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Rethinking case marking and case alternation in Estonian

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In this paper, we argue for a view of case marking that does not treat case as the passive realisation of other morpho-syntactic properties of a construction but as independently bringing information to a clause. This different view of case entails that precise functions of case-marked expressions may be determined by the interaction of the case marking, the meaning of the host noun, the semantics of any predicate of which it is an argument and other contextually given factors. With respect to Estonian, it is argued that there is only one ‘structural’ case, the genitive, and this case marks non-subject, or oblique, dependency on some head. The partitive case, we argue, is semantically partitive in all its uses, except that the partitive meaning can be obscured or even eliminated depending on contextual factors. The nominative is merely the absence of case, associated with no specific positions or semantic effects.

Keywords genitive, inferential approach to case, nominative, partitive case alternation

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1. INTRODUCTION

Given the central role played by case in the grammars of the classical Indo-European languages, the function of case and case marking has been the subject of study for two and a half thousand years. In modern times, the subject has been a consistent focus of debate in syntactic theory since the advent of generative grammar as a significant grammatical model in the early 1960s. But despite the extensive literature on the topic, the concept of case remains elusive (Butt 2006:3). Fundamental questions about case marking such as why case should exist at all have not yet been answered to the satisfaction of many linguists. Even the question of whether case should be regarded as primarily syntactic in nature (Chomsky 1981), or is more a matter of morphology (Marantz 1991, and many others thereafter), or whether a combination of both is necessary to explain the data (e.g. Baker & Vinokurova 2010). There are also recurring issues as to whether syntactic case should be seen as connected to a semantic content or taken only as a formal licensing mechanism.¹ This paper

aims to contribute to the debate about the nature and function of case marking by addressing the notion of case and its role in grammar. It offers a very different view of the role of case marking to most grammatical frameworks, and argues that there is no need to invoke concepts of syntactic (or abstract) case to explain problematic or recalcitrant data. Instead, we argue that case actively contributes to the syntactic and interpretational properties of its containing clause and the patterns observed can be explained by looking at (pragmatic) inferential extensions of basic meanings and functions of particular cases within a system.

The prevailing view of case in most current syntactic theories is that it is the passive realisation of other morpho-syntactic properties of a construction. This means that case is typically seen as grammatically trivial: it does nothing itself but is assigned or checked by some other (functional or predicative) element to satisfy some constraint or other. Probably, the most extreme view of the impotence of case is held by those theories of transformational grammar that require case to be deleted or eliminated during the course of a syntactic derivation as something that is not semantically interpretable and so inadmissible as a feature at LF. A notable exception to the view of case as syntactically dependent is Nordlinger (1998), who provides an account of certain types of case marking in Australian native languages in Lexical-Functional Grammar (LFG) in which case markers project syntactic structure independently of any element of which the marked noun phrase is a dependent expression. This view of case marking treated as 'constructive' goes some way to redressing the balance of explanation from pure dependency marking to determining properties of an expression. However, in Nordlinger's treatment the notion of constructive case is still syntactic and still only relates the case-marked noun phrase to expressions on which it is syntactically dependent.

The problem with such approaches is that they impose a strict dichotomy within the case system between grammatical or structural case and semantic or independent case, the former being determined by some other aspect of the clause (dependency on a predicate, position within a tree, etc.) and the latter being generally independent of such factors as in some sense inherent to the meaning of the case-marked noun phrase. Thus, in current versions of transformational grammar we have a situation where within a theory one operates with a variety of categories of case, all determined by the way they are assigned. For instance, there is a notion of structural case (so called because it is assigned to an NP in a specific structural position), with several types of this structural case determined by the type of assignment: (i) a structural (or abstract) case that is assigned under agreement by a relevant functional head (in the narrow syntax) (e.g. Chomsky 2000, 2001); (ii) dependent case (e.g. accusative or ergative), which is assigned configurationally in a certain syntactic position by a particular rule (assigned in the morphology) (e.g. Marantz 1991); and (iii) structural case that is assigned by default to any noun phrase which is not marked for case otherwise (Marantz 1991) (i.e. default case). Then there is a notion of lexical case,

which is assigned either by the particular properties of a verb (inherent case) or by (null) adpositions, and semantic case, which is assigned by some specific theta-role.

A priori, the non-homogeneity in the theoretical analysis of case is not problematic, as long as the distinctions capture a real and significant set of regularities. This is not self-evidently the case, however. In particular, the multiplicity of analyses of case often obscures generalisations across similarly case-marked terms where the same cases engage in the same sorts of grammatical constructions, even though in one situation the case is analysed as structural and in the other as semantic. For example, in Estonian (as in other Finnic languages), certain temporal, quantity, and measure adverbials like that in (1) may show identical case marking to direct objects, as in (2), and undergo similar morphosyntactic changes: genitive case on a temporal quantifier becomes partitive under negation, as in (3), similarly to objects, in (4), and changes into nominative in imperatives, as seen in (5), exactly like objects do, see (6).

- (1) Ma ootasin (ühe) minuti.²
1SG.NOM wait.PST.1SG one.GEN.SG minute.GEN.SG
 'I waited for one minute.'
- (2) Poiss sõi (ühe) jäätise.
boy.NOM.SG eat.PST.3SG one.GEN.SG ice.cream.GEN.SG
 'The boy ate an ice cream.'
- (3) Ma ei oodanud (ühte) minutit-ki.
1SG.NOM NEG wait.PST.PTCP one.PART.SG minute.PART.SG-CL
 'I did not wait (even) for a minute.'
- (4) Poiss ei söönud (ühte) jäätist-ki.
boy.NOM.SG NEG eat.PST.PTCP one.PART.SG ice.cream.PART.SG-CL
 'The boy did not eat a (single) ice-cream.'
- (5) Oota üks minut!
wait.IMP.2SG one.NOM.SG minute.NOM.SG
 'Wait a minute!'
- (6) Söö üks jäätis!
eat.IMP.2SG one.NOM.SG ice.cream.NOM.SG
 'Eat an ice-cream!'

The distinction between grammatical (or structural) and semantic cases, as well as the different kinds of structural case, requires a treatment of case forms as homonyms. Case syncretism is a common phenomenon cross-linguistically, so it could be argued that homonymy of case forms must exist. However, syncretism typically applies only to particular paradigms, not to the whole case system (otherwise the syncretism would not be visible). The sort of homonymy implied by a strict separation of semantic and

grammatical uses of case and by the differential treatment of elements with the same case according to different functions in a clause gives rise to homonymy on a wide scale. Minimally there are two homonyms for each grammatical and structural use with any variant function in either domain, potentially leading to the postulation of yet another homonym for that form. Such an approach quickly loses any claim to have explanatory potential as every possible difference in behaviour of a case-marked expression can be encoded as yet another, independent and unrelated, case. Any grammatical generalisations, such as those illustrated in (1)–(6) above are invariably lost or rendered mysterious, redundancy in the morphological system abounds and the concept of case gets even fuzzier.

In this paper, we argue for an approach to case which takes morphological case seriously in the sense that case markers are taken to directly provide information that determines the structure and interpretation of the clauses in which they appear. In particular, we take case alternations in Estonian as the basis for arguing that a non-homonymous theory of case can be developed that explains the observed regularities without redundancy. The exegesis is not formal and does not provide a fully-fledged theory of case and case marking, as the intention is to provide the discursive basis on which a more formal theory may be developed. We will, however, provide sketches of how we understand the three cases we concentrate on (nominative, genitive and partitive) to operate. Since our theoretical preference is to unify syntactic and semantic explanations of case, these sketches are couched in the theoretical concepts employed in *Dynamic Syntax* (Kempson, Meyer-Viol & Gabbay 2001, Cann, Kempson & Marten 2005). This theoretical framework eschews the concept of purely syntactic representations in favour of a dynamic view of syntax as the means by which the interpretations of strings of words are incrementally built up as a word by word parse of that string is made. In particular, this framework treats words not as being things that inhabit trees or attribute–value matrices, but as things that procedurally build up semantic contents in context. The consequences for us are that on this view a case-marked noun phrase necessarily provides information about HOW the content of that noun phrase is to be incorporated into the unfolding propositional representation. We omit all formal details of the theory in order not to burden the reader with excessive technical detail and to leave the general exposition as clear as possible.

That said, however, the adoption of a framework like *Dynamic Syntax* is not necessary for the mode of explanation that we pursue here. What is important is that the approach is diametrically opposed to the syntactic mode of analysing case in terms of case assignment. Syntax-based approaches to case take the syntactic function of the case-marked term as a starting point in analysing case or generalising about a particular case. We, on the other hand, take the primary function of the case itself as a starting point and then show how the information it contributes is interpreted in terms of syntactic functions it may perform. This, we argue, provides a truer insight into the role and function of case marking than the former approach.

2. CASE MARKING IN ESTONIAN: SOME THEORETICAL PROBLEMS

2.1 Case marking of the core arguments

Estonian uses several morphological cases to signal core participants. The object function can be expressed by three case forms: partitive, as in (7) below, genitive, as in (2) above, repeated in (8), and nominative, also in (8). The subject is typically signalled by nominative, but in intransitive clauses it may take a partitive case, shown in (9), even with active verbs.

- (7) Poiss sõi jäätist.
 boy.NOM.SG eat.PST.3SG ice.cream.PART.SG
 'The boy was eating ice-cream.'/ 'The boy ate some ice-cream.'
- (8) Poiss sõi jäätise/jäätised (ära).
 boy.NOM.SG eat.PST.3SG ice.cream.GEN.SG/ice.cream.NOM.PL up
 'The boy ate an ice cream/ice-creams (up).'
- (9) Külalisi saabus.
 guest.PART.PL arrive.PST.3SG
 'Some guests arrived.'/ 'Guests were arriving.'

The interpretation of the partitive-marked noun phrase depends on the meaning of the host nominal and the properties of the predicate, as well as other contextual factors. With mass terms as transitive objects, the genitive signals that some specific amount of the NP denotation has been affected by the event, while the partitive signals either that (only) some of particular portion of something has been affected or that the event is ongoing (imperfective). The alternation between the genitive singular and nominative plural on the object in (8) depends on number: genitive is used on singular NPs and nominative on plural NPs.

Functional and cognitive approaches (e.g. Heinämäki 1984, 1994; Huomo 2010; Metslang 2012, Tamm 2012, i.a.m.) account for the object marking in the Finnic languages by taking the assignment of morphological partitive, genitive, and nominative to be directly conditioned by the related interpretations (e.g. aspectual, quantificational). In other words, case marking is seen as being determined by the semantics of a particular construction. Syntax-based formal models, in contrast, generally explain the partitive versus genitive/nominative alternation by treating partitive as the structural case for the direct object in (7), realised by morphological partitive; whereas the objects in (8) are treated as the reflections of a syntactic accusative, realised by genitive in singular and nominative in plural (see e.g. Nelson 1995, Ritter & Rosen 2001, Svenonius 2002).

An immediate problem presents itself with respect to Estonian: there is little or no morphological evidence for an accusative case.³ The historical evidence which

is often referred to in order to back up the stipulation of accusative appears to be contradictory. There is a traditional interpretation (see e.g. Wickman 1955, Janhunen 1982, Abondolo 1998) which maintains that the reconstruction of the Uralic nominal case-marking system points to the existence of an originally Proto-Uralic accusative with the distinctive ending **m* (which has retained its original form in Mari). It is believed that during the Finnic stage, a sound change occurred from *-m* to *-n* in a word-final position due to which the accusative collapsed with the genitive singular, e.g. **kala-m* > *kala-n* ‘fish’. The *-n* ending later disappeared in Estonian, e.g. *kala* < *kalan*, but is still present in Finnish. There are some other competing hypotheses, however, which are in the minority for no clear reason. For instance, Künnap (2006, 2008) questions the validity of reconstructing a distinct accusative suffix (**)-m*, which is common to all the Uralic/Proto-Uralic languages. He draws attention to the fact that ‘the Finnic language matter has never fixed any incidence with the supposed accusative ending **-m* in its primary form *-m(-)*’ (Künnap 2006:21), and he argues therefore that the suggested development of syncretism between accusative and genitive as a result of Finnic word-final sound shift from *-m* to *-n* cannot be regarded as reliable. Instead, Künnap (2008:35) suggests that the genitive, which he refers to as ‘bifunctional connective *n*-case’, is the original ‘*n*-case’ and has been ‘one of the earliest Finnic object cases’ (Künnap 2006:18). As for the nominative form, Havas (2008) argues that the object in nominative was an ‘unmarked object’, and that Proto-Uralic must have had the category of unmarked object which still exists in all modern Uralic languages in the form that is now referred to as nominative; therefore, he reasons, these objects ‘cannot in most cases be thought to result from the apocope of the original **-m*’ (Havas 2008:1–2).

Setting aside the historical problem with postulating an accusative case in Estonian, there are further problems with such an analysis of the alternation. Transformational theories that follow the hypothesis that accusative and partitive are structural cases treat the cases as being assigned by particular functional heads related to aspect. (In this respect, these theories follow the explanations offered in functional and cognitive literature in which the final interpretation of a phrase including a case-marked expression is taken as a factor which affects the object case assignment, see e.g. Heinämäki 1984, 1994; Leino 1991, i.a.m.) Thus, in accounts of Finnish data (which are similar to Estonian), the assignment of the accusative is related to a telic verbal head (e.g. Nelson 1995, Kiparsky 1998, Ritter & Rosen 2001, Svenonius 2002), while the assignment of the partitive is related to the unmarked value, i.e. atelic verbal head. This syntax-based view of case is not unproblematic: since syntax is treated separately from semantics, one has to posit multiple types of the same structural case marker, each assigned by a different functional head or rule, to account for different interpretations that are associated with it.

For example, Kiparsky (1998, 2001) argues for three types of structural partitive in Finnish: (i) a partitive which is assigned by an atelic head in examples such as

(7) above (referred to as a VP-related partitive); (ii) a partitive which is assigned by a (null) quantifier head to its nearby noun phrase (i.e. an NP-related partitive), e.g. ‘gold’ in (10), since the verbal head, ‘to find’, denotes a telic event; and (iii) a partitive which is assigned by negation, as in (4) above.⁴

- (10) Ta leidis kulda.
3SG.NOM find.PST.3SG gold.PART.SG
 ‘S/he found (some) gold.’

Thus, the actual function of the partitive case and its relation to other elements remains obscured due to the posited ambiguity (multiple forms) at structural level, and no explanatory value is achieved. That is, we have multiple types of the same case marker in order to account for interpretational effects which are associated with it in addition to the homonymy between different uses of the same case form, as the result of maintaining a sharp distinction between structural (grammatical) and semantic uses of case.

This is not all. The syntax-based view of case tends to correlate each case one-to-one with a particular structural position or grammatical function so that, on the basis of Finnic data, two nominative forms are typically assumed: ‘subject’ nominative, as in (1)–(4) above, and ‘object’ nominative, as in (6) above (e.g. Hiietam 2003), realised by morphological nominative in the subject position and by a zero-form in the object position (e.g. Nelson 1995), respectively. The same holds for the genitive in Finnic: there is a genitive which realises the syntactic accusative (as in (8) above) and the genitive of possession in nominal phrases, as in (11).

- (11) Poisi raamat vedeles põrandal.
boy.GEN.SG book.NOM.SG lie.PST.3SG floor.ADE.SG
 ‘The book of the boy was lying/lied on the floor.’

The implied homonymy turns especially problematic in certain constructions in Estonian, where only one core argument is expressed explicitly. Specifically, if we assume structural accusative in examples such as (8) above, then the question arises what case is assigned to the argument in imperatives, as in (6) above, repeated in (12).

- (12) Söö üks jäätis!
eat.IMP.2SG one.NOM.SG ice.cream.NOM.SG
 ‘Eat an ice-cream!’

Is this case accusative, and if yes, what assigns it? Or does the single object argument receive (subject) nominative marking due to the lack of the subject and hence the syntactic inactivity of the verb (see the original version of Burzio’s generalisation, Burzio 1986)? Yet the syntactic inactivity of the verb is not plausible, as the (structural) partitive is straightforwardly assigned in these constructions (13).

- (13) Söö jäätist!
eat.IMP.2SG ice.cream.PART.SG
 'Eat (some) ice-cream!'

Note that even though a different perspective to Burzio's generalisation is offered by case containment theory (as in e.g. Caha 2009), whereby accusative is always assigned to the object but then it may be eliminated due to a further raising to nominative if the nominative position is left unfilled, this does not work in Estonian (as well as in Finnish), since the nominative position may be filled, showing agreement even in number, as in (14) and (15), meaning that the nominative on the object of imperative verbs is still left unaccounted for.

- (14) Sa söö üks jäätis!
2SG.NOM eat.IMP.2SG one.NOM.SG ice-cream.NOM.SG
 '(You) eat one ice-cream!'

- (15) Te sööge üks jäätis!
2PL.NOM eat.IMP.2PL one.NOM.SG ice-cream.NOM.SG
 '(You-all) eat one ice-cream!'

A related question is what assigns partitive case to subjects in intransitive clauses with an active verb, as in (9) above, repeated in (16).

- (16) Külalisi saabus.
guest.PART.PL arrive.PST.3SG
 'Some guests arrived./'Guests were arriving.'

When we assume structural (or abstract) case, it is correlated one-to-one with relevant structural positions and partitive is associated with the complement position. Hence the question where the partitive case on the subject of the active verb should come from. Nor can configuration-based case assignment (see e.g. Marantz 1991) provide a principled explanation, since according to this way of assignment, the unmarked case of the subject in the nominative-accusative system is nominative, and not partitive, which would be a dependent case. Since nominative is not present in this construction, partitive cannot be assigned either. Another way is to analyse partitive in Estonian as a lexically assigned case, but this is not plausible either, as the subject of the verb can occur both in partitive and nominative, as shown by (17), thus indicating that no particular case is related to the properties of this verb.

- (17) Külalised saabusid.
guest.NOM.PL arrive.PST.3PL
 'The guests have arrived.'

Another major issue with the concept of structural case is that since in the frameworks where this concept is employed, syntax is seen as separated from

semantics, and in order to account for interpretational effects in case alternation contexts, obligatory semantic correlations with the case assignment have to be established (either via a relevant case assigner or correspondence rules). As a rule, these posited correlations are absolute, i.e. are assumed to hold across the board, since each structural case is assigned by a different functional head and all the argument noun phrases need their case to be valued (or assigned). Even though some core data in a language may show regular alternations and the associated interpretations appear to be generalisable by some semantic concept (e.g. unboundedness, as in Kiparsky 1998, 2001⁵ and many others after him), there are often data which do not confirm to these generalisations and are typically ignored. For example, case alternation on the core arguments in Estonian may be optional (i.e. depending on lexical semantics, pragmatics and extra-linguistic factors, as discussed in Section 4 below), as pointed out in reference grammars of Estonian: the object of the verb may be optionally realised by either genitive or partitive case, as in (18), or the subject may be optionally realised by the nominative or partitive, as in (19).

- (18) Korrigeerisime maksegraafikut/maksegraafiku.
correct.PST.1PL paying.schedule.PART.SG/GEN.SG
 'We corrected the paying schedule.'

(Erelt, Erelt & Ross 2007:474)

- (19) Aknast hoovas tuppa külma õhku/külm
window.EL.SG stream.PST.3SG room.ILL.SG cold.PART.SG air.PART.SG/cold.NOM.SG
 õhk.
air.NOM.SG
 'From the window, cold air streamed in/was streaming in.'

(Erelt et al. 1993:44)

This optionality in the differential case marking of arguments shows that the correspondence between case marking and postulated semantic features (or case assigners) is not absolute, and one needs to take context-dependency into account. More importantly, such examples indicate that it is not plausible to analyse case as a passive marker which is assigned, but rather as a marker which carries information on its own, and that the interpretational effects depend on several interactions (as discussed in Section 4).

Further evidence which pushes one in the direction of an approach that takes context-dependency into account comes from examples such as (20) and (an attested) (21).

- (20) Eestlased vahetasid välja läti rahuvalvajak.
Estonian.NOM.PL replace.PST.3PL out Latvian.GEN.SG peacekeeper.NOM.PL
 (i) 'The Estonians replaced the Latvian peacekeepers.'
 (ii) 'The Latvian peacekeepers replaced the Estonians.'

(21) Orav viis selle käbi peidukohta.
squirrel.NOM.SG take.PST.3SG this.GEN cone.GEN.SG hiding.place.ILL.SG

(i) 'The squirrel took this cone to a hiding place.'

(ii) 'The squirrel took this to a hiding place for the cone.'

(<http://kodu.ut.ee/~kaili/Loengud/Mudelid08/lnotes1.pdf>)

In both cases, the syntactic environment necessary for the appropriate case assignment cannot be determined at the clause level by syntax, but other levels of linguistic information (such as discourse) need to be taken into account. In (20), there are two arguments occurring in the nominative form. Since Estonian word order is determined by information structure whereby topic precedes the verb, the pre-verbal nominative argument may either express agent or patient, i.e. without further context there is no way of telling whether we should assign (subject) nominative to the preverbal argument or syntactic accusative, which is realised by nominative.

Likewise, for a structure-based analysis of case, it would be hard to resolve the ambiguity of the functions of genitive in certain contexts in Estonian, as in (21). Specifically, when more than one genitive-marked nouns occur in a sequence, it is impossible to distinguish the modifier function from the object function without taking the discourse context into account, in this case, to determine whether the noun 'cone' in (21) should be assigned possessive genitive to indicate its function as a modifier or the syntactic accusative to indicate its object function that would be realised by the genitive singular at morphological level. This problem of ambiguity of the genitive in Estonian is introduced in Roosmaa et al. (2003).

It is hard to see how to solve the puzzles mentioned above by tackling case marking from a syntactic perspective and viewing case as a passive marker of some other properties. The abstract notion of case, or structural case, does not appear to provide any explanatory simplicity: (i) it has no predictive power apart from stating, for example, that abstract/syntactic accusative exists in Estonian; (ii) it creates redundancy by implying homonymy both at the level of structural case (consider e.g. the three structural partitives in Finnish) and morphological case (e.g. the arbitrary distinction between structural and semantic case), as well as in the forms that realise structural case (e.g. the distinction between nominative form and zero-case); (iii) much data are left unexplained (e.g. partitive on intransitive subjects, optional variation in case marking, nominative on the object of imperative verbs); and (iv) some data would be hard to explain (e.g. context-dependent interpretations of case marking, which points to syntactic underspecification of some grammatical case markers). The overriding question that begs an answer within such an approach is why is it one particular case that is realised by this particular structural configuration and not another. It is hard to see how this question could be answered in such frameworks and yet the pattern of case distribution does not seem to be arbitrary, as we discuss below. It appears, then, that a different approach to case is needed which, while aiming at explanatory simplicity, is also able to account for context-dependency,

interactions at semantic and pragmatic (information structure) level, as well as for structural underspecification.

2.2 Case distribution within a noun phrase: Implications for a theory of case

A controversial set of data for a theory of case has been numeral constructions such as in Finno-Ugric and Slavonic languages (for an overview of this complex case phenomenon, see e.g. Brattico 2011). In Estonian, for example, numerals other than ‘one’ have their complements in partitive (genitive in Slavonic) when occurring in nominative, as in (22), or what is often referred to as accusative in the object position, marked by the parenthesised gloss in (23). The complement of the numeral is not marked for plural, although semantic plural is assumed. If the numeral bears a case marker different from nominative, then all the adnominal elements have the same, homogeneous case marking, as seen in (24).

(22) *kaks pliiatsit*
two.NOM.SG pencil.PART.SG
 ‘two pencils’

(23) *Ma leidsin [kaks pliiatsit].*
1SG.NOM find.PST.1SG two.NOM.SG/(ACC.SG) pencil.PART.SG
 ‘I found two pencils.’

(24) *kahelt teravalt pliiatsilt*
two.SG.ABL sharp.SG.ABL pencil.SG.ABL
 ‘from two sharp pencils’

As noted by e.g. Brattico (2010, 2011), this heterogeneous case distribution, as in (22) and (23), poses a problem for those theories in which syntactic case is first assigned to a whole phrase and then distributed to the adnominal elements within a noun phrase by some special concord rule (e.g. Chomsky 2001) or a feature-sharing rule (e.g. Malouf 2000 in the Head-driven Phrase Structure Grammar (HPSG)). The reason is that theoretical analyses of the relevant data in Finnish, Estonian and Inari Saami assume that it is the numeral (above ‘one’) which assigns case to its complement, and that this case assignment is governed by a constraint which states that the numeral assigns case if (and only if) the numeral itself (or the DP/NP) is assigned nominative or accusative by the verb, as in (23) above (see e.g. Rutkowski 2001, Nelson & Toivonen 2003, Brattico 2011); this phenomenon is also referred to as ‘case suffix annihilation’ in Brattico (2011:1044), since the numeral in this nominative form has no overt case marker. Another constraint states that only numerals above ‘one’ can assign partitive to its complement. This is based on the observation that the numeral ‘one’ always agrees with its complement in case (and number); hence it cannot be a case assigner.

Since an NP/DP which has heterogeneous case distribution is assumed to contain a head which itself assigns a case, namely a numeral different from ‘one’, this

case-assigning head blocks (or overrides) the structural case which is assigned by the verb to the phrasal head and should then be distributed to all elements within that NP/DP. That is, the idea of a concord rule or feature sharing does not work in numeral constructions. Analyses have been offered which assume that the verb first assigns case to a DP, and then that case is spread down to the numeral via concord; then the numeral assigns its own case, which is spread down again via concord to the noun head. Yet this raises a question, as pointed out in Brattico (2010, 2011), how justified it is to posit two separate case mechanisms, i.e. case assignment and case concord, at least from the perspective of the Minimalist Program. Instead, Brattico (2011) argues for a system of case where case concord is a ‘byproduct’ of one-to-many case assignment. Specifically, case is assigned (or valued) by lexical or functional heads (case assigners) to lexical or functional heads (case assignees) and the latter may receive more than one case (feature) at a time. Those assigned cases (or case features) then compete for realisation, a process which is regulated by a case hierarchy and a locality constraint.

This case assignment seems to work well for numeral constructions in Finnish, the data which motivated the following argument: numerals above ‘one’ are considered functional heads (following Babby 1987) which assign partitive case (referred to as ‘quantificational case’) to elements in its domain; transitive verbs assign accusative to all nominal elements within the object DP; as a result, the noun head ends up with two case features, accusative and partitive. A case hierarchy between strong and weak case features (based on whether they are realised overtly or covertly, respectively) always resolves the competition for the stronger case. Since accusative is a weak case and the partitive assigned by a numeral, i.e. quantificational case, is also considered a weak case (Brattico 2011:1062), the locality constraint comes into play and the head noun ends up being realised by partitive.

It should be noted that, first, this case-assignment mechanism assumes that there are two forms for every numeral in Finnish, the form of a numeral which can assign partitive case (referred to as a ‘quantificational numeral’) and a form of a numeral which cannot assign any case (referred to as an ‘adjectival numeral’), because it itself declines for case. The number ‘one’ belongs to the latter category but why it behaves like ‘adjective’ remains unexplained.⁶ Secondly, several partitives are assumed for Finnish: (i) the partitive assigned by a verb (presumably constituting a strong case feature, since it is assigned to every nominal element within a DP); (ii) partitive of negation which is a strong case feature, as stated explicitly (p. 1063); and (iii) the partitive assigned by a numeral (i.e. quantificational case) which is considered weak case. This once again shows that if case is seen as being assigned (or valued), one has to postulate different types of the same case marker.

Although the case-assignment mechanism offered in Brattico (2011) works well with numeral constructions, it falls short in the light of another type of data in Estonian, namely modifiers which do not agree with the noun head in any case but

occur in partitive instead, as is illustrated in (25)–(26). Note that, similarly to numeral constructions where the partitive-marked complement was not marked for plural, as in (22)–(23), these partitive modifiers also do not agree in number with the head when it occurs in plural.

- (25) kollast värvi pliiats/pliiatsid/pliiatsitelt
yellow.PART.SG colour.PART.SG pencil.NOM.SG/pencil.NOM.PL/pencil.PL.ABL
 ‘a yellow pencil/yellow pencils/from yellow pencils’
- (26) pikka kasvu tüdruk/tüdrukud
tall.PART.SG height.PART.SG girl.NOM.SG/NOM.PL
 ‘a tall girl/tall girls’
 Lit.: ‘a girl/girls of tall height’

According to the theoretical analyses suggested, the head of a modifying phrase, in this case ‘colour’, or ‘height’, would be analysed as a case assigner which assigns partitive to its modifier if it has one, but the problem is that this head is itself also declined for partitive whereas the head noun is in a different case. Thus, the question arises where this case on the modifiers comes from. Another question is what kind of partitive it would be. When assuming a parallel with numeral constructions and analysing the partitive on the modifiers as quantificational, and assuming, along the lines of Kiparsky (2001), that quantitative partitivity is assigned by a null quantifier (say, Q) which resembles overt quantifiers such as *palju* ‘much, many’, as in (27), we get an unwanted result, namely a noun head marked for partitive plural instead of nominative singular, as in (25)–(26) above.

- (27) palju/[Q] kollast värvi pliiatseid
many.NOM.SG yellow.PART.SG colour.PART.SG pencil.PART.PL
 ‘many/[many] yellow pencils’
 Lit.: ‘many pencils of yellow colour’

Thus, the question remains as to what assigns case to the modifiers above. There is always an option to suggest an analysis of inherent or semantic case for those modifiers which express some parameter (along the lines of colour, height, kind, sort, etc.), but this would only increase the complexity of partitive-related data, since now we have inherent partitive in addition to ‘quantificational partitive’ for numeral constructions, partitive assigned by the verb, and partitive assigned by negation. Furthermore, we would still have no explanation for case distribution in examples such as (28).

- (28) Pille otsis [pikkade varrukatega kleiti].
Pille.NOM.SG look.for.PST.3SG long.GEN.PL sleeve.PL.COM dress.PART.SG
 ‘Pille looked for a long-sleeved dress.’

In (28), the adjective marked by genitive modifies another adjective, marked by comitative, and the head noun occurs in a yet different case, partitive (potentially

assigned by the verb), which shows no agreement either in case or number with its modifiers. That is, the idea that genitive is assigned by (possessive) D(eterminer) to the nearest NP or any NP inside an NP/DP may work in accounting for the genitive-marked adjective ‘long’ (although no possessive interpretation arises), but this way of case assignment leaves open how comitative ends up on the modifying head and partitive on the noun head.

Further, in constructions similar to those containing a numeral, i.e. quantificational constructions, differential case marking may occur in the complement position of a quantifier, as in (29), where partitive alternates with elative case.

- (29) *osa* *poisse/poistest*
part.NOM.SG *boy.PART.PL/boy.PL.EL*
 ‘some boys/some of the boys’

These examples raise several questions, such as how to account for (i) the differential case assignment in (29); (ii) for partitive in certain modifying phrases, as in (25)–(26); and (iii) any heterogeneous case distribution apart from numeral constructions, as in (28). One of the solutions, although a rather radical one, is to rethink the concept of case so that the function of case marking comes across as motivated, rather than ‘purposeless feature distribution’ (Brattico 2011:1065).

3. AN INFERENTIAL APPROACH TO CASE AND CASE MARKING

In order to solve or sidestep the problems noted in the previous section, we treat overt morphological case markers as directly providing specifications about content and structure, albeit for some case markers in a weak, underspecified way. Thus, rather than viewing case marking either in the coding/indexing or discriminatory perspective, according to which case is seen as marking the properties of an argument (or predicate), or marking the relation between two arguments (e.g. Marantz’s (1991) dependent case), respectively, we hypothesise that case marking contributes independently to the interpretation of the clause it occurs in. The difference between grammatical and semantic case then reduces to a difference in the amount of information conveyed by a case marker which may vary from one linguistic context to another.

We suggest that the specification provided by case marking forms the input to an inferential interpretation process whereby the actual interpretation of a clause is derived from the specification of the case marker in combination with the semantic properties of the case-marked noun phrase, or the syntax and semantics of the predicate or the discourse context, or from the combination of all these. By assuming weak specifications for grammatical markers and updating this underspecified information in different ways in different contexts via inference, we have the key to

accounting for systematic context-dependency, and the complex interactions between grammar and semantics and/or pragmatics. It is this inferential part to the story which makes the approach to case dynamic, as the final interpretation of case depends on the linguistic context it occurs in. It is worth emphasising that it is the case marker itself which is seen to trigger interpretations, which is the exact opposite to the prevailing view of case (both in formalist and functional/cognitive literature) whereby the interpretational effect of a case-marked term is taken as a factor determining the case assignment. Thus, the analysis of case proposed here aims to differentiate between causes and effects.

The hypothesis that morphological case marking brings independent function to a clause entails several assumptions about the concept of case. Firstly, case is seen as a uniform phenomenon: there is no need to postulate abstract notions of case nor the distinction between the same case form on the basis of grammatical and semantic uses of it. In other words, the notions of structural (or grammatical) case and inherent (or lexical) and semantic case are all collapsed, since morphological case marking may project both structure and semantic content, even in instances where the case marking of grammatical subjects and objects is involved, e.g. in differential case-marking contexts. Neither is case viewed as something which can be decomposed into a bundle of case features, as in case containment theories (see e.g. Cahá 2009).

The proposed approach to case marking radically differs from existing formal ones (including Nordlinger's (1998) 'constructive' case within LFG) in that it does not involve an extra degree of abstraction which is characteristic of syntax-based accounts of case and which makes it difficult, if not impossible, to account for optional and extensive variation in case marking and the related interpretations. Instead, the underlying assumption is that sentences are constructed incrementally, hence syntax is defined as constraints on the incremental process of updating semantic content, rather than viewed separately from semantics. On this view, interpretation of case is a language-particular phenomenon and no cross-linguistic generalisations about the relations between case marking and grammatical functions are assumed (see Lestrade 2010). This view is supported by a number of observations (e.g. Haspelmath 2007, Sigurðsson 2012) that case categories are not in one-to-one correspondence across languages, i.e. what corresponds to genitive in German is different in Finnic.

To provide support for this view of case, we consider in detail the three 'grammatical' cases in Estonian: genitive, nominative and partitive. As noted earlier, we do not in this paper present a fully formalised theory of our view of case, being concerned with the arguments for a change of view in how case is to be considered rather than in technical details. We do, however, sketch how the three cases may be analysed within Dynamic Syntax, our preferred theoretical framework.

3.1 *The structural information provided by ‘grammatical’ cases: The Estonian data*

The common assumption about ‘grammatical’ (or syntactic/structural) cases is that they encode rather straightforwardly grammatical functions in a language, either as primitives (LFG) or as features (HPSG), or as particular structural positions (GB/Minimalism). But if all the data concerning a particular case are taken into consideration, the picture becomes blurred and the inferential function of case marking is brought more into focus.

In the following sections, it will be shown that the only case which directly provides information about structure in Estonian is genitive, and that nominative and partitive do so only indirectly, in interaction with other phenomena, involving both syntax and semantics/pragmatics.

3.1.1 *Genitive*

As mentioned above, in most theoretical analyses, syncretism is posited in Estonian (as well as in Finnish) between the genitive, the ‘possessor’ case, and the ‘direct object’ case, referred to as accusative. Hence, it is assumed that the genitive singular is always syncretic with the accusative singular (see e.g. Ackerman & Moore 1999, 2001; Hiietam 2003, Baerman 2009, Caha 2009, Tamm 2012, i.a.m.). Due to this assumed syncretism, the ‘possessive’ genitive is assigned as an unmarked case to any NP inside a noun phrase and the object genitive/accusative is a case whose assignment depends on whether the nominative argument occurs in the subject position, or not; or, assigned together with some semantic feature, as discussed in Section 2.

Also, just as with the posited syncretism between the ‘possessive’ genitive with the ‘object’ genitive, where the difference is based on the functions marked by genitive, there is also a distinction based on ‘grammatical’ and ‘semantic’ uses of the genitive, as mentioned above. Namely, genitive also occurs on adjuncts, as shown in (1) above, repeated below.

- (30) Ma ootasin (ühe) minuti.
1SG.NOM wait.PST.1SG one.GEN.SG minute.GEN.SG
 ‘I waited for one minute.’

Neither the postulated abstract notion of case, accusative, nor the ‘grammatical’ case genitive can be extended to the case marking of adjuncts, since the syntactic (or grammatical) case is structurally determined and contrasted to non-structural (or semantic) case that is associated with semantics (e.g. a certain semantic role). Along these lines, the analyses of genitive on adjuncts have suggested, for example, that adverbials on which this case occurs in Finnish (which equally

applies to Estonian) are actually complements (e.g. Nelson 1995). Yet Kiparsky (2001:322–323) shows that these genitive-marked adjuncts are adverbials which receive structural case (because they become partitive under negation and the genitive singular changes into nominative in imperatives, as mentioned above). For the same reasons, Svenonius (2002:2) also argues that in Finnish and Icelandic ‘some apparent instances of semantic case are actually structural’. Yet there appears to be no principled explanation provided for why adjuncts should receive structural case, particularly when there are so many different views of how adjuncts are licensed in the syntax.

When adopting the hypothesis that it is the morphological case marking which should be taken seriously, hence there is no need to postulate a syntactic/abstract concept of case (in this case accusative), we have all the means at our disposal to explore what relations genitive signals in Estonian without postulating unnecessary syncretism. The working hypothesis is that it is not economic to posit syncretic forms for the same case marker: a language does not use a covert device if an overt one is available. Hence, a novel analysis of genitive is offered here, which takes this case marker at face value, rather than defines it via its syntactic functions it appears to encode. This is in stark contrast with the perceived view of genitive (see e.g. Lander 2009), whereby genitive is taken as a ‘basic adnominal case’, whose core function is to mark a possessive relation and the clause-level functions of genitive are regarded as ‘polysemy patterns’ (Lander 2009:581, 590). This position leads Lander (2009:591) to state that accusative/genitive syncretism in Finnish ‘may be an outcome of coincidence’ due to a phonological change.

The data provided below allow us to argue that genitive in Estonian (and very likely also in Finnish) is the basic oblique, i.e. non-subject, case which signals that the case-marked nominal is a dependent on some head in a phrase or in a clause. Note that since we assume that case morphology contributes information itself, genitive signals that the term it marks is an oblique dependent, and therefore the notion of dependency here is that of syntactic dependency and so should not be confused with the notion of dependent case (as in e.g. Marantz 1991).

The evidence indicating that genitive in Finnic is a non-subject, oblique dependent is as follows. Consider first the ‘possessive’ function of genitive in Estonian. While one can relate the occurrence of genitive in NPs to possessive interpretation, there is a caveat; namely, as the paradigm in Table 1 shows, the genitive form cannot be related to the possessive function unambiguously, as the last four cases in the paradigm (comitative, essive, terminative and abessive) also have their modifier in genitive, suggesting that it is simply a dependency relation on a head noun what is encoded, not a possessive function.⁷

That genitive does not always give rise to a possessive interpretation is also illustrated in (31).

Case sg	Estonian	English
NOMINATIVE	<i>väike tiik</i>	small.NOM pond.NOM
GENITIVE	<i>väikese tiigi</i>	small.GEN pond.GEN
PARTITIVE	<i>väikest tiiki</i>	small.PART pond.PART
ILLATIVE	<i>väikesse tiiki/tiigi-sse</i>	small.ILL pond.ILL
INESSIVE	<i>väikeses tiigi-s</i>	small.INE pond.INE
ELATIVE	<i>väikesest tiigi-st</i>	small.EL pond.EL
ALLATIVE	<i>väikesele tiigi-le</i>	small.ALL pond.ALL
ADESSIVE	<i>väikesel tiigi-l</i>	small.ADE pond.ADE
ABLATIVE	<i>väikeselt tiigi-lt</i>	small.ABL pond.ABL
TRANSLATIVE	<i>väikeseks tiigi-ks</i>	small.TRA pond.TRA
TERMINATIVE	<i>väikese tiigi-ni</i>	small.GEN pond.TER
ESSIVE	<i>väikese tiigi-na</i>	small.GEN pond.ESS
ABESSIVE	<i>väikese tiigi-ta</i>	small.GEN pond.ABE
COMITATIVE	<i>väikese tiigi-ga</i>	small.GEN pond.COM

Table 1. Agreement in singular nominal paradigm in Estonian for *väike tiik* ‘small pond’.

- (31) Ta saabus **hõbedase** limusiiniga.
3SG.NOM arrive.PST.3SG silver.GEN.SG limousine.SG.COM
 ‘S/he arrived in silver limousine.’

The same holds for the genitive which marks the first elements of numerals in noun phrases when they are declined, as in (32), and again no possessive interpretation is indicated.

- (32) Kõigil **saja** **kolmekümne** viiel õpilasel oli
all.SG.ALL hundred.GEN.SG thirty.GEN.SG five.SG.ALL student.SG.ALL have.PST.3SG
pilet *olemas.*
ticket.NOM.SG be.INF.INE
 ‘All one hundred and thirty five students had a ticket.’

Keeping this in mind, and when comparing the example in (33) with (34), it becomes evident that the interpretation of the ‘possessive’ function is inferred from the semantics of both head and modifier, given that the genitive-marked expression is a dependent on the former.

- (33) Me läheme **väikese** tiigini.
IPL.NOM go.PRS.IPL small.GEN.SG pond.TER.SG
 ‘We will go up to (the) small pond.’
- (34) Me läheme **aedniku** tiigini.
IPL.NOM go.PRS.IPL gardener.GEN.SG pond.TER.SG
 ‘We will go up to (the) gardener’s pond.’

That is, in (34) we interpret the relation between the genitive-marked noun and the head noun as possession, while in (33) as a modifier relation; the distinction is purely

based on nouns denoting a property, as in (33), and entity, as in (34). If, however, the genitive-marked term in (33) were, for example, a nickname of someone, genitive would be taken to signal possessive relation, just as in (34). Thus, it is not plausible to associate genitive in Estonian noun phrases directly to the possessive function, since the possessive interpretation depends on semantics and context.

Further, consider the genitive-marked nouns in nominals which can be understood as the agent of the nominalised verb, and are often likened to sentential subjects in many transformational analyses of noun phrases (see e.g. Szabolcsi 1983 and Abney 1987, i.a.m.). For example, the genitive in (35) does not express possessive function but simply the dependency of the case-marked term on the head noun, ‘bones’, within a construction, as well as the non-subject status of the term, while the whole construction, ‘the bones chewed by the dog’, is understood as the subject argument. The fact that we are dealing with the dependency relation and not with some sentential subject of a noun phrase is shown by examples which have the patient of the nominalised verb, as in (36), in the same position as the agent of the nominalised verb in (35).⁸

- (35) **Koera** näritud kondid vedelesid põrandal.
dog.GEN.SG chew.PST.PTCP bone.NOM.PL lie.PST.3PL floor.ADE.SG
 ‘The bones that were chewed by the dog lay/were lying on the floor.’

- (36) **Tiitli** võitnud meeskond juubeldas.
title.GEN.SG win.PST.PTCP team.NOM.SG exult.PST.3SG
 ‘The team who won the title was exulting.’

All of this follows if genitive is interpreted as indicating a dependent relation with the head noun and the interpretation of that dependency relation is determined through inference over the semantics of the head and its modifier.⁹

No less significant, although often ignored in the literature, is the fact that genitive in Finnic occurs with postpositions, as shown in (37). The distinction between the interpretations of possessive relation (38) and simply a dependency on adposition (37) solely depends on the denotation of the head noun.

- (37) **poisi** kõrvale
boy.GEN.SG beside.ALL
 ‘beside the boy’

- (38) **poisi** raamat
boy.GEN.SG book.NOM.SG
 ‘the book of the boy’

Further evidence for genitive as an oblique dependency marker comes from examples such as (21) above, repeated in (39).

- (39) Orav viis selle **käbi** peidukohta.
squirrel.NOM.SG take.PST.3SG this.GEN cone.GEN.SG hiding.place.ILL.SG
 (i) ‘The squirrel took this cone to the hiding place.’
 (ii) ‘The squirrel took this to the hiding place for the cone.’

The example in (39) clearly demonstrates that genitive is a dependent case, because the second genitive-marked noun, ‘cone’, can be construed as being dependent on the verb ‘took’, which gives us the interpretation that ‘this cone was taken to the hiding place’; or it can be construed as being a dependent on the following noun, ‘hiding place’, giving us the interpretation of a possessive relation, the ‘hiding place of the cone’.

Thus, we take genitive to bring independent function to a clause, and we assume that the genitive in Estonian specifies that the nominal it marks is to be construed as a dependent of a local head: GEN = ‘construe X as an oblique dependent of Y’, where X is a nominal and Y stands for the local head. Since we take genitive not to mark the TYPE of relation (e.g. possessive, modifier, object, complement of postposition, adjunct), but simply oblique dependency on the head, there is no essential difference except for interpretational possibilities in the genitive used within noun phrases, clauses or postpositional phrases: all such genitives mark an oblique dependency and other factors determine whether they are interpreted as adjuncts bearing a semantically underspecified relation to their heads or are arguments where the semantic relation to head is determined by the predicate structure of that head. Thus, when letting pragmatic reasoning help determine the relevant local head and a type of dependency, it becomes clear that if an attributive adjective is marked for being a dependent, it can be dependent either on the head noun, as in (40), or on another modifier, as in (41).

- (40) Ta ostis [selle uue jalgratta].
3SG.NOM buy.PST.3SG this.GEN new.GEN.SG bicycle.GEN.SG
 ‘S/he bought this new bicycle.’

- (41) Pille otsis [pikkade varrukatega kleiti].
Pille.NOM look.for.PST.3SG long.GEN.PL sleeve.PL.COM dress.PART.SG
 ‘Pille looked for a long-sleeved dress.’

If a noun is marked for being an oblique dependent, it can most plausibly be a dependent of the following noun, i.e. possessive relation, as in (42); or if there is no local head following, it can only be the oblique argument of the verb, as seen in (40) above and (42) and (43).

- (42) Ta leidis [Pauli raamatu].
3SG.NOM find.PST.3SG Paul.GEN.SG book.GEN.SG
 ‘S/he found Paul’s book.’

- (43) Ta leidis [Pauli] (üles)
 3SG.NOM find.PST.3SG Paul.GEN.SG up
 'S/he found Paul.'

If a noun is marked for being an oblique dependent, and the following head happens to be a postposition, the genitive-marked noun is understood as having the function of the complement of the postposition, as in (37) above.

In instances where genitive indicates that the whole NP is dependent on the verb, the particular relation between the genitive-marked NP and the verbal head is determined by whether the noun marked by genitive denotes a central participant in the denoted event or not. If the case-marked noun is a core participant in the denoted event, and genitive is a non-subject, oblique dependent case, the case-marked noun is understood as the direct object. When, however, the case-marked noun expresses additional or modifying information about the event itself (e.g. spatial or temporal information), the relation between the verb and the case is more likely to be understood as that of adjunct relation; compare (44) with (45).

- (44) Ta jutustas (ühe) loo.
 3SG.NOM recount.PST.3SG one.GEN.SG tale.GEN.SG
 'S/he recounted a tale.'

- (45) Ta jutustas (terve) tunni.
 3SG.NOM recount.PST.3SG whole.GEN.SG hour.GEN.SG
 'S/he recounted for an hour/the whole hour.'

Thus, it is the combination of the argument or modifier and the head that determines the interpretation and type of dependency that is signalled by genitive.¹⁰ This context-dependency in determining the type of dependency also explains the ambiguity in (39) above.

Technically within Dynamic Syntax this account of the function of the genitive in Estonian is modelled as involving a restriction on the licit parsing of a genitive noun, preventing it from successfully contributing any semantic information if it is being parsed in the same contexts as a syntactic subject. This ensures that it will provide the information associated with the base noun (a semantic term) if it is associated with a non-subject argument position of some predicate (be that determined by a noun, verb, adjective or postposition), in which situation its semantic function (its participant role) is determined in the normal way by the predicate in conjunction with the semantics of the base noun. In modifier constructions including possessive, adjectival and adverbial ones, Dynamic Syntax makes use of a mechanism called a LINK structure, which is interpreted as having content that is more or less loosely associated with the content of some element in the tree with which the LINK is made (Cann et al. 2005). Because the semantic relationship between the LINKed content and the content with which it is LINKed is not fully specified, inference is required to

enrich that relation. For example, in (45) above, the postverbal nominal *tunni* ‘hour’ is construed as being associated semantically with the activity of recounting which, because the activity is non-telic, is enriched to give an interpretation of durativity. For possessives (a very vague term encompassing a wide range of different semantic relations), the genitive will be construed as an argument of the predicate expressed by the noun it is associated with or as loosely LINKed with that predicate. Again inference is required to enrich this loose relation so that a noun phrase like *Pauli raamatu* ‘Paul’s book’ is interpreted as ownership, authorship or other contextually accessible relation depending on context of utterance. With respect to adjectival uses as in *väikese tiigini* ‘small pond’, the genitive is licensed here because again it is treated, like many adjective constructions, as involving a LINK relation between the content of the adjective and that of the head noun. Given that the adjective is predicative, the most relevant interpretation (in the sense of Relevance Theory, Sperber & Wilson 1995) is merely that of predication of the property ‘small’ to the object ‘pond’. Within this sketch of the theoretical approach, the genitive involves only a structural constraint ‘not subject’, but does not itself express any semantic content, all such contents being derived inferentially through the semantically underspecified LINK relation. It can, therefore, unlike the partitive discussed below, be called a structural case, indeed the only structural case in Estonian, but that structural relation is not determined specifically by the syntactic heads with which it is associated.

The analysis of genitive as indicating oblique dependency on another expression in a clause is further supported by the overall distribution of genitive. In constructions where there is no explicitly expressed subject argument, as in imperative and impersonal constructions, the single explicitly expressed argument which has the function of the object occurs in nominative instead of genitive. The other option for such arguments is to be marked by partitive, though for entirely different reasons, as discussed in Section 4 below.

It should be noted that, unlike most of the theoretical analyses of Finnic case, we have not related genitive to any semantic notion or feature which it could potentially contribute except that of establishing a semantically empty relation in non-argument contexts, the minimum that any juxtaposition of head and dependent needs. Also, this proposed analysis of genitive radically differs from the accounts in functional and cognitive literature which analyse the genitive and nominative on the object as the object cases and take them to mark aspectual properties of the verb (such as boundedness, telicity or resultativity), see e.g. Huumo (2010) for a thorough analysis of Finnish data and Tamm (2012) for Estonian. On the basis of the observation that genitive, as well as nominative, take on meaning in only specific contexts, i.e. when they alternate with partitive, we assume that the related interpretations raise via paradigmatic contrasting effect, as discussed in more detail in Section 4.¹¹

Case	Number	
	Sg	Pl
NOMINATIVE	raamat	raamatu/d
GENITIVE	raamatu	raamatu/te
PARTITIVE	raamatut	raamatu/i/d
ILLATIVE	raamatu-sse	raamatu/te/sse
INESSIVE	raamatu-s	raamatu/te/s
ELATIVE	raamatu-st	raamatu/te/st
...
	'book'	

Table 2. Estonian case paradigm of singular and plural for *raamat* 'book'.

3.1.2 Nominative

In many analyses of the Finnic languages within the transformational paradigm, nominative is a structural case which is assigned by a relevant functional head (such as Tense) to the subject under agreement. This means that in this type of analysis, nominative is strictly correlated with the subject function, and the nominative form of the object has to be analysed as the realisation of syntactic accusative, assigned by a different functional head; this results in homonymous morphophonological form with the 'subject' nominative. Alternatively, nominative may be treated as an unmarked case which is assigned to any NP in a clause (as in e.g. Marantz's (1991) style of case assignment). The same concept of nominative as an unmarked case is also used in Kiparsky's (2001) account of Finnish, where nominative is a completely underspecified, 'elsewhere' case, hence not associated with any particular grammatical relation (i.e. has no features specified). Thus, the question is to what extent, if at all, nominative case in Estonian signals grammatical relations.

Nominative singular in Estonian has no distinct morphological form, i.e. the bare stem is used without any suffix that explicitly signals the case.¹² This allows us to suggest that what is called nominative in Estonian (and in Finnish) is actually the total absence of case (the same claim has also been made by Vainikka (1993) with respect to Finnish, and cross-linguistically by e.g. de Hoop & Malchukov 2008, Lestrade 2010, i.a.m.). The affix *-d* in nominative plural (as in (8) above) appears simply to be a plural marker, rather than a specific case marker, as is also suggested in the relevant literature (e.g. Hakulinen 1961, Janhunen 1982, Rätsep 1977).¹³ The idea that */t/* is a plural marker rather than a case marker in modern Estonian is supported by the fact that it is used in all the declensions (apart from the partitive), and the plural paradigm of cases is in fact distinguished from the singular paradigm on the basis of the */t/-*plural (or *-de/-te*), as shown in Table 2.

To argue that nominative is not a case, one needs to show that (i) bare/nominative NPs can appear in a variety of syntactic contexts, including the ones where there is no Tense-like node nearby, which might act as the source of nominative case as in standard Chomskyan theories; and that (ii) nominative also occurs in contexts where no dependency is signalled in the sense of Blake (2001), whereby case is seen as a marker of dependency relations.

Nominative in Estonian may, indeed, occur in variety of syntactic contexts. As mentioned above, subjects of both transitive and intransitive verbs occur in the nominative form; objects may also take a nominative form in either transitive sentences, as in (8) above, or in imperative constructions, as in (6) and (12) above; as well as in impersonal constructions like that in (46) below. Significantly, arguments in untensed (non-finite) clauses tend to take nominative form, as in (47), where the noun ‘child’ is the object of the non-finite verb ‘to take’. Along the lines of transformational analyses, all these examples where the object in nominative has not moved out of VP show that nominative occurs independently of agreement; this is also the case in Estonian. In addition, nominative occurs with (inherently plural) adverbials (48), and is used as subject complement (49).

(46) Ettepanek võeti vastu.
proposal.NOM.SG take.PST.IMPERS against
 ‘One accepted the proposal.’

(47) Isa ülesandeks jäi **laps**
father.GEN.SG task.SG.TRA stay.PST.3SG child.NOM.SG
 lasteaeda viia.
kindergarten.ILL.SG take.INF
 ‘The father’s task was to take the child to the kindergarten.’

(Erelt et al. 2007:475)

(48) Ta viibis Londonis **kaks**¹⁴ nädalat.
3SG.NOM stay.PST.3SG London.INE two.NOM.SG week.PART.SG
 ‘S/he stayed in London for two weeks.’

(49) Ilm on **vihmane**.
weather.NOM.SG be.PRS.3 rainy.NOM.SG
 ‘The weather is rainy.’

The second piece of evidence for the nominative as not being a case comes from the observation that it is also used in constructions where no dependency relation can be posited, i.e. syntactically not related to the rest of the clause. The nominative in Estonian is the only possible case form for such syntactically independent constructions (Erelt et al. 2007:545, 573). For example, the parenthetical segment, as in (50), is the most common example of independent constructions in Estonian: the adjunct in boldface occurs in nominative although the preceding noun phrase is

marked by elative. It is the nominative form which distinguishes this adjunct from an ordinary post-modifier which would otherwise occur in elative.

- (50) Lähtudes tegevuse iseloomust, **kaasa arvatud selle**
originating activity.GEN.SG nature.EL.SG including this.GEN
tehnoloogiline tase, ning lähipiirkonna teistest
technological.NOM.SG level.NOM.SG and nearby.region.GEN.SG other.PL.EL
 tegevustest . . .
activities.EL.PL

'According to the nature of the activity, including its technological level, and also according to some other activities of the nearby regions . . .'

(Erelt et al. 2007:545)

In (51), the left dislocation is in nominative, whereas the resumptive phrase, 'this all', is marked by partitive. That is, the verb *hoidma* 'to keep' usually takes objects in partitive, but the left dislocation is in nominative; thus the independence of the construction from the rest of the sentence is effectively demonstrated.

- (51) Mets, loomad, maa, vesi, õhk – seda
forest.NOM.SG animal.NOM.PL earth.NOM.SG water.NOM.SG air.NOM.SG this.PART
 kõike peab hoidma nagu oma hinge.
all.PART.SG must.PRS.3SG keep.INF like own soul.PART.SG

'Forests, animals, earth, water, air – all this should be kept like your own soul.'

(Erelt et al. 2007:573)

Further support for the view that nominative is not a specific case comes from examples such as (20) above, repeated in (52), which, when viewed in isolation (and with no prosody), show ambiguity between the subject and object function. That is, the nominative case marking leaves the grammatical functions absolutely unconstrained.

- (52) Eestlased vahetasid välja läti rahuvalvajakid.¹⁵
Estonian.NOM.PL replace.PST.3PL out Latvian.GEN.SG peacekeeper.NOM.PL

(i) 'The Estonians replaced the Latvian peacekeepers.'

(ii) 'The Latvian peacekeepers replaced the Estonians.'

In (53) below, however, there is no ambiguity, or at least the sentence would be construed as having *eestlased* 'the Estonians' as the subject without extra context. But this is not a function of case, but the semantics of the nominative noun phrases, with animacy being used to resolve the potential ambiguity (see e.g. de Swart 2007). It is hard to see how any specific function could be assigned to the forms being nominative in such examples, supporting the hypothesis that there is no such function associated with the case.

- (53) Eestlased vahetasid välja soomusmasinad.
Estonian.NOM.PL replace.PST.3PL out armoured.car.NOM.PL

(i) 'The Estonians replaced armoured cars.'

(ii) ?/* 'The armoured cars replaced the Estonians.'

In the light of the assumption that nominative is not a case, the problems related to the analysis of case distribution and assignment in numeral constructions (as discussed in Section 2.2 above) disappear. Specifically, a correlation (or constraint) was pointed out in theoretical analyses that in numeral constructions, the complement of the numeral was marked for partitive if (and only if) the numeral had a nominative form; otherwise the complement declined for the same case marking as the head noun. This constraint has a logical explanation if the nominative form on the numeral is analysed as having no case: the occurrence of partitive on its complement, which occurs only when the numeral is unmarked for case, suggests that these numeral constructions are in fact constructions expressing partitivity, i.e. (pseudo-)partitive constructions.¹⁶ That is, a numeral in (54) and (55) behaves like any other measure nominal (such as ‘piece’, ‘cup’, ‘kilogram’, etc.) in partitive constructions such as that in (56).

- (54) kolm porgandit
three.NOM.SG carrot.PART.SG
 ‘three carrots’
- (55) kolm kooki
three.NOM.SG cake.PART.SG
 ‘three cakes’
- (56) tükk kooki/porgandit
piece.NOM.SG cake.PART.SG/carrot.PART.SG
 ‘a piece of cake/carrot’

Analysing numeral constructions as pseudo-partitive constructions, where the numeral indicates a specific amount (or part) from the generic set denoted by the NP, helps explain why the complement has to be in singular, as shown in (57), and remains in singular when declined for case, see (58) (see also Section 4 below).

- (57) *kaks porgandeid/porgandid
two.NOM.SG carrot.PART.PL/carrot.NOM.PL
- (58) kahest porgandist
two.SG.EL carrot.SG.EL
 ‘from two carrots’

When assuming that numeral constructions are partitive constructions, an explanation is at hand why the numeral *üks* ‘one’ behaves syntactically differently from all the other numerals. If partitive is associated with the ‘substance’ or ‘the kind of entity’ interpretation in numeral constructions (as stated in Koptjevskaja-Tamm 2001), the use of number ‘one’, which is typically equated with an indefinite determiner (Rutkowski 2001, i.a.m.) imposes a reading of a single, individuated or bounded entity which may or may not be part of a whole; it is treated similarly to other naturally atomic nouns. That is, number ‘one’ individuates, while numerals higher

than ‘one’ ‘measure’ the amount specified (i.e. proper subparts), similarly to other measure nominals in Finnish, out of type of the denoted noun. Compare (59) and (60).

(59) üks tund
one.NOM.SG hour.NOM.SG
 ‘one hour’

(60) pool/kaks/kümme tundi
half.NOM.SG/two.NOM.SG/ten.NOM.SG hour.PART.SG
 ‘half an hour/two hours/ten hours’

The analysis of numeral constructions as pseudo-partitive constructions is further substantiated by the fact that when a numeral is assigned a plural form, we no longer have the partitive construction but simply a phrase expressing plural with a really noteworthy change in interpretation, i.e. plural of a set or pair, as shown in (61). For the same reason, *plurale tantum* words cannot be used in ordinary numeral constructions but only with a numeral in plural, see (62).

(61) kolmed kõrvarõngad
three.NOM.PL earring.NOM.PL
 ‘three pairs of earrings’

(62) kolmed/*kolm käärid
three.NOM.PL/three.NOM.SG scissors.NOM.PL
 ‘three pairs of scissors’

As for imperative constructions discussed in Section 2 above, most transformational analyses of Finnish struggle to find the source of the nominative assignment on the object in imperative constructions (which occurs instead of the expected syntactic accusative, realised by genitive), as in (6) above. Also typological-functional approaches which correlate nominative with the subject function find this nominative on the object challenging to account for (see e.g. Hiietam 2003). In these cases the problem arises mainly because nominative is seen as in one-to-one correlation with the subject case, hence the object argument can only occur in nominative when there is no subject present. Yet in Estonian (and Finnish) imperative constructions there may be a ‘subject’ present, although expressed optionally, and which also shows agreement on the verb (see examples (12)–(15) above).

Given the assumption that nominative is not a case, then the occurrence of nominative on the object in imperatives does not pose any puzzles: it is simply the absence of case. The possible explanation is that the ‘subject’ which may occur with the imperative verb is not really a subject, but a form of an address, i.e. vocative (in particular, discourse vocative for controlling the addressee’s attention; or it may be used for contrasting the different addressees, as pointed out in Ereht et al. 2007).¹⁷ Thus, the imperative verbs have only one syntactic argument, i.e. object, which is left

unmarked, as there is no need to specifically indicate the arguments' function as a non-subject, or OBLIQUE argument, when it is the only argument in the construction. A similar argument has been put forward by Malchukov & de Hoop (2011) with respect to Finnish along the lines of a bidirectional Optimality Theory (OT) analysis: they explain the lack of accusative case (i.e. the morphologically nominative form) on the object argument in terms of distinguishability. That is, since the agent argument is not expressed formally, there is no need to case mark the object. As they put it, the fact that the agent argument is identifiable in context (the addressee) causes the accusative case-dropping. However, the analysis in terms of distinguishability, rather than oblique marking, is threatened by the possibility to use partitive case on the imperative object (for our analysis of partitive, see the sections below). Note also that other oblique arguments in Estonian, such as indirect objects, always require a full, non-genitive case (such as elative or allative) in this construction.

One needs to back up the lack of syntactic subject in imperative constructions and the crucial evidence for it comes from (63)–(66).

(63) Jane tule akna juurde.
Jane.NOM.SG come.IMP.2SG window.GEN.SG by.ILL
 'Jane, come to the window!'

(64) Sõdurid jookske ära.
soldier.NOM.PL run.IMP.2PL away
 'Soldiers, run away!'

(65) *Sõdurid tule akna juurde.
soldier.NOM.PL come.IMP.2SG window.GEN.SG by.ILL
 intended reading: 'Soldiers, come to the window!'

(66) Sõber lõpetagem vaidlus.
friend.NOM.SG finish.IMP.1PL argument.NOM.SG
 '[My] friend, let's stop arguing!'

These examples show that the apparent agreement between the 'subject' and the imperative verb is not syntactic but pragmatic: the agreement occurs only in number, and irrespective of person, as seen in (66). This allows us to argue that the 'subject' is vocative, rather than syntactic subject, which has to agree in number and person.

Thus, what lies behind the distribution of nominative in Estonian is the fact that it is not a case form. This claim was based on the data presented above in this section that showed that nominative occurs in a variety of syntactic contexts, as in (46)–(49), (52), and in syntactically independent constructions, as in (50)–(51). Still, one could analyse nominative as an unmarked case (in the sense of elsewhere case) which is assigned to any NP, but in this case it would be hard to explain why the STRUCTURAL case that is assigned by default triggers semantic effects in some contexts (e.g. when alternating with the partitive). On the other hand, when assuming that nominative is

the absence of case, the semantic effects can be accounted for in terms of pragmatic contrast. We turn to this issue after we have discussed the function of partitive in Estonian. Theoretically, then, we treat nominative (i.e. bare noun) as having no effect on the semantics or structural behaviour of the noun itself.

3.1.3 Partitive

Many theoretical analyses treat partitive in Finnish (a language similar to Estonian) as a (default) structural case that has its own distinct realisation as a morphological partitive. Only few papers have discussed whether the Finnish partitive is in fact a structural case. Kiparsky (1998), for example, argues for the Finnish partitive as a structural case on the basis of the following evidence: (i) the VP can have only one direct argument and a partitive object is structurally parallel to an accusative object, hence the partitive-marked NP is an argument and not a predicate modifier; (ii) similarly to accusative objects, partitive objects cannot be freely omitted, as shown in (67) and (68) below; (iii) similarly to accusative objects, partitive objects can be subjects of predication (69), while predicate modifiers cannot (70); and (iv) in Finnish, partitive objects precede bound anaphors in the form of possessive suffixes under the same conditions as the object marked by accusative while predicate modifiers do not (this observation does not hold for Estonian due to the lack of possessive suffixes).

(67) Mati puudutas raamatut.¹⁸
Mati.NOM.SG touch.PST.3SG book.PART.SG
 'Mati touched the/a book.'

(68) *Mati puudutas.
Mati.NOM.SG touch.PST.3SG
 'Mati touched.'

(69) Kasutan sohvat voodina.
use.PRS.1SG sofa.PART.SG bed.SG.ESS
 'I use the sofa as a bed.'

(70) *Magan sohval voodina.
sleep.PRS.1SG sofa.SG.ADE bed.SG.ESS
 'I sleep on the sofa as a bed.'

Kiparsky (1998:276) maintains that (iii) and (iv) establish evidence for the Finnish partitive as a structural case. Considering the notion of structural case, this is true indeed, since each structural case correlates with a specific structural position and every argument which occurs in that structural position has to be assigned or checked for that particular case. However, if we take seriously the idea that a particular morphological case form is to be treated as an expression exhibiting that case, the evidence in Kiparsky (1998) is not directly relevant. That is, Kiparsky focuses on showing that partitive can occur in the position of an argument, and

then provides evidence that the argument position is that of the complement (direct object). Essentially, the evidence for partitive as a structural case is based on the assumption that any case which can occur in the position of a syntactic argument, must be structural. On this view, relative case in Finnic also qualifies as structural case since it may occur in the position of the complement, and it is indeed argued to be a structural default case of optional complements by Vainikka (1993) for Finnish.

Vainikka & Maling (1996:188) also argue that partitive in Finnish is a structural case. They take the observation that partitive in Finnish is used on the subject of small clause complements, as in (71), as evidence for its status as the structural case: the matrix verb cannot assign inherent case to the subject of the small clause, hence it must be structurally assigned. (We have added our gloss to Vainikka & Maling's example in (71).)

- (71) Liisa pitää sinua/?sinut älykkäään. (Finnish)
Liisa.NOM.SG consider.PRS.3SG 2SG.PART/2SG.ACC intelligent.ESS.SG
 'Liisa considers you intelligent.'

(Vainikka & Maling 1996:188)

The problem with this conclusion is that in both Estonian and Finnish the verb *pidama* 'to consider', which is typically used as the equivalent of the relevant Exceptional Case Marking verbs in English, takes on this particular meaning, 'to consider', only in small clauses such as in (71), i.e. is idiosyncratic to this construction. Also, as pointed out by Matti Miestamo (p.c.), the question-marked alternative in (71) *Liisa pitää sinut älykkäänä* is grammatical, but it has a different meaning, namely 'Liisa keeps you intelligent' (i.e. you stay intelligent, if you spend time with Liisa), and cannot be used in the same meaning as the alternative with the partitive. In addition, cases other than partitive may be used in different types of small clauses, e.g. genitive, as in (72), or relative, as in (73), in the transitive resultative construction, and they are also specific to these verbs in this particular construction. That is, partitive is not the default case of the subject of the small clause complement in Estonian.

- (72) Nad muutsid kaaslase sõltlaseks.
3PL.NOM turn.PST.3PL chum.GEN.SG addict.SG.TRA
 'They turned [their] chum into an addict.'

- (73) Nad tegid temast superstaari.
3PL.NOM make.PST.3PL 3SG.EL superstar.GEN.SG
 'They made him/her a superstar.'

There are some exceptions to the analysis of partitive as a structural case. For example, Anttila & Kim (2011) argue that partitive in Finnish is a lexical case, and not a structural one. Their argument for partitive as a lexical case is based on the Case Tier Hypothesis (Yip, Mailing & Jackendoff 1987) in an OT account,

according to which lexical cases are skipped by structural case or they block structural case. Along these lines, Anttila & Kim (2011:112) demonstrate that partitive is indeed ‘skipped’ when structural cases nominative and accusative are being assigned. This is very much a theory-internal analysis and does not shed any particular light on the issue of whether or not there is a structural partitive case in Finnish.

In those accounts where the Finnish partitive is analysed as structural case, it is taken to be a basic unmarked case of the object (e.g. Kiparsky 2001), or default unmarked complement case (e.g. Vainikka & Maling 1996), or an ‘elsewhere’ case (de Hoop & Malchukov 2007). That is, partitive is assigned to any object NP (or NP complement) that is not case marked by some more specific rule. Yet the view of partitive as a basic object or complement case is ruled out in Estonian where the partitive may mark the subject of an intransitive (activity) verb, as in (16) above, repeated below.

- (74) *Külalisi* *saabus.*
guest.PART.PL *arrive.PST.3SG*
 ‘Some guests arrived.’/‘Guests were arriving.’

Thus, the idea of associating the Estonian partitive with a particular grammatical relation or structural position is problematic. In transformational grammar, an explanation along the lines of the unaccusative hypothesis whereby the partitive NP in (74) is assigned structural partitive case in the object position and then moved to the subject position, hence no agreement with the verb, would be the obvious explanation. But it begs an explanation why the partitive-marked argument should move out of the VP in the first place. An analysis along the lines of lexical case would not work either, since partitive case marking on the subject in (74) may alternate with nominative, as shown in (17) above.

When considering the distribution of partitive in Estonian, we see that partitive may alternate with nominative on the subject of intransitive verbs like those in (16)/(74) and (17); or with the genitive on the object of transitive verbs like those in (7) and (8); or on the adjunct (75); or with nominative on the object of imperative verbs like those in (12) and (13) above; or on the predicative NPs as in (76); or with relative case on complements of a quantifier, (77), or on the subject of intransitive verbs, (78).

- (75) *Ta* *viibis* *Londonis* *nädala/nädalaid.*
3SG.NOM *stay.PST.3SG* *London.INE* *week.GEN.SG/PART.PL*
 ‘S/he stayed in London for a week/for weeks’
- (76) *Joonas* *on* *maamees/maamehi.*
Joonas.NOM.SG *be.PRS.3* *countryman.NOM.SG/PART.PL*
 ‘Joonas is a countryman/one of countrymen.’

(Erelt et al. 1993:58)

- (77) *osa* *poisse/poistest*
part.NOM.SG *boy.PART.PL/boy.PL.EL*
 ‘some boys/some of the boys’
- (78) *vett/veest* *piisab*
water.PART.SG/water.EL.SG *suffice.PRS.3SG*
 ‘there’s enough water/the/(this) water is enough’

The fact that partitive occurs freely on the subject and object NPs in addition to marking a range of other functions forms a counter-example to the generalisation that partitive is a structural default case of the object. In fact, the distribution of partitive in Estonian allows us to hypothesise that partitive provides no direct information about structure at all. At the same time, partitive alternates with various cases (genitive, nominative, elative) on NPs performing various functions, and while doing so, the interpretational effects of the alternations with partitive are similar across distinct syntactic functions so that the alternation with the ‘subject’ nominative may trigger the same interpretational effects as the alternation with the ‘object’ nominative of imperative verbs or with the genitive (or syntactic accusative) on the object. This observation, when combined with the hypothesis of taking case marking seriously, allows us to argue, contrary to the majority of analyses of the Finnish partitive mentioned above, that partitive in Estonian contributes semantic information, rather than structure. Structure is indicated indirectly via pragmatic associations related with the semantic content of partitive, as discussed in Section 4.1 below.

Before discussing how partitive becomes associated with the object function, note that the hypothesis about partitive providing semantic content is further supported by the fact that the genitive case in Estonian provides certain interpretations (definite amount, completed event/perfectivity) only in those contexts where it alternates with partitive, i.e. the interpretations do not hold across the board (cf. adnominal uses of genitive). Secondly, nominative, while alternating with partitive, takes on the same interpretations as genitive although they have different distribution (compare nominative on the subject with genitive on the object). The most obvious way to explain the same interpretational effects in syntactically distinct functions, where the only common denominator is partitive, is to assume that partitive is the case that contributes to these interpretations, as discussed in more detail in the next section.

4. GRAMMATICAL CASE MARKING MAY CONTRIBUTE SEMANTIC CONTENT¹⁹

That ‘grammatical’ case marking may provide content becomes first and foremost clear in case-alternation contexts (a.k.a. differential case-marking contexts). That is, when there is no choice of case in some structural position or on a core argument, no semantic interpretation arises. This strongly indicates that any analysis which

accounts for differential case marking by appealing to referential semantic features of the argument NP or on certain features of the verb are not entirely empirically adequate, since case marking is then taken to encode that feature in absolute terms, even in those contexts where either no differential marking takes place, or where the alternation is optional and there are no (significant) interpretational effects. Most theoretical²⁰ work on Finnish differential object marking, for instance, relates the assignment of the (syntactic) accusative to a telic verbal head to encode the boundedness (or perfectivity) of the event (e.g. Nelson 1995, Kiparsky 1998, Ritter & Rosen 2001, Svenonius 2002, Vainikka 2003), while the assignment of the (syntactic) partitive is related to the unmarked value, i.e. atelic verbal head to encode the unboundedness (or imperfectivity) of the event. Kiparsky (2001) postulates a distinct semantic role, a result theta-role (after Piñon 1994), which is linked to the assignment of morphological genitive on the accusative object (referred to as Resultative-object) via complex mapping procedures between lexical semantics and morphosyntactic output.

We argue that not all has to be explained by syntax, or complex mapping procedures. As mentioned in Section 3 above, we propose a theory of case which emphasises the role of morphological case marking (as opposed to syntactic case), and that overt case marking brings independent function to a clause. This entails that alternating case markers which give rise to differences in interpretation can be accounted for by treating the relevant case marker providing semantic content, even in apparently grammatical usage.²¹ This proposal involves a set of interrelated hypotheses such as the one which takes context-dependency into account by assuming that the actual effect of a case marker within some string may range from no interpretive effect through various pragmatic effects to strong semantic effect; as well as the hypothesis which assumes paradigmatic concept of case, i.e. not all cases need to encode semantic content, as the interpretation of case marking may depend on the meaning contribution of any cases that it alternates with.

We propose that in Estonian (and perhaps also in Finnish) partitive case contributes semantic content – in all its manifestations, unlike genitive, the oblique structural case, and unlike nominative, which signals the absence of case. This view is in stark contrast to the majority of analyses which relate some referential semantic feature to genitive/accusative, with partitive being associated with the unmarked value of this feature (see Section 2 above). We hypothesise instead that the partitive case in Estonian is a real partitive case and has the basic meaning ‘proper part of’. This semantic content is nevertheless subject to semantic and pragmatic extensions in interaction with the meaning of the host nominal and the properties of the predicate, as well as other contextual factors. Thus, the semantic content of a case marker is expressed in terms of some relatively weak specification, and the final interpretation of the case-marked term depends on semantics and the linguistic context it occurs

in. Technically we treat partitive case as a function from terms to terms that takes a term with denotational content based on the head noun and derives another term that denotes part of that content. Within Dynamic Syntax all noun phrases are assigned the lowest possible type of a term (type e) and the epsilon calculus of Hilbert & Bernays (1939) is used to account for quantificational effects. This theory provides a means of formalising the concept of arbitrary objects as used in proofs within natural deductive systems. The details are unimportant here, but what is important is that, unlike genitive which we treat as a constraint on interpreting a genitive-marked noun not as a subject, the content of the partitive is directly specified in terms of the epsilon calculus and thus provides a modification of the content of the bare noun. Thus, partitive case is treated as a function from terms to terms (of type $e \rightarrow e$) which has the structure $\lambda x(\varepsilon, y, y < x)$, where ε is the existential epsilon operator and $<$ is the proper subpart relation. Thus, from a term *jäätiis* as $(\varepsilon, x, \text{jäätiis}'(x))$ '(an) ice cream', we derive *jäätiist* as $(\varepsilon, y, y < (\varepsilon, x, \text{jäätiis}'(x)))$ '(a proper) part of an ice cream'. This interpretation remains constant for all uses of the partitive except that particular readings of a partitive noun phrase are derived in context, either from the semantic properties of the host noun, and/or the syntax and semantics of the predicate, and/or the discourse context.

Assuming that partitive case marking semantically gives a partitive reading (i.e. 'part of') for a noun phrase, the indefinite quantity reading for plurals and mass nouns, as in (79), follows straightforwardly, since 'proper part of' some collection of objects entails 'some (but not all) of' that collection. In comparison, in order to account for identical examples in Finnish, Kiparsky (2001) proposes a null quantifier (similar to overt quantifiers in Finnish such as *paljon* 'much, many'), because in his account the verb *ostma* 'to buy' denotes a complex event, which means that it is treated as a bounded predicate, hence it cannot select for syntactic partitive (or Irresultative-object) that would be linked to partitive case; yet one still needs to relate the object nouns in (79) to partitive, therefore he proposes a covert quantifier that assigns an indefinite quantity reading to the noun phrase, as a result of which it gets mapped to partitive case. In the functional-cognitive literature, Huumo (2010) and Tamm (2012), for example, seek an explanation for this case marking in the domain of verbal aspect: Huumo by distinguishing transient aspectual and quantificational phenomena, and Tamm by focusing on the scalar properties of the verb classes.

- (79) Ta ostis vett ja maasikaid.
 3SG.NOM buy.PST.3SG water.PART.SG and strawberry.PART.PL
 'S/he bought (some) water and (some) strawberries.'

It may be questioned what the water or the strawberries in (79) are part of, as this is not immediately clear. We believe that the use of elative as in constructions (77) and (78) above, repeated below, provides a clue to what is happening here.

- (80) *osa* *poisse/poistest*
part.NOM.SG *boy.PART.PL/boy.PL.EL*
 ‘some boys/some of the boys’
- (81) *vett/veest* *piisab*
water.PART.SG/water.EL.SG *suffice.PRS.3SG*
 ‘there’s enough water/the/(this) water is enough’

The interpretation of the elative case-marked nouns is that there is some defined set of boys, in (80), or water that suffices, in (81) (the reading of a specific set associated with elative-marked nouns is also noted by e.g. Leino 1993, i.a.m.). Thus, if elative identifies a specific set from which something is selected, the partitive selects from the generic set or the kind, as is common in other languages, e.g. French. We hypothesise that the partitive reading of an entity that can be specifically identified gives a strict proper subpart of that entity whereas non-specific partitives denote a proper subpart of the kind (all entities that satisfy the description). This hypothesis also explains the ‘problematic’ examples listed by Anttila & Fong (2000), where partitive and elative are in free variation in definite constructions (such as ‘part of Europe’ or ‘part of this city’) or the partitive-marked noun can give rise to both definite and indefinite readings in constructions such as ‘a liter of wine’.

Note, however, that if partitive is simply taken to encode the referential semantic feature of unboundedness (or indefinite quantity), as the majority of theoretical analyses do, it would be hard to explain how count nouns may take on mass interpretation in some context. That is, the acceptability of partitive marking on singular count terms is variable depending on whether the natural atomicity of the nominal can be reinterpreted in a non-atomic way. Thus, in (82) a partitive object is highly marked and, without further context, liable to be rejected by native speakers as ungrammatical. Yet the partitive marking improves considerably if the preceding context has to do with (for example) the fact a dog has just been chewing at the book in question, leaving parts of the book in different places. Given this context, partitive on a singular count noun is perfectly acceptable, as shown in (83).

- (82) *Laual* *oli* *raamat/#raamatut.*
table.ADE.SG *be.PST.3SG* *book.NOM.SG/book.PART.SG*
 ‘There was a book/#some book on the table.’
- (83) *Seda* *raamatut* *vedeles* *kõikjal.*
this.PART *book.PART.SG* *lie.PST.3SG* *everywhere.ADE*
 ‘[The pieces of] this book were lying everywhere.’

Thus, when allowing pragmatic inference to interact with syntactic constructions, instances of coercion can be easily accounted for. That is, if an appropriate context is given, it is possible to coerce a singular count noun reading of (82) to a mass reading in (83) under partitive marking, since if some of this book is everywhere, then bits of this book must be everywhere (Pelletier’s (1979) ‘Universal Grinder’).

Further, we suggest that predicate-related, or aspectual, readings of the partitive case, as in (7) and (9) above, are reached via two inferences, rather than assuming implementing those readings directly in syntax. This stance is, again, in stark contrast not only with the formalist theories of Finnish but also with the functional-cognitive literature which takes the morphological cases genitive, nominative and partitive to mark the aspectual interpretations directly (for more recent literature, see e.g. Huumo 2010 about Finnish; Metslang 2012, Tamm 2012 about Estonian, i.a.m.). The first inference is a straightforward scalar implicature from ‘part of’ to ‘not all of’ and the second is from an interaction of this inference with the activity (sub-)events associated with the verbs (eating, writing, arriving). So, if in (7) some of the ice-cream is pragmatically strengthened to mean not all of the ice-cream has been eaten, then clearly the whole event of eating (an) ice-cream has not yet concluded and an imperfective reading is thereby obtained. Exactly the same reasoning applies to the plural terms such as in (9) above, and it also explains the behaviour of singular count nouns with respect to the partitive alternation. For instance, in (84) the activity of writing ‘part of the book’ is re-focused to give ‘not all of the book’ and so the activity of writing the book is ongoing, i.e. imperfective.

- (84) Ta kirjutas raamatut.
 3SG.NOM write.PST.3SG book.PART.SG
 ‘S/he was writing a book.’

What supports the hypotheses about inferential readings is the fact that aspectual readings are not absolute in Estonian, but only hold with certain types of verbs, such as accomplishments (Vendler 1967). Not all verbs allow the inference over the semantic properties of the noun with those of the verb. For instance, transitive verbs which describe instantaneous events that are accompanied by a change of state (i.e. culminations in Moens & Steedman 1988, achievements in Vendler 1967) do not give rise to the inference of an ongoing, imperfective event:

- (85) Ta leidis #raamatut/raamatu.
 3SG.NOM find.PST.3SG book.PART.SG/book.GEN.SG
 ‘S/he found a book.’

Reliance on inferencing in explaining aspectual readings is also supported by the interpretations related to genitive case. That is, as hypothesised above, due to being paradigmatically contrasted to the partitive case, case markers may develop pragmatic meanings from the semantic and inferentially extended uses of the partitive case: certain pragmatic extensions do not result from the meanings of particular forms but from the meanings of forms with which they contrast. In a number of theories of inferential pragmatics, such as Relevance Theory (Sperber & Wilson 1995), the choice between use and non-use of some expression in an utterance may give rise to implicatures or other forms of inference. Extending this notion to morpho-syntax,

the partitive meaning ‘some of’ sets up a potential contrast with ‘all of’; see e.g. the contrast between (79) above and (86):

- (86) Ta ostis vee ja maasikad.
 3SG.NOM buy.PST.3SG water.GEN.SG and strawberry.NOM.PL
 ‘S/he bought (the) water and (the) strawberries.’

Thus, even though genitive or nominative might be the default or grammatically determined case in a particular construction, without any associated semantic effects, once the partitive started being used in the same contexts, its non-use in a particular situation signals an implicit semantic contrast with partitivity that becomes associated with alternating cases. Hence, the contrasting concept ‘all of’ becomes associated with the non-use of the partitive, i.e. with genitive and nominative arguments. Such a move, then, automatically predicts perfective aspect in those contexts in which partitive yields an imperfective reading; compare (84) above with (87) or (16) with (17) above. This assumption is further supported by the fact that when the direct object occurs in genitive or nominative, typically an adverbial (such as *ära* ‘off’, *valmis* ‘ready’, etc.) is also needed to express the perfective meaning more explicitly.²²

- (87) Ta kirjutas raamatu.
 3SG.NOM write.PST.3SG book.GEN.SG
 ‘S/he wrote a book.’

Now, if one associates genitive with an aspectual feature of telicity in syntax, it will give a wrong prediction in contexts where the tense of a verb is not past but present, as in (88). In this example, no aspectual reading of perfectivity is implied but an interpretation of future tense instead. Thus, in interaction with the present tense we have an inference from a completed event to the future tense, since from the perspective of the current point in time (present tense), the construction which does not specify that the event has been completed in the past, the inference is that it will be completed in some further point in time (future; a similar view has been put forward in Malchukov & de Hoop (2011), who argue that the interpretation of future tense arises from the conflict between perfective aspect and present tense).

- (88) Ta kirjutab raamatu.
 3SG.NOM write.PRS.3SG book.GEN.SG
 ‘S/he will write a book.’

An interesting corroboration of our hypothesis comes from transitive examples where partitive and genitive are in free variation, such as (18) and (19) above, repeated below.

- (89) Korrigeerisime maksegraafikut/maksegraafiku.
 correct.PST.1PL paying.schedule.PART.SG/GEN.SG
 ‘We corrected the paying schedule.’

(Erelt et al. 2007:474)

- (90) Aknast hoovas tuppa külma õhku/külm õhk.
window.EL.SG stream.PST.3SG room.ILL.SG cold.PART air.PART/cold.NOM air.NOM
 ‘From the window, cold air streamed in/was streaming in.’
 (Erelt et al. 1993:44)

In these instances, the derived inferences noted above do not provide strong semantic effects, yielding environments where the case alternation is in free variation. This tends to happen with verbs whose properties do not determine the denoted event type straightforwardly, as in (90) above, or with verbs for which the contrast expressed by the partitive alternation is irrelevant from the communicative point of view (e.g. verbs such as expressing wish, will or intention) (Erelt et al. 2007:475), or with nouns whose mass and count properties are irrelevant, as in (88) above. Not all choices for case are thus made grammar-internally. Interestingly, even with verbs that typically show no preference for object case, the addition of an adjunct can force a particular case to appear. For example, extending the sentence in (89) with a durative adjunct determines that the object must be partitive because an imperfective reading is thereby forced, see (91), while extending it with a different adjunct, which induces a terminative reading, determines that the partitive cannot appear, see (92).

- (91) Korrigeerisime maksegraafikut/*maksegraafiku pool
correct.PST.1PL paying.schedule.PART.SG/paying.schedule.GEN.SG half.NOM.SG
 päeva.
day.COM.SG
 ‘We were correcting the paying schedule for half a day.’
- (92) Korrigeerisime maksegraafiku/*maksegraafikut poole
correct.PST.1PL paying.schedule.GEN.SG/paying.schedule.PART.SG half.GEN.SG
 päevaga.
day.PART.SG
 ‘We corrected the paying schedule in half a day.’

As for the partitive-marked attributive modifiers, as in (25) above, repeated as (93) for convenience, they only corroborate the argument about partitive having semantic content.

- (93) kollast värvi pliiats
yellow.PART.SG colour.PART.SG pencil.NOM.SG
 ‘a yellow pencil’.
 Lit: ‘a pencil of yellow color’

That is, the assumption that partitive provides the content ‘part of’ helps explain why partitive is used for certain attributive modifiers. As noted above, partitive occurs most naturally on those modifiers, which denote some parameter (Erelt et al. 1993:531), as

in (93), above, and in (95). Without such a word, partitive is infelicitous, as reflected in (94) and (96).

- (94) *kollast pliiats
 yellow.PART.SG pencil.NOM.SG
 Intended: 'a yellow pencil'
- (95) head tõugu hobune
 good.PART.SG breed.PART.SG horse.NOM.SG
 'a horse of good breed'
- (96) *head hobune
 good.PART.SG horse.NOM.SG
 Intended: 'a horse of good breed'

Note also that attributive modifiers marked by the partitive case can occur in the predicative function (Erelt et al. 2007: 531) like any other adjectival modifier. In fact, this is a more common function than the attributive one, which indicates that we are not dealing with some idiosyncratic construction tied to a specific position, see (97) and (98).

- (97) Pliiats on kollast värvi.
 pencil.NOM.SG be.3PRS yellow.PART.SG colour.PART.SG
 '(The) pencil is yellow.'
 Lit: 'The pencil is of yellow color.'
- (98) Hobune on head tõugu.
 horse.NOM.SG be.3PRS good.PART.SG breed.PART.SG
 '(The) horse is of good breed.'

The standard grammar of Estonian (Erelt et al. 1993:58) states that on modifiers, the partitive marks unboundedness with respect to the modified entity, which suggests that the denoted entity of the modified noun forms part of the kind, sort, class, etc. which the modified noun refers to (p. 58). Thus, again, we can appeal to pragmatic inference as an explanation of this use of partitive: if the modifiers are basically predicative and elaborate (i.e. modify) a parameter, then the partitivity reading, provided by the partitive case, yields an interpretation of 'individuated proper parts of X', where X stands for the relevant set. Thus, the modified noun 'pencil' in (93) above gives us the inference that it is part of the set of items which have the property of yellow colour, hence the meaning 'yellow pencil' (literally 'of yellow colour'). Likewise, partitive on modifiers in (95) above gives us 'part of good breed', which, together with the noun 'horse' is construed as the modified entity being a part of a set of good breed, i.e. a property reading for the entity. The bottom line of this discussion of partitive-marked modifiers is that, as mentioned above, case distribution in an NP cannot always be analysed in terms of shared properties (i.e. concord or agreement), since it can have a meaningful function driven by some specific purpose.

Altogether, we have shown in this section that by treating the partitive case as having partitive meaning we can provide an explanation for the patterns of partitive case alternation in Estonian involving pragmatic extension of this basic meaning and further inference to derive event-related meanings, driven by the interaction of the meanings of the host nominal, its case marking and the main predicate (for the discussion about the use of partitive under negation, see Cann & Miljan 2012:598–599). We have also argued that the paradigmatic alternations with nominative and genitive serve to imbue their use with meanings of completeness without requiring such meanings to be inherent in these case markers themselves.

4.1 Why is partitive perceived as the oblique case?

A question that must arise in this context is: If partitive contributes only content and no structure, why is it perceived as the oblique case? Our view is that the explanation has to do with the semantics of the partitive-marked expressions and discourse, or information structure, and the consequent grammaticalisation of some basic discourse phenomena.

There are two interrelated factors which explain why partitive-marked noun phrases tend to be related to the oblique function. One is syntactic and another relies on information structure. From the syntactic point of view, a partitive-marked argument either occurs as a single argument in a clause or together with an argument which has the subject function, but it hardly ever occurs on the subject in a transitive clause.²³ Thus, what helps to disambiguate between the subject and object function when the two case forms which do not provide any information about structure directly, i.e. nominative and partitive, occur on the core arguments in the same clause? It is agreement of the verb with the subject in person and number. Subject agreement, as has been observed in relevant studies, is nothing else but a grammaticalisation of indicating the topic (see e.g. Dalrymple & Nikolaeva 2011 and references therein), and it may be speculated that the topic was unmarked in Estonian (i.e. nominative). Partitive never triggers agreement, which suggests that it was less likely associated with the topic function in order to give way to the grammaticalisation process. No less significant is the fact that both Estonian and Finnish are languages which do not have articles and thus it is mainly the linear position of NPs which provides information about their referential properties (Kaiser 2003). Kaiser & Trueswell (2004) show that in Finnish, information structure interacts with word order and case marking so that partitive-marked expressions are favoured in the sentence-initial position only on the condition that these expressions are given in discourse. Helasvuo (2001:85–104) shows that in Finnish conversations the referents of the partitive-marked subjects are unlikely to be tracked in discourse, i.e. they are discourse-new, unlike the referents of nominative subjects. This indicates that partitive tends to be used on items which introduce new information into discourse, and thus typically

follow the verb, i.e. have the oblique, or non-subject, function. The fact that partitive-marked expressions tend to be associated with new information is directly related to the partitivity reading ‘part of’ provided by the partitive, since with mass and plural terms it may give rise to inferences of indefiniteness via the inference of ‘some but not all’.

Our analysis also provides a diachronic explanation for why there is a specific set of verbs in Estonian (as well as in Finnish) which is called ‘partitive’ verbs. These verbs have in common that they prefer a partitive-marked object argument to the extent that any other case is considered ungrammatical. By contrast, there are no verbs in Estonian that select only for genitive. The set of partitive-selecting verbs can easily be explained by the semantics of the partitive case and the interpretations of partitive-marked arguments rather than by the aspectual properties of the verbs (as assumed by most theoretical accounts, as well as by reference grammars of Estonian). Specifically, what these ‘partitive’ verbs have in common is not their semantic properties of denoting atelic or unbounded events, since many of these verbs, such as *märkama* ‘to notice’, *puudutama* ‘to touch’, *kuulma* ‘to hear’, *tervitama* ‘to greet’, etc., are in fact what Vendler (1967) calls achievements, and Moens & Steedman (1988) as culmination points, i.e. they denote a telic event; therefore these examples constitute a counter-evidence to those analyses which exclusively associate the assignment of partitive with the verbal property of atelicity or unboundedness. What might have been at play here is that these verbs tend to introduce new participants into discourse (as also pointed out by Nikolaeva 2001 for similar verbs in Ostyak, Uralic) when occurring with nouns (as opposed to pronouns). One can hypothesise that it is not because of their aspectual properties but rather interaction with information structure which has helped forming such a heterogeneous group of partitive-selecting verbs. Thus, not only pragmatic inference but also information structure plays a large role in the development of case usage (as noted many times with respect to grammaticalisation phenomena, see e.g. Hopper & Traugott 1993).

5. CONCLUSIONS

In this paper, we have argued for a different view of case marking in general, and a different analysis of grammatical uses of cases in Estonian in particular. With respect to the latter, we suggest that there is only one ‘structural’ case in Estonian, the genitive, and this case merely marks non-subject, or oblique, dependency on some head. There is no essential difference except for interpretational possibilities in the genitive used within noun phrases, clauses or postpositional phrases: all such genitives mark an oblique dependency and other factors determine whether they are interpreted as adjuncts bearing a semantically underspecified relation to their heads or

are arguments where the semantic relation to the head is determined by the predicate structure of that head. The partitive case, we argue, is semantically partitive in all its uses, except that the partitive meaning can be obscured or even eliminated depending on contextual factors. The nominative is merely the absence of case, associated with no specific positions or semantic effects.

This new analysis is prompted by the hypothesis that elaborate syntactic analyses of case alternations are unnecessary and often empirically flawed or true only for a certain subset of the relevant data. Instead, we advocate that case marking independently brings information to a clause and that precise functions of case-marked expressions may be determined by the interaction of the case marking, the meaning of the host noun, the semantics of any predicate of which it is an argument and other contextually given factors. Thus, in Estonian, a genitive noun phrase signals that it is an oblique dependent of some head, independently of that head itself. It is the combination of the argument or modifier and the head that determines the interpretation and type of dependency that is signalled by genitive. The partitive always brings with it a partitive interpretation independent of anything else in the clause. But again it is the type of head and the interaction of semantics that determine the mode of combination and its interpretation. Only the nominative fails to signal any information on its own as the nominative is not morphologically case marked and, by hypothesis, is not a true case.

There is, of course, much further work that needs to be undertaken, not least the precise semantic and syntactic theoretical implementation of our ideas, but we believe that this approach to case and case marking has much more potential to provide true explanations of particular uses of case and to give us a better understanding of case than analyses that view case as merely some readout of grammatical properties determined by other linguistic properties of a clause.

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NOTES

1. This was one of the themes in the theme description of the 5th Brussels Conference on Generative Linguistics (2–3 December 2010), posed as the question: ‘Is case a strictly formal licensing mechanism (“the formal feature *par excellence*” Chomsky 1995:278–9) or is it connected to semantic content?’.
2. Unless otherwise indicated, all data are our own. Sentence judgements have been checked against the intuitions of native Estonian speakers.

3. In Finnish, a distinctive marker referred to as accusative can be found only on personal pronouns (*minut* 'me.ACC', *sinut* 'you.2SG.ACC', etc.) and on the pronominal question (*Kenet?* 'Whom?'); altogether six words have distinctive marking called accusative (Hakulinen et al. 2004:1173).
4. Note that in functional-cognitive literature, these interpretations are regarded as factors which determine the use of the partitive case on the object. In a more recent literature, a hierarchy of decreasing strength has been proposed for these conditions: negation > aspect > quantity (see Vilkuna 2000:119; Hakulinen et al. 2004:887).
5. Kiparsky (1998) follows Heinämäki (1984, 1994) and Leino (1991), who argue for 'unboundedness' as the common denominator for the two functions of partitive: aspectual and NP-related.
6. Brattico (2010) suggests that the possible reason might be that it has started to behave like a determiner in Finnish, similarly to *uno* 'one' in Italian. For an overview of other suggestions, see Brattico (2010).
7. It is interesting to note that the genitive form is used as the basis on which the rest of the case paradigm is built (apart from partitive) thus supporting the idea of genitive as indicating a dependency relation also at the level of morphology, i.e. the case endings from illative downwards are attached to the genitive form. We are grateful to Virve Vihman for pointing this out.
8. Thanks to Helena Metslang for pointing this out to us.
9. Technically, we take the genitive marking as requiring a noun to be in a non-subject relation with a predicate, leaving its interpretation to be determined according to whether it is an argument or not. In the latter case, a step of abduction induces a weak pragmatic relation between the case-marked term and the expression it is dependent on.
10. Compare this to the definition of case by Blake (2001:1) whereby case marks 'dependent nouns for the type of relationship they bear to their heads'.
11. The analysis offered here finds support from diachronic studies which suggest that in the early stages of proto-Uralic the case paradigm was only in singular, especially because examples where no plural is used when body parts and related clothing items are referred to, as in (i) and (ii), can be found in many Finno-Ugric and Samoyedic languages. Examples are from Rätsep (1977:28). The nominative plural is simply a plural marker, as discussed in Section 3.1.2.
 - (i) Kingad on jalas.
shoe.NOM.PL be.PRS.3 foot.SG.INE
 Lit.: 'Shoes are in foot.'
 - (ii) Võtan kindad käest.
take.PRS.1SG glove.NOM.PL hand.SG.ELA
 Lit.: 'I take gloves from hand.'
12. According to Hakulinen (1961) and Rätsep (1977), it has been a morphologically unmarked case since proto-Uralic, and it also has an unmarked form in other Finno-Ugric languages.
13. Although the plural can be marked in at least two ways in modern Estonian, i.e. either using the /t/-plural or the /i/-plural, the nominative plural on the other hand is always marked by -d (Erelt et al. 2007:256).
14. This numeral may raise a question why it does not get marked by the genitive, since it functions as an oblique of the verb. The fact is that numerals above 'one' are treated differently from singular terms in Finnic, relying on their inherent plurality (see also e.g. Brattico 2010, 2011).

15. Although the default word order in Estonian is SVO, analysing the first NP as object does not indicate here a marked word order if the noun 'Estonians' is the topic of the discourse, something being talked about.
16. Thus, it is no coincidence that in Slavonic languages it is the genitive case form which is used for numeral expressions, since in these languages genitive is used to express partitivity (see e.g. Koptjevskaja-Tamm 2001).
17. Toivainen (1993) also suggests that these subjects are a type of vocative in Finnish.
18. Examples (67) and (68) are Estonian versions of their Finnic equivalents given in Kiparsky (1998:275).
19. Parts of this section were first published in Cann & Miljan (2012) and are discussed in more detail there.
20. The ideas in more theory-oriented accounts are often based on the functional-typological literature, e.g. Heinämäki 1984, 1994; Leino 1991; Helasvuo 2001; i.a.m.
21. See Lestrade (2010:55, 205), who argues that structural case is only a 'more generalised version' of the semantic use of case and that the 'general meaning of a case marker is a semantic role'.
22. Thanks to Virve Vihman for drawing this to our attention.
23. As pointed out by Helle Metslang, a notable exception is (i):

- (i) Igasuguseid tudengeid õpib meie aineid.
every.kind.PART.PL student.PART.PL study.PRS.3SG our.GEN subject.PART.PL
 'Students of every kind are studying our subjects.'

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