therefore, no agreement pattern in Modern Estonian (Thomas-part – writing-part). The partitive on the embedded predicate *kirjutavat* ‘write’ is synchronically part of a complex morpheme that can be decomposed into a partitive and a personal present participle parts, shown in the glossing. There are two related but distinct instances of partitive – aspectual (on the object) and evidential-epistemic modal (of the predicate). One of the goals of this article is to find a consequent way to represent the similarities and differences between the two instances of the partitive. The other goal relates to the issue of empty categories, which is central to generative grammar and shapes its various frameworks. In LFG, the accusative-partitive case variation on the embedded subject *Tooma/Toomast* can be related to a syntactic structural difference, parallel with distinct semantics.

1.2 Case and non-finite forms

The naming of the Estonian object cases is not a trivial matter. Morphologically, there are three object cases: partitive, genitive and nominative. Which of these three morphological cases is the closest equivalent of the ‘normal’ accusative is an exciting topic across the Finnic languages (Lees 2005). The structural or inherent status of the Finnish partitive is another disputed issue (Vainikka & Maling 1996). Several accounts of Finnish treat the partitive case as the ‘default’ object case (Kratzer 2004); others regard it as a combination of structural and semantic case (Kiparsky 2005); yet others define clear formal semantics for partitive (de Hoop 1996). Estonian partitive as an object case is an aspectual semantic case (Tamm 2004a, 2007); in some instances that are reminiscent of Hungarian semantic pseudo-incorporation, non-referential and optionally referential NPs, partitive is the default case (Tamm 2008). Genitive and nominative, referred to as the total case, are also aspectual semantic object cases in simple transitive sentences (Tamm 2004a, 2007); genitive appears on singular nominals and nominative on plurals, most numerals, certain quantifiers and nominals denoting quantities (Erelt et al. 1993).

This paper discusses another set of data that contributes to the analysis of partitive as a semantic case. Case-marked nominalizations frequently give rise to non-finite forms, which were complements originally but develop further into subordinate clauses. The subordinate clause type may be reinterpreted as main clause, while the case marker is reinterpreted as a mood marker. Estonian has several originally case-marked non-finite forms, illustrated in Table 1 (cf. Erelt et al. 1993), and it has a rich morphological case system of 14 cases.

Name	Form	Stem	Suffix	Case
Illative of the m-stem infinitive	-ma	-m-	-	illative
Inessive of the m-stem infinitive	-mas	-m-	-s	inessive
Erelative of the m-stem infinitive	-mast	-m-	-st	relative
Translative of the m-stem infinitive	-maks	-m-	-ks	translative
Abessive of the m-stem infinitive	-mata	-m-	-ta	abessive
Gerundive	-des	-t-	-s	inessive
-da-infinitive	-da	-t-	-	(disputed)
-vat-infinitive	-vat	ptcp	(-t)	partitive

Table 1. The non-finite, originally case marked forms in Estonian.

In particular, the changes concerning the Estonian partitive case and the partitive evidential (*vat*-infinitive, indirect speech, Erelt et al. 1993) illustrate the development from an object case into mood marking, where non-finite, as in (1.1) – (1.4), and even finite verbs (1.5) are originally partitive marked.

- (1.5) *Mari kirjutavat raamatut.*
 M[nom] be-PERS.RES.PTCP.PART book.PART
 ‘Allegedly, Mary is writing a book.’

The partitive case does not only mark dependent NPs according to their syntactic position, grammatical or discourse function, thematic role or inherent NP-properties. There is no case spreading either. The partitive participle form will be referred to as the partitive evidential and glossed as PART_EV in the remainder of this paper if demonstrating that the composition of the constituent morphemes is not relevant. On embedded predicates, its semantic content corresponds to epistemic modality (Tamm forthcoming, b).

2 Aspect and the partitive object case

The aspectual partitive encodes incomplete events, in other words, the lack of maximal boundedness, or more precisely, the lack of the maximal degree of realization of the event. Non-partitive expresses complete events, which are maximally realized and have a clear result. Examples (2.1) and (2.2) illustrate the aspectual case marking.

- (2.1) *Toomas kirjutas raamatu.*
 T[NOM] write-3S.PAST book. TOT
 ‘Thomas wrote a book.’
- (2.2) *Toomas kirjutas raamatut.*
 T[NOM] write-3S.PAST book. PART
 ‘Thomas was writing a book.’

In sentence (2.1) with the object that is marked with an aspectual semantic case referred to as total (comparable to the Finnish accusative), the book-writing event is described as being realized according to the speaker’s idea of a complete, finished event of writing a book. In case of example (2.1) with a total object, the knowledge state about the event of writing a completed book defines the measuring scale of completion. Compared to the scale, the actual completion of the book-writing event does not fall short. As described in example (2.1) with a total object, the book-writing event is realized, in other words, bounded, completely or maximally. Atelic verbs, such as *kuulma* ‘hear’ or *arvama* ‘believe, think’, which cannot be associated with a mental state of completion, are not compatible with the total objects and only appear with partitive objects in simple sentences. In sentence (2.2) with a partitive object, the event is described as not being realized completely. The aspectual partitive expresses the incomplete degree of realization of the actual event as compared to the inferential state about the completed event; for details see Tamm (2007, forthcoming, a).

3 Incomplete evidence, indirect evidentiality, and the partitive evidential

The evidential partitive expresses an insufficient degree of strength of evidence for the event described by the predicate, which is compared to an expectation of sufficient evidence. The strength of evidence is insufficient for the speaker because of the type of perception or report of the direct experiencer of the event. The Estonian partitive evidential encodes the blended semantics of indirect evidentiality (Aikhenvald 2004) with some characteristics of epistemic modality (Tamm forthcoming, a, b, cf. Rätsep 1971, an analysis in terms of ‘indirect mode of communication’, summarized in Erelt, Metslang and Pajusalu 2006). The originally partitive marked personal and impersonal present participles (3.1) form a minimal pair with unmarked forms (3.2) in the Estonian category of evidentiality and epistemic modality.

- (3.1) *Ma tulevat koju.*
 I[NOM] come-PERS.PRES.PTCP.PART home.ILL
 ‘Allegedly, I am coming home.’
Mind too-da-vat koju.
 I.part bring-IMPERS.PRES.PTCP.PART home.ILL
 ‘Allegedly, I am being brought home.’
- (3.2) *Väidetavasti Mari tuleb /tuuakse koju.*
 allegedly M[NOM] come-3.SG/bring-IMPERS.PRES home.ILL
 ‘Allegedly, Mary is coming home/Mary is being brought home.’

In (3.2), the evidence available to the Speaker corresponds to the expectation, and the source of the message is not necessarily another speaker. Grammatically, it is an indicative sentence, with no overt morphological mood marking. The semantic context of indirect evidential meaning (the adverb *allegedly*) does not trigger the use of the partitive evidential, which indicates that the meanings of epistemic modality and evidentiality are simultaneously present in the partitive evidential.

The prototypical examples of the partitive evidential that are discussed in previous sources belong to the quotative (reportative) category as in (3.3); this data seems to support the indirect evidentiality based hypothesis. However, again, report is not a sufficient criterion. The partitive evidential may be missing with report as in (3.4). Simply, the degree of completeness of evidence for the proposition is insufficient in (3.3) as opposed to (3.4).

- (3.3) *Mari ütles, et Toomas olevat koju tulnud.*
 M[NOM]say-3S.PSTthatT[NOM]be-PART_EVhome.ILLcome-ACT_PTCP
 ‘Mary said that Thomas had come home.’
- (3.4) *Mari ütles, et Toomas tuli koju.*
 M[NOM] say-3S.PST that T[NOM]come-3S.PST home.ILL
 ‘Mary said that Thomas had come home.’

In addition to *verba dicendi*, the matrix perception (3.6) and mental epistemic verbs appear with a partitive evidential on a base verb (3.5). A modal meaning is more prominent in sentence (3.5) and the quotative analysis is implausible; on the other hand, the indirect speech analysis does not extend smoothly to perception verbs (3.6) either.

(3.5) *Mari arvas Tooma/Toomast tulnud olevat.*
 M[NOM] believe-3S.PST T.ACC/PART come-ACT.PTCP be-PART_EV
 ‘Mary believed (thought) that Thomas had arrived.’

(3.6) *Mari kuulis Tooma/Toomast tulnud olevat.*
 M[NOM] hear-3S.PST T.ACC/PART come-ACT.PTCP be-PART_EV
 ‘Mary heard how/that Thomas arrived/Thomas had arrived.’

In these examples, the speaker conveys to the hearer that the evidence for Thomas having come home is insufficient, compared to the necessary and expected sufficient evidence. The information is gathered from another speaker or by the type of perception that is not considered reliable for obtaining the required evidence (for details see Tamm forthcoming, a, b). The evidence about the arriving event is compared to another, inferential knowledge state about the evidence for the event, which defines the scale and the sufficient degree of strength of evidence for the event described by the predicate. The partitive encodes insufficient degree of strength of evidence.

4. Summary of aspect and evidentiality and their representation in LFG

The data shows that partitive case-marking pervades the Estonian TAM system and is a cross-categorical phenomenon. Partitive marking corresponds to an incomplete (atelic, non-bounded) event or incomplete evidence. The lack of partitive marking corresponds to complete evidence or event. Partitive is a semantic case as defined in Butt (2006), or Butt and King (2005), with parallel meanings across grammatical categories. Partitive encodes that, compared to the expectation about sufficient evidence or a completely realized event, the available evidence or the realization of the event falls short (Table 2). Partitive encodes incompleteness.

	Partitive marking	No partitive marking
Epistemic modality	Incomplete evidence	Complete evidence
Aspect	Incomplete event	Complete event

Table 2. Events and the object case; evidence and the partitive evidential.

Since the partitive evidential requires the presence of both epistemic modality and evidentiality, the entry of the morpheme in Lexical Functional Grammar

The corollary of the last approach is the divergence of the f-structure features across languages. I consider morphosemantic categories to have language internal psycholinguistic reality, and I represent them as features at the f-structure if they are the intuitive categories for native speakers and form paradigms or systems of minimal pairs in their interactions with other meanings that have grammaticalized.

The aspectual partitive contributes the meaning of no complete event. I proposed to represent it in the form of a feature, as one of the specifications in the lexical entry of the partitive morpheme. This feature is motivated, because it represents a language internally relevant category. Namely, it interacts with the morphosemantics and morphosyntax in the grammar. The aspectual partitive appears in sentences that form a minimal pair with sentences with the aspectual total case. The total case contributes the semantics of complete event in a sentence. The semantics of the partitive object case interacts with the aspectual features of verbs and of the aspectual particles, either completing the aspect or not (Tamm 2007, 2004a, b). The aspectual partitive is also semantically related to the partitive evidential meanings in the evidential and epistemic modal domain of the grammar as described above. In sum, it has a place in the language system. However, as opposed to morphosyntactically more conspicuous features such as agreement features, it is difficult to establish the place of partitive without summoning semantics and the study of related categories.

How about the evidential partitive? Does it have a distinct place in the Estonian morphosyntactic and morphosemantic system? Before proposing an entry for this morpheme, I search for motivation for including the features in the entry according to the criterion of language internal relevance (approach 3 above). In the previous discussion about the aspectual partitive I established that the aspectual and evidential partitive semantics runs parallel (see Table 2). I propose that the two relevant features of the partitive evidential are the indirect evidentiality, referred to as the indirect mode of communication (in the terminology adopted from Rätsep 1971) and incomplete evidence. The relatedness of the categories of aspect and epistemic modality (strength of evidence) has been demonstrated already. In the following I briefly discuss the Estonian jussive (Erelt 2002b) that language internally justifies the feature of indirect mode of communication in the entry of the partitive evidential. The Estonian jussive is an indirect imperative, encoding a mediated command. Also, the jussive has personal (-*gu*) (4.4) and impersonal forms (*ta/da-gu*) (4.5).

- (4.4) *Ma tulgu koju.*
I[NOM] come-JUSS home.ILL
'I should come home (according to a third person).'

- (4.5) *Tuldagu* *koju.*
 come-IMPRS-JUSS home.ILL
 ‘One should come home.’

The English translations are not adequate. The speaker using a jussive form communicates that the command is indirect. The speaker is the mediator of the command of another speaker, and not the direct source of it. As a test, one can try to add a continuation *Nobody told/thinks/commands that except me* to those utterances, which contradicts sentences (4.4) and (4.5). The same speaker relationship is present in the partitive evidential: the speaker communicates with the use of the morpheme that the proposition is not their own assertion, but mediated by them. The mood of the partitive evidential, as opposed to the jussive that is its counterpart in the imperative mood, is argued to be indicative (Rätsep 1971). I assume that the entries for the morphemes of the jussive and the partitive evidential contain a common feature about the indirect mode of communication. However, the entry of the jussive morpheme (4.6) lacks the feature that connects the partitive evidential to the domain of epistemic modality ((↑EVIDENCE) ≠ COMPLETE), since the modal meaning is not part of the jussive meaning.

- (4.6) [-gu] FORM = JUSSIVE
 (↑MODE OF COMMUNICATION) = INDIRECT
 (↑MOOD) = IMPERATIVE
 (↑TENSE) = PRESENT
 (↑VOICE) = PERSONAL

The category of mode of communication has distinctions in the tense and voice category as well. Example (3.1) presented the data of the impersonal form of the partitive evidential. It shows that there is a category that interacts with other categories within the grammar. The entry for the impersonal form in the partitive evidential is illustrated by example (4.7). Having shown that the distinctions are relevant, I propose the entry for the partitive evidential in (4.8). The exact details about linking the form to semantics will be left for further refinement; the following section deals with the semantics of the features of the indirect mode of communication and incomplete evidence (which has an aspectual parallel in incomplete events).

- (4.7) [-ta-vat] FORM = PARTITIVE EVIDENTIAL
 (↑MODE OF COMMUNICATION) = INDIRECT
 (↑EVIDENCE) ≠ COMPLETE
 (↑VOICE) = IMPERSONAL
- (4.8) [-va-t] FORM = PARTITIVE EVIDENTIAL
 (↑MODE OF COMMUNICATION) = INDIRECT
 (↑EVIDENCE) ≠ COMPLETE
 (↑VOICE) = PERSONAL

5 A DRT-based account of propositional attitudes

The exact relationship between evidentiality and modality, as well as the relationship between aspect and modality, is still an unresolved issue in linguistics. The relationship between the morphosyntax and semantics of case is also in need of clarification. The similarities between aspectual (event structural) and evidential categories are attested cross-linguistically and occasionally formalized (e.g., Izvorski 1997, Nikolaeva 1999). In formal approaches to the meaning of the evidentials, pragmatic and semantic approaches have gained momentum (Faller 2002, Garrett 2001). Despite the fact that descriptions of the evidential systems across languages frequently refer to scales of evidence in capturing the semantics of the evidential category, there are few attempts to combine the pragmatic or indirect semantic accounts with scale-based ones in the generative and formal approaches. However, there are several analyses of aspect (event structure) in terms of degrees (Hay et al 1999, Kennedy & McNally 2005, Piñon 2008, scalarity based verb classes in Tamm 2004a). In several formal and functional descriptions of languages, evidentiality is seen as a subtype of epistemic modality or at least having substantial overlap with it (van der Auwera & Plungian 1998), which is formalized in terms of possible world semantics (e.g., Izvorski 1997). The Estonian data show that the interdependencies between three domains of grammar are tighter than previously assumed. Diverging from the well-attested perfect-indirect pattern of relatedness, the interdependencies build on the part-whole, atelicity and imperfective based semantics in Estonian.

In the following I give the preliminaries of the account of sentence (3.5), in terms of an account of Kamp and Bende-Farkas (2006) of epistemic specificity in a DRT-based account of propositional attitudes. The analysis is based on a situation of communication, where speaker A (the 1st person, “me”, the utterer) mediates an experience or knowledge of speaker B (Mary) to the hearer. At each point of communication, the hearer evaluates the content of the communication. The partitive evidential as in (1.1) or (1.2) encodes the information about incomplete evidence (a non-maximal degree of strength of evidence), which is due to the lack of reliable perception of the described event. The information about the participants’ attitudes is represented in the attitude DRS and the knowledge states in the anchor DRS. The discussion presents the representations separately and excludes the less relevant details for the core data discussed in this paper (e.g., temporality).

In combination with non-maximal evidence, the historically partitive marked personal and impersonal present participles are markers of the category

referred to as the Mode of Communication according to Rätsep (1971).² The partial DRS in (5.1) pertains to the speaker B, Mary, who is the original experiencer of the event of Thomas coming home (sentence (3.5)). For B, the evidence for the event is maximal and, therefore, it is part of their beliefs. Mary's beliefs are represented thus in (5.1). Except for the epistemic modal part, the analysis should be applicable to the jussive as well, with some additions that are necessary for representing imperatives.

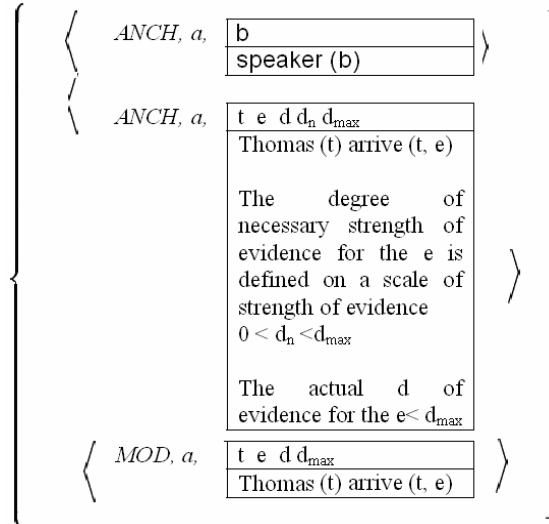
(5.1)

$$\left(\left\{ \begin{array}{l} \left\langle ANCH, b, \begin{array}{|l} t \ e \\ \hline Thomas (t) \ arrive (t, e) \end{array} \right\rangle \\ \left\langle ANCH, b, \begin{array}{|l} t \ e \ d_n \ d_{max} \\ \hline Thomas (t) \ arrive (t, e) \\ \\ The \ necessary \ evidence \\ for \ the \ e \ is \ defined \ on \ a \\ scale \ of \ strength \ of \\ evidence \ 0 < d_n < d_{max} \\ \\ The \ actual \ d \ of \\ evidence \ for \ the \ e \\ = d_{max} \ or < d_{max} \end{array} \right\rangle \\ \left\langle BEL, b, \begin{array}{|l} t \ e \ d_{max} \\ \hline Thomas (t) \ arrive (t, e) \end{array} \right\rangle \end{array} \right\} \right)$$

The DRS in (5.2) pertains to the Speaker A, who acquires the knowledge from speaker B – for whom he is a hearer – and interprets it in his own modality.

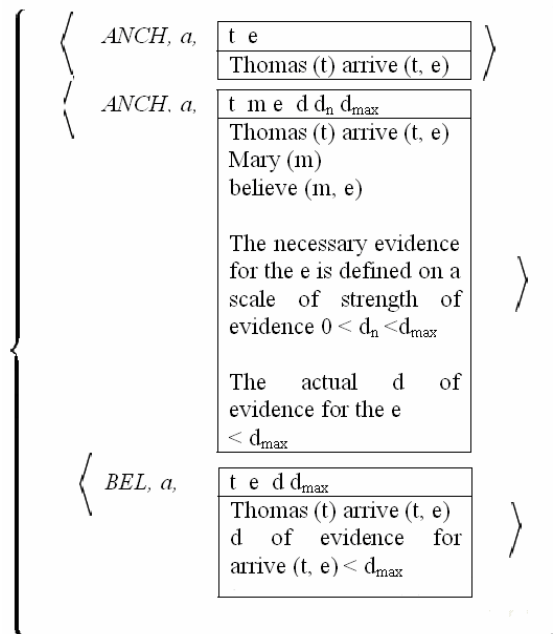
² See also Aikhenvald (2004), Erelt et al. (2006), Kehayov (2008), Tamm (2004a), Sepper (2006), Klaas (1997), (2002), and Erelt (1984), (2002a), (2002b).

(5.2)



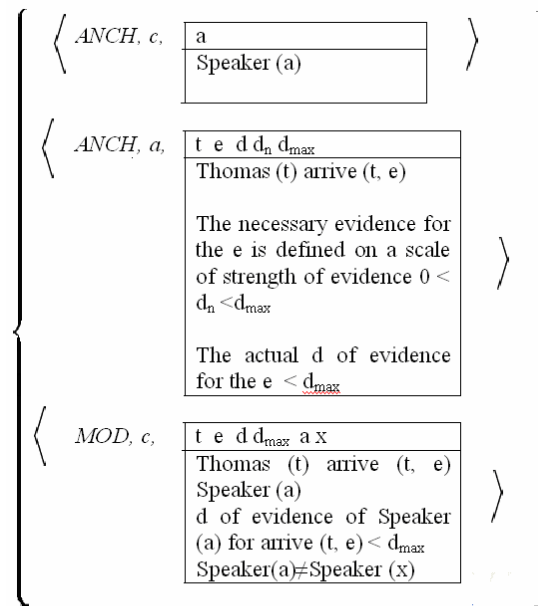
The speaker A is the utterer of sentence (3.5), the one who tells the message (Thomas has come home) to the hearer of the sentence. The partitive evidential expresses, on the one hand, that the message is not firsthand knowledge and that the evidence is not complete (not maximal compared to the scale that defines the sufficient degree of evidence).

(5.3)



The hearer has his knowledge from speaker A, but he evaluates it in his own way (5.4). For the hearer, there has been another speaker whose message is not considered as providing maximal evidence for speaker A. However, as in the case of the non-specific indefinites, for the hearer, the other speaker can have any referent except the speaker A.

(5.4)



6 Case variation of the subject of the embedded non-finite predicate

This section shows that the genitive and nominative objects are not aspectual semantic cases in raising environments with atelic matrix verbs. I propose that genitive and nominative (at least if they appear as the case of the embedded subject in the raising contexts) are an instance of an ‘elsewhere’ case – a default accusative. The morphological change replacing the genitive on aspectual objects with partitive has not affected all objects at this stage of language development, as shown in the diverging examples (6.1) and (6.2). Tests show that for this meaning, the sentence does not represent a completed event – the verbs *arvama* ‘think’ and *kuulma* ‘hear’ would co-occur with a partitive object (6.3).

- (6.1) *Mari arvas Tooma/Toomast tulevat.*
M[NOM] believe-3S.PST T.ACC/PART come-PART_EV
‘Mary believed (thought) that Thomas arrived/would arrive.’

- (6.2) *Mari kuulis Toomast/#Tooma tulevat.*
 M[NOM] hear-3S.PST T.PART/T.ACC come-PART_EV
 ‘Mary heard how /that Thomas arrived.’
- (6.3) *Mari arvas/kuulis seda/*selle (pikka aega).*
 M[NOM] think/hear-3S.PST this.PART/TOT for a long time
 ‘Mary thought/heard this (for a long time).’

The difference in the variation of case on the embedded subject, where the verb *arvama* ‘think’ allows for variation as in (6.1) and the verb *kuulma* ‘hear’ does not as in (6.2), leads to the question of how to account for the variation, if there is no aspectual difference.

LFG distinguishes between two control relationships for these constructions that are similar in their surface form, raising and equi (Bresnan 1982, Dalrymple 2001, Komlósy 2001). This section cannot do justice to the vast literature on control but relates new data about the impact of the TAM categories to control phenomena. In an equi sentence, the subject of the non-finite clause is not expressed and is identical with an argument of the finite verb; the identity relation links the subject of the non-finite clause with the finite verb’s object. In raising, the subject of the non-finite clause is not a thematic argument of the matrix verb, but shows object-like properties and appears in the object position of the finite clause. Hiietam (2003:149) discusses two object control (equi) verbs in Estonian (*veenma* ‘persuade’ and *käskima* ‘order’) and some subject-to-object raising constructions, *teadma* ‘know’ and *uskuma* ‘believe’ (Hiietam 2003:151-152). Equi can be regarded as obligatory anaphoric control and not functional control. It can be hypothesized that raising to object versus equi can be related to the case alternation on objects. Two hypotheses about the alternating case will be checked against the data: 1) the varying arguments appear with raising while the invariant ones appear with equi structures, and 2) with equi, the object is an aspectual object.

A comparison between the verbs in (1.1) and (1.2) shows that hypothesis 1 is verified. Many well-known tests used to detect the distinction are not applicable; however, the test of idioms is (‘the cat is out of the bag’). For the idiomatic reading to be available, the phrasal constituent cannot be an argument of another predicate (6.5).

- (6.4) *I convinced the cat to be out of the bag. (equi)
 (6.5) I believed the cat to be out of the bag. (raising)

Testing shows that variation appears with raising, and it does not appear with equi. The idiomatic reading is not available with *kuulma* ‘hear’ (6.6) and it is available with *arvama* ‘believe, think’ (6.7). The verb *kuulma* ‘hear’ can be classified as an equi verb and the verb *arvama* ‘believe’ can be classified as a

raising verb. The idiom for testing is *Sinna ongi koer maetud* ‘that’s where the problem is’ (literally, ‘that’s where the dog has been buried’). The vowel length of the partitive form differs from that of the genitive one and is indicated by underlining.

(6.6) *Ma kuulsin koera sinna maetud olevat.*
 I[NOM] hear-3S.PST dog.PART there bury-PASS.PTCP be-PART_EV
 ‘I heard that the dog had been buried there.’ (Non-idiomatic.)

(6.7) *Ma arvasin koera sinna maetud olevat.*
 I[NOM] believe-3S.PST dog.ACC there bury-PASS.PTCP be-PART_EV
 ‘I believed that that was the origin of the problem.’ (both)

It is important to note that the case encoding of the base predicate’s subject matters for the interpretation and well-formedness of the test sentence. The idiomatic meaning that is present with an accusative object and the mental epistemic matrix verb disappears with the partitive embedded subject encoding as in (6.8).

(6.8) *Ma arvasin koera sinna maetud olevat.*
 I[NOM] believe-3S.PST dog.PART there bury-PASS.PTCP be-PART_EV
 ‘I believed that that the dog was buried there.’ (Non-idiomatic.)

Does partitive signal an equi construction, and does the morphological genitive appear only in raising constructions? The answers are yes, and no respectively, if the test indeed tests for the distinction of equi and raising. With partitive, the idiomatic meaning is lost. However, the morphological genitive is perhaps not obligatorily an instance of a default accusative. In order to solve the dilemma, a telic matrix verb should be selected, which has predominantly total object case encoding, and submitted to the same idiom test. Example (6.9) indicates a non-idiomatic interpretation of the idiom. In this environment, genitive can appear as a total case as well, which I analyze as the aspectual semantic case.

(6.9) *Ma leidsin koera sinna maetud olevat.*
 I[NOM] find-3S.PST dog.TOT there bury-PASS.PTCP be-PART_EV
 ‘I found that that the dog was buried there.’ (Non-idiomatic.)

This combination of a non-partitive object and a telic matrix verb patterns with atelic matrix verbs in allowing only the non-idiomatic reading. With the atelic matrix verbs, the embedded subject is partitive marked, as in (6.6) and (6.8). In the test, example (6.9) does not pattern with example (6.7), which has the accusative object and the matrix verb *arvama* ‘believe’, since it does not allow the idiomatic reading. Therefore, case does not directly reflect whether we have equi or raising in those environments. While partitive patterns with equi, there is a distinction between the non-partitive objects. The morphological genitive appears as the default accusative (not as the semantic total) only if the matrix verb is atelic; otherwise, the non-partitive (genitive) is an instance of total, an aspectual object case. The aspectual object must be thematic.

Since partitive never gives idiomatic readings in these tests, it is possible that raising verbs are in the process of developing into equi verbs. The variation and the clear increase in partitive in the variation may alternatively point to the diachronic fact that the original ‘default’ case of objects was accusative. The structural change targets the default case, which is now being taken over by partitive. The gradual change may be affecting distinct structures at different speeds. The change can be understood as follows: from the status of the embedded subject argument as a semantic argument of the base verb to the semantic argument of both verbs; from a raising structure to an equi structure; from a purely structural object case to aspectual object case; possibly, from accusative (genitive) as the default object case to partitive as the default object case. The lexical entries, reflecting the optional case restriction on the raising verbs are in (6.10), (6.13), and (6.14).

- (6.10) **arvama**, V ‘believe <(↑SUBJ), (↑XCOMP)> (↑OBJ)’
 (↑XCOMP SUBJ) = (↑OBJ)
 ((↑XCOMP SUBJ CASE) = ACC)
 (↑EVENT) ≠ COMPLETE

However, before presenting an entry for the auditory matrix verb, some more data must be examined about equi, raising, and case. Namely, the choice of tense influences the acceptability of the accusative on the embedded subject. As opposed to clauses with present tense and incomplete (progressive) events (book-writing), which do not appear with accusative embedded subjects as in (6.11), accusative embedded subjects are unexpectedly allowed with past tense clauses describing a result, Thomas having arrived as in (6.12).

- (6.11) *Mari kuulis Toomast/#Tooma raamatut kirjutavat*
 M[NOM] heard-3S.PST T.PART/T.ACC book.PART write-PART_EV
 ‘Mary heard Thomas writing a book.’

- (6.12) *Mari kuulis Toomast/ Tooma tulnud olevat.*
 M[NOM] hear-3S.PST T.PART/ACC come-ACT.PTCP be-PART_EV
 ‘Mary heard that Thomas had arrived.’

Since a tense and aspect distinction can be identified as a factor behind case variation, the lexical entry must be more specific, even if it is at present not clear what the exact phenomenon behind the choice of case might be. It seems reasonable to assume that the agent is more prominent or saliently perceived in progressive activities (Thomas writing a book) than in the descriptions of result states of the activities of the agents (the result state of Thomas being at home). This intuitive distinction between whether the secondary agent or the result state is more prominent seems to map to the morphosyntactic and morphosemantic pattern, but there are no further valid tests. Therefore, the implications of this observation for equi, raising and case

marking will be left for further study; I propose that prominence in perception influences whether there is a thematic relationship between the matrix predicate and the agent of the embedded predicate. Tense and aspect can condition what is prominent. The two lexical entries reflect the observed difference, in (6.13) allowing for partitive and in (6.14) allowing for accusative in case of completed past events.

(6.13) **kuulma**¹, V ‘hear’ <(\uparrow SUBJ), (\uparrow OBJ) (\uparrow XCOMP)>’
 (\uparrow XCOMP SUBJ) = (\uparrow OBJ)
 (\uparrow EVENT) \neq COMPLETE

(6.14) **kuulma**², V ‘hear’ <(\uparrow SUBJ), (\uparrow XCOMP)> (\uparrow OBJ)’
 (\uparrow EVENT) \neq COMPLETE
 (\uparrow XCOMP SUBJ) = (\uparrow OBJ)
 (\uparrow XCOMP SUBJ CASE) = ACC
 (\uparrow XCOMP TNS) = PAST
 (\uparrow XCOMP EVENT) = COMPLETE

7 Summary

The article discusses two related partitive and non-partitive case marking phenomena in Estonian. The first issue concerns representing partitive semantics as it is expressed in the aspectual, epistemic modal and evidential domains. Analogously with an account of epistemic specificity, a DRT sketch of propositional attitudes and multiple speaker-hearer relationships explicates some semantic links between these grammar domains. The semantics of the partitive evidential, an evidentiality and epistemic modality marker in Estonian, is parallel with that of the aspectual partitive, from which it originally developed. The aspectual partitive encodes the lack of the complete event realization or maximal boundedness; the evidential partitive encodes the lack of the complete (maximal) evidence. In addition, three different approaches to functional specifications at the lexical entries of the partitive morphemes are presented. The second case marking issue concerns the nature of empty categories and the distinction of raising and equi. Raising but not equi is the syntactic environment for variation and the accusative case marking on the subject argument of the embedded predicate verb under Estonian mental epistemic matrix verbs. The morphological genitive and nominative, at least as the cases of the embedded subject in the raising contexts, are an instance of an ‘elsewhere’ case, a default accusative. Data from morphologically rich languages will potentially continue to clarify some disputed issues about case, and the nature of the relation between cognitive prominence, linguistic encoding and interfaces in general.

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