

Non-autonomous accusative case in Estonian*

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In Estonian, some objects of verbs show an alternation in case-marking that seems to be conditioned by morphological number: genitive when singular, nominative when plural. According to traditional descriptions (Erelt et al. 1993, 2000) and some recent research (Miljan & Cann 2013), these objects are genitive/nominative syntactically and morphologically. This paper argues against this approach, proposing instead that these cases are the morphological realization of a non-autonomous syntactic accusative case, on the basis of two novel arguments. First, although isolated words in the language have no unique accusative form, the pseudopartitive construction does exhibit a unique form in would-be accusative contexts. Second, the genitive form of the inanimate relative pronoun (*mille*) can be replaced by nominative/unmarked *mis*, but only when it is in an object position. Though it has been proposed in the literature that Estonian has an accusative case (Hiietam 2003, 2005, Caha 2009), neither of these arguments has been discussed, and they provide compelling morphosyntactic evidence in favor of the proposal. Possible paths to an analysis of the accusative's pervasive syncretism are discussed in the framework of Distributed Morphology. It is proposed that an analysis making use of Impoverishment is superior to one without. The investigation here constitutes an additional case study in the divide between syntactic case and morphological case (Deal 2016, Goddard 1982, Legate 2008, 2014, Spencer 2006).

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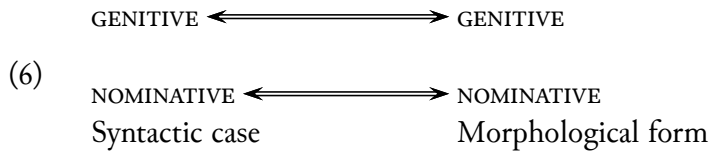
1 Introduction

In Estonian, some objects of verbs show an alternation in case-marking that seems to be conditioned by morphological number. When singular, these objects bear morphological genitive case (as in (1)), and when plural, they bear morphological nominative case (as in (2)).¹

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¹ Unannotated examples are from my fieldwork with native speakers of Estonian in Tartu, Estonia and the San Francisco Bay area. Other example sources are as follows: BALANCED, a balanced literary corpus;

in the recent descriptive work on Estonian syntax (Erelt & Metslang 2017)) since at least Saareste 1926, is that there is no accusative case in Estonian, and these objects are assigned genitive case when singular and nominative case when plural. This view is assumed or explicitly argued for by Miljan (2008), Miljan & Cann (2013), and Nemvalts (1996). This is represented schematically in (6) below.



The primary motivation for this view has already been mentioned: since there are no words with a unique form in accusative contexts, accusative is not a necessary part of the morphological case system. Since it is not necessary, removing it will result in a leaner and plausibly simpler set of cases in the language, at least as far as morphological case is concerned.³ It does, of course, require that another context be added to the list of contexts where genitive case and nominative case are assigned, but these cases already have multiple uses, descriptively speaking: genitive is assigned to adnominal possessors as well as many objects of postpositions. Nominative case is assigned to subjects and to predicate nominals, in addition to being the general default case when no other case is available. Adding additional contexts to this list would not be unreasonable. This alternative view is in line with the idea that there is no meaningful distinction to be made between morphological and syntactic case, aside from syncretism in the declension paradigms of particular lexical items.

In this paper, I present two arguments in favor of the existence of a syntactic accusative case in Estonian. The arguments both concern the behavior of genitive case-marked elements in the object position that have heretofore not been discussed in the debate on the existence of accusative case. The first comes from case-marking in Estonian pseudopartitives, where the genitive borne by objects—that is, the one that corresponds to a syntactic accusative—behaves differently from genitive borne by elements in other positions in the language. Pseudopartitives in the object genitive position have a form that is distinct from other genitives, resulting in a situation where the hypothesized accusative does, in fact, correspond to a unique morphological form. I discuss this argument in section 3.

In section 4, I discuss a second argument, which comes from an apparently optional alternation in the form of the inanimate relative pronoun *mis*. The alternation involves using the nominative/unmarked form *mis* where we would otherwise expect to see—and sometimes do see—genitive *mille*. While this has also been noted in the literature, what has not been observed is that this alternation also is restricted to genitive objects, and the inanimate relative pronoun in other genitive positions must be *mille*. Thus, this is another instance where the genitive borne by objects behaves differently from other genitives. This provides a second argument for a syntactic accusative case in Estonian grammar.

Having demonstrated that the accusative allows a simple explanation of the pseudopartitive and relative pronoun facts considered here, I present two possible formalizations

³ It is worth noting that this conclusion is in agreement with proposals from Comrie (1991) and Mel'čuk (1986). They propose that non-autonomous cases should only be admitted in a language when there is at least one word that has a unique form for that case.

of the non-autonomous accusative's morphology in section 5. The analyses are presented within the framework of Distributed Morphology (DM, Halle 1990, Halle & Marantz 1993, *et seq.*). One invokes the postsyntactic operation of Impoverishment (Bonet (1991), *et seq.*) and the other does not. I suggest that the optimal analysis involves Impoverishment.

As both of the arguments turn on the behavior of elements marked with genitive case in Estonian, I begin with a brief discussion of contexts utilizing genitive case in Estonian in the next section.

2 Genitive case in Estonian

As mentioned in the introduction, the debate concerning the presence of an accusative case in Estonian is really about the difference between morphological and syntactic case. The arguments I put forward in this paper are based specifically on elements bearing morphological genitive case. Essentially, the question is whether genitive behaves the same across syntactic constructions where it is used. Note that the focus is on singular genitives, as objects are never marked genitive when they are plural.⁴

I focus on three core uses of genitive case: singular total objects, adnominal genitives (sometimes called *possessors*), and objects of adpositions.⁵ We have already seen examples of singular total objects.⁶ In (7), we see adnominal genitives, and in (8), we see complements of adpositions.

(7) Genitive case on adnominal genitives:

a. *välisukse võti*
front.door.GEN key.NOM
'front door key' (EKSS, entry for *võti*)

b. *taime-de kasv*
vegetable-PL.GEN growth.NOM
'the growth of vegetables' (EKSS, entry for *kasv*)

(8) Genitive case on complements of adpositions:

⁴ The differential treatment of plural is one of the arguments that Hiietam (2003) cites for treating the object case as accusative. Specifically, in other genitive positions, nominals bear genitive case whether they are singular or plural, whereas total objects cannot be genitive when plural. I think this certainly suggests there is something different about object genitives. However, there could be some kind of complex number-based differential object marking that explains the lack of genitive case for plural objects as a syntactic effect rather than a morphological one, although such an analysis has not yet been proposed. In any case, the arguments I present here would not be amenable to such an alternative explanation, and so I focus on them.

⁵ Adpositions can assign a variety of cases in Estonian, but as Ehala (1994) shows, genitive is the most common.

⁶ *Total object* is a traditional term from Finnic linguistics. Briefly, objects in Estonian have variable case-marking depending primarily on a combination of nominal semantics of the object and aspectual properties of the clause. They are given different names based on their case-marking. Total objects are marked with morphological genitive or nominative case depending on the context. They are used with "quantitatively determined" noun phrases in clauses that are "aspectually bounded." In situations not meeting these requirements, objects called *partial objects* are used instead. They always bear partitive case. For discussion of the alternation in Estonian, see Tamm (2007).

- a. *Kardina-d on [akna ees].*
 curtain-PL.NOM be window.GEN front
 ‘The curtains are in front of the window.’ (EKSS, entry for *ees*)
- b. *Tuul on [aken-de pealt].*
 wind be.3 window-PL.GEN from.on.top
 id. ‘The wind is coming from the windows.’ (EKSS, entry for *aken*)

Unlike total objects, nominals in adnominal genitive positions and as complements of adpositions bear genitive case whether they are singular (as in the (a) examples) or plural (as in the (b) examples). With these three genitive contexts now demonstrated, we can proceed with the arguments that one of these genitive contexts—the object context—is special.

3 Estonian pseudopartitives have a unique accusative form

The first examples that pose a challenge to the accusative-as-genitive analysis involve the Estonian construction that Tamm (2011) dubs the PSEUDOPARTITIVE, exemplified in (9) and (10).

- (9) *parv pääsuke*
 flock.NOM swallow.PL.PAR
 ‘a/the flock of swallows’ (Nemvalts 1996: 69)
- (10) *liiter piima*
 liter.NOM milk.PAR
 ‘a/the liter of milk’ (EKSS, entry for *liiter*)

Pseudopartitives contain two nouns, one of which serves semantically as a kind of quantifier or measure term (speaking informally)—e.g., *parv* ‘flock’ in (9) and *liiter* ‘liter’ in (10)—with the other serving as a substance that is being measured or quantified—e.g., *pääsuke* ‘finches’ in (9) and *piima* ‘milk’ in (10). I refer to the first noun as N1 and the second as N2.⁷

3.1 Partitive and matching case patterns

Of particular interest here is the case-marking visible in pseudopartitives. In the citation forms given in (9) and (10), N1 bears nominative case and N2 bears partitive case. However, in many case contexts, N1 and N2 match in case-marking. This is shown for adessive case in (11) and inessive case in (12).

- (11) *suure-l hulga-l inimes-te-l on õigus ...*
 big-ADE lot-ADE person-PL-ADE be.PRS.3 right.NOM
 ‘a whole lot of people have the right ...’ (PARLIAMENT)

⁷ In truth, the N2 component can be larger than a single word—it can contain, e.g., adjectives and demonstratives. It would be more accurate to speak of an N2 phrase rather than simply N2. However, the point I wish to make here can be made without reference to complex pseudopartitives, so I will largely restrict the discussion to those containing only two nouns.

- (12) *liitri-s vee-s*
 liter-INE water-INE
 ‘in a liter of water’ (BALANCED)

Because N2 matches the case of N1 in examples like (11) and (12), I refer to it as the **MATCHING PATTERN**. I refer to the pattern in (9) and (10) as the **PARTITIVE PATTERN**, because N2 bears partitive case. Note that the matching pattern obtains whether N2 is singular (12) or plural (11).⁸

The case pattern that pseudopartitives exhibit is for the most part determined by the case assigned to the entire pseudopartitive as visible on N1. We have already seen that nominative pseudopartitives show the partitive pattern, while adessive and inessive pseudopartitives show the matching pattern. In fact, outside of nominative case, the only case that unambiguously shows the partitive pattern is genitive (13a).⁹ As it happens, a genitive pseudopartitive can also exhibit the matching pattern (13b).

- (13) a. *Leid-si-n [bulga inimesi]*
 find-PST-1SG bunch.GEN people.PL.PAR
 ‘I found [a bunch of people]’ (Partitive Pattern)
- b. *[bulga inimes-te] passi-d*
 bunch.GEN people-PL.GEN passport-PL.NOM
 ‘[a bunch of people’s] passports’ (Matching Pattern)

The only visible difference between the form of the pseudopartitive in these two examples is the case-marking on N2. Importantly, pseudopartitives like those in (13a) and (13b) are not in free variation. The choice between patterns is constrained by syntactic context: the partitive pattern is found only in object position, and the matching pattern is found in other contexts where genitive case is assigned. I turn now to a more detailed discussion of this generalization.

3.2 Syntactic context determines genitive pseudopartitive case-marking

When pseudopartitives occur in possessor position or the complement of a genitive-assigning adposition, they must exhibit the matching pattern. This is shown for possessor position in (14) and for adpositional complement position in (15).

- (14) a. *Kolmandiku tordi / *torti hind oli kaks rubla.*
 third.GEN tart.GEN / tart.PAR price.NOM be.PST.3SG two.NOM ruble.PAR
 ‘The price of a third of a tart was two rubles.’ Erelt et al. 1993: 145
- b. *enamiku inimes-te / *inimesi soov*
 majority.GEN people-PL.GEN / people.PL.PAR wish.NOM

⁸ In these examples and in the vast majority of examples that I am aware of, plural N2s are count nouns and singular N2s are mass nouns. The one counterexample I am aware of is *lõik sidrunit* ‘a slice of lemon’, where lemon is not obviously a mass noun, although we know that some amount of conversion/coercion between mass and count is possible in many languages (Deal 2017, Pelletier 1975). The semantics of these constructions is not relevant for the argument I make here. For more discussion of the semantics of these constructions in Estonian, see Nemvalts (1996), Tamm (2011).

⁹ I say *unambiguously* because it is not possible to determine whether pseudopartitives in partitive case show the matching pattern or the partitive pattern.

- [the majority of people]’s wish’ Erelt et al. 1993: 142
- (15) a. *Putukas rooma-s ümber klaasi vee / *vett.*
 bug.NOM crawl-PST.3SG around glass.GEN water.GEN / water.PAR
 ‘A/the bug crawled around a/the glass of water.’
- b. *Kui palju sa koti kartuli-te / *kartule-id eest*
 how much you.NOM bag.GEN potato-PL.GEN / potato-PL.PAR for
mak-si-d?
 pay-PST-2SG
 ‘How much did you pay for the bag of potatoes?’ Erelt et al. 1993: 145

In these positions, N2 must bear genitive case (e.g., *tordi* ‘tart’ in (14a) or *kartulite* ‘potatoes’ in (15b)), whether N2 is singular as in the (a) examples or plural as in the (b) examples. In contrast, pseudopartitives must show the partitive pattern when they are in the position of genitive objects, as shown in the examples in (16).

- (16) a. *Juku suusata-s tüki maa-d / *maa.*
 Juku.NOM ski-PST.3SG piece.GEN land-PAR / land.GEN
 ‘Juku skied the piece of land (i.e., an unspecified distance)’ Erelt et al.
 1993: 142
- b. *Tõi-n koti kartule-id / *kartuli-te.*
 bring.PST-1SG bag.GEN potato-PL.PAR / potato-PL.GEN
 ‘I brought the bag of potatoes.’ Erelt et al. 1993: 145

In the position of genitive objects, N2 in a pseudopartitive must bear partitive case. Again, this is true whether the N2 is singular (*maad* ‘land’ in (16a)) or plural (*kartuleid* ‘potatoes’ in (16b)).

Thus, whereas individual words look the same whether they are in object position, possessor position, or the complement of an adposition, the same cannot be said of pseudopartitives. The distributional facts are summarized in Table 1. The upshot is that pseu-

CONTEXT	COMMON NOUN	PSEUDOPARTITIVE
Object	N.GEN	N1.GEN N2.PAR
Possessor	N.GEN	N1.GEN N2.GEN
P-complement	N.GEN	N1.GEN N2.GEN

Table 1: *Case forms of common nouns and pseudopartitives in Estonian*

dopartitives have a morphological form that is found only in object position: a genitive N1 followed by a partitive N2. In other words, pseudopartitives in Estonian have a form that is only found in accusative contexts.¹⁰

¹⁰ An anonymous reviewer pointed to an interesting fact observed by Metslang (2017): for a subset of N1s, it is also possible to find morphologically nominative N1s in accusative positions. One such example is below:

- (i) *Ost-si-n meeter riie-t.*
 buy-PST-1SG meter.NOM fabric-PAR
 ‘I bought a meter of fabric.’

(Metslang 2017: 274)

3.3 Paths to an analysis

Though I will not provide a full analysis of the choice between the partitive pattern and the matching pattern here (see Norris (2018) for one possibility), I would like to show that positing an accusative case for Estonian provides a clearer path to analysis than if we do without it.

3.3.1 Piece 1: multiple case assignment/stacking

The kind of case-marking alternation seen in Estonian pseudopartitives exists in a similar guise in numeral-noun constructions in Estonian and several other languages, and these patterns have been documented and analyzed for at least the following: Finnish (Brattico 2008, 2010, 2011), Inari Saami (Nelson & Toivonen 2000), Polish (Rutkowski 2002), and Russian (Babby 1980, 1984, 1987, Pesetsky 2013). The accounts are not identical, but they typically involve some form of multiple case assignment for the noun (N2 in a pseudopartitive). For Estonian, this would be partitive case as well as whatever case is assigned to the pseudopartitive itself. This is schematized in (17).

(17)		N1	N2
	Partitive Case	⇒	PAR
	External Case	⇒	ADE ADE

First, partitive case is assigned to N2, and second, whatever case is assigned to the entire pseudopartitive (External Case) is assigned to both N1 and N2, such that N2 has now been assigned case twice.

However, N2 never surfaces with more than one case. Thus, something must be said about how multiple case assignment is realized in Estonian.

3.3.2 Piece 2: a hierarchy of cases

Previous accounts differ in their implementation, but most of them invoke some notion of a competition between the two case values on N2, whereby some cases are weaker and others are stronger (Pesetsky (2013) is one notable exception to the competition approach). In a competition, the stronger case value is always the one that gets expressed. As a first attempt, I present the case hierarchy for Estonian in (18), which includes all the Estonian cases except genitive.¹¹ For ease of exposition, I represent the cases here with traditional case names; a more formal approach to the case hierarchy would likely need to deconstruct them into component features as I do in section 5.¹²

This is not a problem for my analysis of pseudopartitives but rather for the distribution of the accusative case (as would be indicated by the presence of morphological genitive case). I conjecture that this case pattern is modeled on the behavior of numerals, which systematically surface in **nominative** in total object contexts rather than genitive. I come back to this fact in section 5.3, but I note here that it is a puzzle for all analyses under consideration. The unexpected fact is that the expected morphological genitive is missing here, and that is true whether or not we connect it to a non-autonomous accusative case in the syntax.

¹¹ I assume the terminative, essive, abessive, and comitative, which are included in the traditional Estonian case paradigm, are not cases but morphophonologically dependent postpositions (Nevis 1986, Norris 2018). Pseudopartitives in these contexts show the matching pattern.

¹² Thanks to an anonymous reviewer for raising this question. As I note in section 5, the literature that makes use of case decomposition is rather idiosyncratic. Apart from Caha's (2009, 2013) work within

$$(18) \left\{ \begin{array}{l} \text{Illative} \\ \text{Inessive} \\ \text{Elative} \\ \text{Allative} \\ \text{Adessive} \\ \text{Ablative} \\ \text{Translative} \end{array} \right\} \gg \text{Partitive} \gg \text{Nominative}$$

It is clear from the empirical patterns observed that nominative must be weaker than partitive in this kind of case hierarchy, because N2 is never marked with nominative case when the pseudopartitive is in a nominative context. And it is clear that most other cases are stronger than partitive, because N2 is never marked with partitive case when N1 is assigned some case besides nominative (I return to the complexities of the genitive straightaway).¹³ To show this quasi-formally, when N2 is assigned both nominative and partitive, it is realized as partitive (19a); when N2 is assigned partitive and, e.g., adessive, it is realized as adessive (19b).

$$(19) \begin{array}{ll} \text{a.} & \begin{array}{ll} \text{N1} & \text{N2} \\ \text{Partitive Case} \Rightarrow & \text{PAR} \\ \text{External Case} \Rightarrow & \text{NOM} \quad \cancel{\text{NOM}} \end{array} & (\text{PAR} \gg \text{NOM}) \\ \text{b.} & \begin{array}{ll} \text{N1} & \text{N2} \\ \text{Partitive Case} \Rightarrow & \cancel{\text{PAR}} \\ \text{External Case} \Rightarrow & \text{ADE} \quad \text{ADE} \end{array} & (\text{ADE} \gg \text{PAR}) \end{array}$$

If we posit an accusative case for Estonian, the rest of the case hierarchy can be filled in nicely: accusative is weaker than partitive, and genitive is stronger than partitive.

$$(20) \left\{ \begin{array}{l} \textbf{Genitive} \\ \text{Illative} \\ \text{Inessive} \\ \text{Elative} \\ \text{Allative} \\ \text{Adessive} \\ \text{Ablative} \\ \text{Translative} \end{array} \right\} \gg \text{Partitive} \gg \left\{ \begin{array}{l} \text{Nominative} \\ \textbf{Accusative} \end{array} \right\}$$

This makes the right predictions. When N2 is assigned accusative and partitive, it will surface as partitive. When it is assigned genitive and partitive, it will surface as genitive.

Nanosyntax, which involves decomposition in a unique way, there is no work that unifies case decomposition and case hierarchies, so far as I know. It seems to me that the most neutral approach would create a hierarchy for individual case features (e.g., [+OBL] \gg [+GOV]) rather than recapitulating terms like accusative by including full case feature decompositions in the hierarchy. However, this is clearly a project in its own right, and so I simply raise the issue here and do not attempt to solve it.

¹³ An anonymous reviewer asks whether there is independent evidence for the structure of the hierarchy as I have presented it here. So far as I am aware, there is no independent evidence, and this is one of the clear weaknesses of hierarchy-based approaches to this kind of case alternation, as I discuss in Norris 2018. It should be taken not as the final word on an analysis but as a way of representing the important empirical generalization concerning the differing behavior of object genitives, i.e., accusatives, and other genitives.

The resulting hierarchy is by and large in line with conclusions from the literature on this alternation in numeral noun constructions: structural cases are weak, and inherent or lexical cases are strong (Babby 1980, 1987). I say “by and large” because there is one case that is potentially a problem for treating this as a divide between structural and lexical/inherent cases, and that is genitive case. In traditional terms, genitive is called a grammatical case, but it is grouped here with what are generally called semantic cases. The other two grammatical cases, nominative and partitive, are what I have identified as weaker cases. There are a couple issues worth unpacking here, and I think they are interesting for the comparison of descriptive and theoretical conceptualizations of case, so I will take a moment to discuss them.¹⁴

First, the traditional terms GRAMMATICAL CASE and SEMANTIC CASE do not directly translate to the theoretical concepts structural, inherent, or lexical case. They do overlap, but whether a case is structural or not depends on its syntactic properties, and there are interesting studies of cases on the border and cases exhibiting properties of both lexical/inherent and structural case in the same language (e.g., see Anagnostopoulou & Sevdali’s (2015) study of Ancient Greek). One of the common tests for the structural nature of a case is to see whether it can be preserved in passives. However, since true genitive (i.e., not accusative) is never assigned to objects in Estonian, this test is not applicable.¹⁵ It is also worth pointing out that one of the reasons for treating genitive as a grammatical case is likely its place in the grammar as a case for direct objects. Once we separate out different uses of genitive case, we end up in a situation where we could define “grammatical” uses of genitive case and “semantic” uses of genitive case. This would be functionally the same as what I am doing here.¹⁶

¹⁴ Thanks to an anonymous reviewer for recommending discussion of this issue.

¹⁵ Another generalization that is sometimes suggested for structural/non-structural cases is whether the case’s distribution is lexically-specified (i.e., dependent on the head that selects it) or more generally available in the right syntactic context (often called “predictable”). It has been claimed that cases with predictable distribution must be structural. Woolford (2006) takes issue with this characterization, noting that dative case in many languages is quite predictable on indirect objects, yet it simultaneously fails other diagnostics for structural cases, e.g., it is preserved in passives in many languages (a few famous exceptions notwithstanding). She proposes a distinction between lexical and inherent case, whereby inherent case is the predictable non-structural case (essentially) and lexical case is idiosyncratic non-structural case. Genitive in Estonian would thus be inherent rather than lexical given its predictable appearance in genitive modifier position.

¹⁶ It is worth pointing out that under traditional characterizations, every case in Estonian is either a grammatical case or a semantic case. There are no cases that are identified as sometimes grammatical but sometimes semantic. For most cases, this is not controversial, but I submit that there has already been some controversy as to the place of partitive case in Finnish (Vainikka & Maling 1996). In Estonian, there is at least one use of partitive case that strikes me as not especially structural. It is what occurs in examples like the one below.

- (i) *kollas-t värvi maja*
 yellow-PAR color.PAR house.NOM
 ‘a yellow in color house’, ‘a house of a yellow color’

The partitive-marked phrase *kollast värvi* ‘yellow color’ behaves like a case-marked adverbial modifier in that does not agree in case or number with the noun it modifies. Given that other such modifiers generally bear what are obviously semantic cases, we may wish to say that this is a “semantic use” of partitive case, but according to traditional descriptions, partitive is only a grammatical case.

3.3.3 No accusative leads to a ranking paradox

If we instead do not admit an accusative into the case system of Estonian, we cannot generate the patterns based on a hierarchy alone. If genitive is weaker than partitive, we are able to capture the appearance of the partitive pattern in object position, but we then incorrectly predict the partitive pattern in the position of possessors and complements of adpositions.

- (21) If partitive outranks genitive:
- | | | | |
|------------------------------|-----|----------------|-----------------|
| | N1 | N2 | |
| Partitive Case \Rightarrow | | | PAR |
| External Case \Rightarrow | GEN | GEN | (PAR \gg GEN) |

- (22) * *koti kartule-id eest*
 bag.GEN potato-PL.PAR for
 intended ‘for the bag of potatoes’

Thus, ranking genitive below partitive predicts the partitive pattern in more places than it actually appears, including complements of adpositions as shown in (22).

On the other hand, if we suggest that genitive is stronger than partitive, the problem is the reverse: we predict the matching pattern in all contexts, including in direct object position, as shown in (24) below.

- (23) If genitive outranks partitive:
- | | | | |
|------------------------------|-----|-----|--------------------------------|
| | N1 | N2 | |
| Partitive Case \Rightarrow | | | PAR (GEN \gg PAR) |
| External Case \Rightarrow | GEN | GEN | |

- (24) * *Tõi-n koti kartuli-te.*
 bring.PST-1SG bag.GEN potato-PL.GEN
 Intended: ‘I brought a bag of potatoes.’

Thus, ranking genitive above partitive predicts that genitive will never show the partitive pattern, which is incorrect. If we maintain that all morphological genitives are identical in Estonian (as much syntactically as they are morphologically), it becomes much less clear how we could account for the case-marking patterns of Estonian pseudopartitives.

3.3.4 Estonian pseudopartitives: summary

At this point, I note that the deviant behavior of object genitives in the context of pseudopartitives has been observed in the literature before (Erelt et al. 1993, 2000). However, its relevance for the accusative debate has not been noted. When the case-marking patterns discussed here are noted by Erelt et al. (1993: 144), they observe: “When [N1] is genitive singular, the form of [N2] depends on the phrase’s function: if the phrase is an object, [N2] is partitive, but otherwise [N2] agrees in case.”¹⁷ In other words, to identify the case pattern of a pseudopartitive whose N1 bears genitive case, we must turn to its syntactic position. This admits an imperfect mapping between syntactic and morphological case, which is what the debate between the accusative and no-accusative analyses hinges on. In this case, it has the effect of acknowledging that object genitives differ from other genitives in the language, which is exactly what the accusative analysis is meant to capture.

¹⁷ This is my translation. The original Estonian is as follows: “kui kvantor on ainsuse genitiivis, sõltub laiendi vorm fraasi funktsioonist: kui fraas on lauses sihitiseks, on laiend partitiivne sõltlaidend, muudel juhtudel laiend ühildub käändes.”

4 The inanimate relative pronoun *mis*

The second argument for a syntactic accusative case comes from relative clauses. Estonian relative clauses are introduced by relative pronouns *mis* or *kes*, which take the place of the relativized noun in the relative clause though they are always realized at the left edge. As Erelt (1996) shows, *mis* is generally used for inanimates and *kes* for animates. When these pronouns are total objects, they must (or may, as I show straightaway) bear morphological genitive case. This is shown in (25) and (26).¹⁸

(25) *kala, kelle ma kinni püüid-si-n*
 fish who.GEN I closed fish-PST-1SG
 ‘the fish who/that I caught’ (Erelt 1996: 11)

(26) *see auto, mille ma ost-si-n*
 DEM car which.GEN I buy-PST-1SG
 ‘the car that/which I bought’ (Erelt 1996: 9)

Based on the behavior of common nouns, genitive is the case we expect to see on relative pronouns in these examples, as they are total objects in the relative clause.

However, as noted by Erelt et al. (1993: 53), Erelt et al. (2000: 479), and Metslang (2017: 273), the genitive form of the relative pronoun *mille* can be replaced with nominative *mis*.¹⁹ The examples they provide are given below (27)-(29) below.

(27) *Kas see on-gi see raamat, mis/mille sa eile ost-si-d?*
 Q DEM is-GI DEM book which.NOM/GEN you yesterday buy-PST-2SG
 ‘Is that the book that you bought yesterday?’ (Erelt et al. 1993: 52)

(28) *Siin on-gi see raamat, mis/mille ma eile ost-si-n.*
 here is-GI DEM book which.NOM/GEN I yesterday buy-PST-1SG
 ‘Here is that book which I bought yesterday.’ (Erelt et al. 2000: 479)

(29) *Nad ela-si-d põhiliselt selle arvel, mis nad meie käest ära
 võt-si-d või ost-si-d.*
 they lived primarily DEM.GEN expense which they we.GEN from away
 take-PST-3PL or buy-PST-3PL
 ‘They primarily lived off of what they either took or bought from us.’ (Metslang 2017: 237)

I believe (27) and (28) are constructed examples, but (29) is a naturally occurring instance of *mis* replacing otherwise expected *mille*. I refer to this phenomenon as the *mis~mille* alternation.

There is an important commonality among the given examples that the authors do not mention: in all *mis~mille* alternation examples given, the relative pronoun is an

¹⁸ The inanimate pronoun *mille* is also possible in (25) (Erelt 1996).

¹⁹ These relative pronouns are morphologically identical to *wh*-pronouns used in questions, but the authors just mentioned write that the *mis~mille* alternation is only for relative pronouns. Instead, question pronouns have a different alternation: the partitive form *mida* can be replaced with *mis*. I do not offer an account of this fact here, as my focus is on total objects, but it does suggest that relative pronouns and question pronouns could have a slightly different status in the grammar though there is substantial (if not complete) overlap in form.

object. However, as we have seen, this is not the only place where genitive forms are used in Estonian, and we thus come to another domain where the traditional view (i.e., no accusative) and the view I argue for (i.e., with accusative) make different predictions. In the traditional view, where genitives show uniform behavior, we expect that nominative *mis* can replace genitive *mille* regardless of the role of *mille* in the relative clause. In the view I advocate for, there is no such prediction. In other words, we do not expect uniform behavior across these uses of morphological genitive case with respect to the *mis~mille* alternation. In fact, the *mis~mille* alternation is not freely available for any instance of *mille* in the relative clause. Rather, it only occurs if the relative pronoun is a total object. Let us turn to some examples.

4.1 Only total object *mille* can be *mis*

Recall that, in addition to total objects, genitive case is used for adnominal genitives and objects of many adpositions. If the *mis~mille* alternation is truly about morphological case, it should be possible to replace any instance of *mille* with *mis*. Specifically, we should be able to find *mis* as an adnominal genitive (i.e., possessor), and we should be able to find *mis* as an object of an erstwhile genitive-assigning adposition. However, neither of these is possible. First, adnominal genitives must be in genitive case, as shown in (30) and (31).

- (30) *koodi-d, *mis/mille olemasolu ma enne kabtlusta-nud-ki*
 code-PL.NOM which.*NOM/GEN existence I before suspect-PST.PCPL-GI
pol-nud
 NEG.be-PST.PCPL
 ‘codes whose existence I had not previously suspected’ (BALANCED)
- (31) *mõisa-le, *mis/mille omanik on Concordia ülikooli*
 manor-ALL, which.*NOM/GEN owner be.PRS.3SG Concordia university.GEN
rektor Mart Susi.
 rector M S
 ‘(to the) manor house, whose owner is Concordia University rector Mart Susi’
 (BALANCED)

For example, in (31), the relative clause is about the owner of the relativized noun *mõis* ‘manor’, and so the relative pronoun is an adnominal genitive. It must be *mille*, not *mis*.

Second, when the relative pronoun is an object of an adposition that normally assigns genitive case, the relative pronoun must be *mille* and cannot be *mis*. This is shown in (32) and (33) below.

- (32) *õhtusöögi-d, *mis/mille eest tasu-takse suur-i summa-sid*
 dinner-PL.NOM which.*NOM/GEN for require-PASS large-PL.PAR sum-PL.PAR
 ‘dinner for which large sums (of money) were paid’ (BALANCED)
- (33) *periood, *mis/mille kohta ta ise ütles nagu*
 period which.*NOM/GEN about s/he self.NOM say-PRS.3SG live-PST-1SG like
diplomaat”.
 diplomat
 ‘a period about which she herself said, “I lived like a diplomat.”’ (BALANCED)

Thus, the postpositions *eest* and *kohta*, both of which only assign genitive case, do not permit a complement relative pronoun to take the form *mis*.

The lack of *mis* in the position of adnominal genitives or adpositional complements is also confirmed in corpora. To do this, I searched the balanced literary corpus (a.k.a. *Tasakaalus korpus*), which is tagged for syntactic information. For adpositions, the results are quite clear, as there are no tokens of *mis* as an adpositional complement. I provide the search strings and token counts below in the interest of replicability.

(34) [*mille* P⁰]_{PP}: 5450 tokens
string: , +mille@word &p>@syn +(k)

(35) [*mis* P⁰]_{PP}: 0 tokens
string: , +mis@word &p>@syn +(k)

The syntactic coding (&p>@syn) is critical here, because it is certainly possible for *mis* to be followed by an adposition—it could be a preposition or an adposition that can also be used adverbially (i.e., an intransitive adposition).

Searching for *mis* as an adnominal possessor brings up more irrelevant examples, because *mis* can also be used as a determiner meaning ‘which’, and in this guise, it does not inflect for case (Norris 2018). This means that searching for bare *mis* followed by a noun still turns up a large number of tokens. To reduce the overall number, I searched for *mis* followed by *mine*-nominalizations and got far fewer tokens. The search strings and token counts are given below.

(36) [*mille* V-*mine*]: 1023 tokens
string: , +mille@word &nn>@syn +*mine(s)

(37) [*mis* V-*mine*]: 82 tokens
string: , +mis@word &nn>@syn +*mine(s)

There is a substantial difference in the raw token counts given above. However, the count of 82 for [*mis* V-*mine*] is actually misleading. Of those 82, 71 were coded both as nominal modifiers (nn>) and as subjects (subj).²⁰ Upon inspection, I found that in all 71 such examples, the relative pronoun was, in fact, the subject of the relative clause rather than a nominal modifier of the *mine*-nominalization. And, of the remaining 11, *mis* is the subject (or passive object) in 10, and in 1 token, the relative clause appears to be incomplete—it is missing a word or words—and thus the role of the relative pronoun cannot be determined.²¹ Thus, the search for *mis* as an adnominal genitive argument of a *mine*-nominalization turned up no examples, corroborating the evidence from native speaker judgments that *mis* cannot replace *mille* when it is an adnominal genitive.

What this means is that the *mis*~*mille* alternation cannot be properly stated without reference to syntactic role or position. It is thus another argument that genitives in Estonian do not all have the same behavior, and in particular, object genitives are different. We can

²⁰ I do not know how the corpus was coded for syntactic information, but my understanding is that the same element should not be coded both as a nominal modifier and a subject. And indeed, I believe a majority of the examples coded as such that I pulled were errors.

²¹ I do not claim here that internal arguments of passives are subjects in Estonian, but it is true that they cannot bear genitive case. Thus, internal arguments of passives do not reveal anything about the *mis*~*mille* alternation in any case.

make sense of this if object genitives are the realization of a distinct syntactic case, which it is reasonable to call “accusative” given its association with the object position.

4.2 Interim summary: What counts as genitive or accusative?

Thus far, I have presented two morphosyntactic arguments in favor of treating the genitive that is assigned to total objects as distinct from other genitives in Estonian. First, we saw that pseudopartitives have a form in total object position—genitive N1, partitive N2—that is not used in other genitive positions. In other genitive positions, N1 and N2 are both genitive. Second, the inanimate relative pronoun can be either “genitive” *mille* or nominative/unmarked *mis* when in total object position, but in other genitive positions, it must be *mille*. I used adnominal possessors and complements of adpositions as prototypes for other genitives in the language, but these environments do not exhaust all genitive environments in the language, and an anonymous reviewer asked how we can tell whether a genitive is “accusative” or true genitive.

For instance, certain adjuncts can bear morphological genitive case in Estonian, as in (38).²²

- (38) *Viibi-s terve kuu haigla-s.*
 stay-PST.3SG whole.GEN month.GEN hospital-INE
 ‘S/he stayed in the hospital for a whole month.’

In this example, the nominal phrase adjunct *terve kuu* ‘whole month’ bears genitive case. When looking at singular nouns, whether bare or modified by elements showing concord as in this case, it is not possible to tell whether the noun is genitive or accusative. This is precisely the kind of nominal phrase that displays genitive/accusative syncretism. In order to see whether this is genitive or accusative, three diagnostics (at least) can be checked, given in (39) below.

- (39) Genitive or accusative diagnostics for Estonian:
- a. What form does a plural noun take in this position? If it is genitive, this is a genitive position. If it is nominative, this is an accusative position.
 - b. What form does a pseudopartitive take in this position? If N2 bears genitive case, this is a genitive position. If N2 bears instead partitive case, this is an accusative position.
 - c. What form does a relative pronoun take in this position? If it can only be genitive, this is a genitive position. If it can be both genitive and nominative, this is an accusative position.

It may be that some of these diagnostics cannot be deployed for independent reasons, e.g., it might not be the right kind of syntactic element to be relativized, and thus a relative pronoun cannot be present. Speaking of the particular example given in (38), pseudopartitives like *tükk aega* ‘a piece of time’ can appear in this position, as in (40).

- (40) *Viibi-s tüki aega haigla-s.*
 stay-PST.3SG piece.“GEN” time.PAR hospital-INE
 ‘S/he stayed in the hospital for a bit.’

²² Thanks to an anonymous reviewer for providing the relevant example.

Since N1 *tüki* ‘piece’ bears genitive case and N2 *aega* ‘time’ bears partitive case, this is an accusative position. This is a welcome result, as accusative is a case that is sometimes available for adjuncts cross-linguistically (Wechsler & Lee 1996).²³

Positing a syntactic accusative case allows us to tie the properties explored here to a single source. However, once we adopt the accusative analysis, we are on the hook for an explanation of the pervasive syncretism the accusative case exhibits. In the next section, I consider some analyses of this pattern within the framework of Distributed Morphology, ultimately advocating for an analysis that makes use of Impoverishment. I also suggest an analysis of the *mis~mille* alternation in terms of Impoverishment, following the analyses of so-called variable rules proposed by Nevins & Parrott (2010).

5 Non-autonomous accusative in Distributed Morphology

In this section, I propose an analysis of the non-autonomous accusative within the framework of Distributed Morphology. The analysis involves three pieces. First, I adopt a decomposition of traditional case labels into component features. Second, I propose an Impoverishment rule specific to the accusative plural. This accounts for the accusative/nominative syncretism in the plural. In contrast, I propose that the accusative/genitive syncretism in the singular is best analyzed as underspecification of vocabulary items. The system is outlined below.

(41) System for the non-autonomous accusative

- a. Case features:
 NOMINATIVE: [-GOV, -OBL]
 ACCUSATIVE: [+GOV, -OBL]
 GENITIVE: [+GOV, +OBL]
- b. Vocabulary items:
 [] ↔ /-∅_{NOM}/
 [+GOV] ↔ /-∅_{GEN}/
 [+PL] ↔ /-d/
 [+GOV, +PL] ↔ /-{de, te}/
- c. Impoverishment rule:
 [+GOV] → ∅ / ___ [-OBL, +PL]

Before exploring the details of this analysis, I make a brief digression on Estonian case morphology in the interest of explaining what is meant by ∅_{NOM} and ∅_{GEN} and what is meant by -{de, te}.

Across Estonian declension classes, genitive singular is distinguished from nominative singular in two primary ways.²⁴ For some lexical items, e.g., *kõrvits~kõrvitsa* ‘squash.NOM~GEN’, the genitive is distinguished from the nominative by a final vowel. For others, the nominative and genitive are distinguished by the use of different stems. The relationships between the stems can take various forms. Some involve lengthening a

²³ Thanks to an anonymous reviewer for bringing up the relevance of this generalization.

²⁴ Of course, there are some declension classes where nominative and genitive singular are not distinguished, e.g., *kala* ‘fish’ or *maja* ‘house’.

vowel or consonant in one of the case forms (e.g., *kapp~kapi* ‘cupboard.NOM~GEN’). Some involve lenition of a consonant in one of the case forms (e.g., *leib~leiva* ‘bread.NOM~GEN’). In the most extreme case, the connection between the stems seems functionally suppletive (e.g., *võti~võtme* ‘key.NOM~GEN’). Many declension classes utilize a combination of the two (e.g., addition of a vowel and consonant length change, as with *kapp* ‘cupboard’). Within Finno-Ugric linguistics, this phenomenon is called GRADATION, and the different stems are called strong/weak grades. See Blevins (2005, 2008), Mürk (1981, 1997) for more information on gradation in Estonian.

All of this is to say that there is no dedicated exponent for genitive singular in Estonian (nor nominative singular, for that matter), but the choice between nominative and genitive is marked in some way for many lexical items. This could be modeled within DM in various ways, but I do not develop a formal account here. The vocabulary items for \emptyset_{NOM} and \emptyset_{GEN} are intended to communicate that selection of, e.g., \emptyset_{GEN} will lead to the form that is associated with the genitive. Concretely, this could be because \emptyset_{GEN} is associated with a particular feature that causes stem change, or because adjacency to \emptyset_{GEN} causes the genitive form of the Root to be inserted. This complicated issue is not unique to my analysis. Rather, it is part of the general challenge of modeling Estonian case morphology in Distributed Morphology.

As for $\{-de, te\}$, the genitive plural morpheme is either *-de* or *-te*, depending on the morpheme it attaches to. For a phonological analysis of the alternation, see Kager (1996), but see Blevins (2008) for evidence against the phonological analysis. The choice between *-de* and *-te* is determined (at least partially) by declension class.

With this digression out of the way, we can return to a discussion of possible analyses in Distributed Morphology, beginning with an analysis invoking the Impoverishment operation.

5.1 An analysis with Impoverishment

Following much previous morphological work, Keine (2010), Müller (2004) propose a featural decomposition of case features as follows.²⁵

- (42) Case specifications:
- a. nominative = [+SUBJ, -GOV, -OBL]
 - b. accusative = [-SUBJ, +GOV, -OBL]
 - c. genitive = [+SUBJ, +GOV, +OBL]

In this system, accusative shares [+GOV] with genitive but not nominative, and accusative shares [-OBL] with nominative but not accusative. I propose that, in Estonian, syntactic

²⁵ Keine and Müller are not the only authors who have proposed a decomposition of case features. There have been many proposals, and so far as I know, little attempt to unify the particulars of each proposal. Müller (2004) motivates the three features syntactically. First, [+SUBJ] covers those cases that typically show up on arguments merged last with a predicate (noun phrase internally with the genitive). Second, [+GOV] covers cases that are prototypical for objects of verbs. And third, [+OBL] serves to differentiate genitive (and other oblique cases) from the core arguments of the verb, i.e., nominative and accusative.

assignment of accusative case involves the features [+GOV, -OBL]. For simplicity, I will set aside the feature [SUBJ] in this analysis.²⁶

The singular syncretism is captured without Impoverishment. Accusative and genitive nominals share the feature [+GOV] in common, and nominative nominals lack that feature. Thus, at Vocabulary Insertion, the accusative and genitive nominals share a common vocabulary item, but that vocabulary item cannot be inserted for nominative nominals, which are specified as [-GOV].

- (43) ACC.SG [+GOV, -OBL, -PL]
 GEN.SG [+GOV, +OBL, -PL]
- a. [+GOV, +PL] \leftrightarrow /-{de, te}/ **
 b. [+PL] \leftrightarrow /-d/ **
 c. [+GOV] \leftrightarrow /- \emptyset_{GEN} / \Leftarrow
 d. [] \leftrightarrow /- \emptyset_{NOM} /
- (44) NOM.SG [-GOV, -OBL, -PL]
- a. [+GOV, +PL] \leftrightarrow /-{de, te}/ **
 b. [+PL] \leftrightarrow /-d/ **
 c. [+GOV] \leftrightarrow /- \emptyset_{GEN} / **
 d. [] \leftrightarrow /- \emptyset_{NOM} / \Leftarrow

Neither of the plural vocabulary items will suffice, as they are specified as [+PL]. Then, it comes down to the number of matching features. Because the (43c) matches one feature and (43d) matches zero, (43c) is preferred. For the spell-out of nominative, none of the vocabulary items matches any features, and so only the default (44d) can be inserted.

In the plural, accusative is syncretic with nominative rather than the genitive (as in the singular). Morphosyntactically speaking, this is a retreat to a less-marked form. Nominative case is the least marked case in Estonian, both syntactically and morphologically. To account for this, I propose the Impoverishment rule in (41c), repeated below:

- (41c) Impoverishment rule:
 [+GOV] \rightarrow \emptyset / ___ [-OBL, +PL]

This Impoverishment rule removes the specification of [+GOV] from any feature bundle that contains at least [+GOV, -OBL, +PL]. This is the feature specification of an accusative plural nominal.

After Impoverishment applies, accusative plural nominals no longer share the feature [+GOV] in common with genitive plural nominals. Instead, they are like nominative plural nominals in that they share the specification for [+PL] and lack [+GOV].

- (45) ACC.PL [-OBL, +PL]
 NOM.PL [-GOV, -OBL, +PL]
- a. [+GOV, +PL] \leftrightarrow /-{de, te}/ **

²⁶ The system proposed by Müller and adopted by Keine contains more cases than those discussed here, and the Estonian case system contains more and different cases than the ones discussed by Keine and Müller. I do not attempt a full breakdown of the Estonian case system into its component features here, as it would take us too far afield, though this would be, of course, a necessary piece of a complete analysis of the morphology of case in Estonian.

- b. [+PL] \leftrightarrow /-d/ \Leftarrow
 c. [+GOV] \leftrightarrow /- \emptyset_{GEN} / **
 d. [] \leftrightarrow /- \emptyset_{NOM} /
- (46) GEN.PL [+GOV, +OBL, +PL]
 a. [+GOV, +PL] \leftrightarrow /-{de, te}/ \Leftarrow
 b. [+PL] \leftrightarrow /-d/
 c. [+GOV] \leftrightarrow /- \emptyset_{GEN} /
 d. [] \leftrightarrow /- \emptyset_{NOM} /

In (45), we see the competition for accusative and nominative plural nominals, which have the same result. Neither (45a) nor (45c) can be inserted because neither bundle is specified for [+GOV]. Thus, (45b) wins because it matches more features than (45d). The competition for the genitive plural is more straightforward: (46a) matches the most features, and thus it is inserted.

5.2 Without Impoverishment

An account without Impoverishment is possible to construct, but it strikes me as more stipulative than an analysis with Impoverishment. The vocabulary items required for this analysis are given in (47). The only difference between these and the vocabulary items for the main analysis in (41b) is the specification for the genitive plural marker *-de/te*.

- (47) Vocabulary items for an alternative analysis:
 [] \leftrightarrow /- \emptyset_{NOM} /
 [+GOV] \leftrightarrow /- \emptyset_{GEN} /
 [+PL] \leftrightarrow /-d/
 [+OBL, +PL] \leftrightarrow /-{de, te}/ \Leftarrow

Whereas *-de/te* is inserted for [+GOV, +PL] in the analysis I propose, this alternative uses the feature [+OBL] instead of [+GEN] for the genitive plural *-de/te*.

This analysis treats singular nominals in the same way as the Impoverishment analysis. The difference arises in their treatments of plurals. The analysis without Impoverishment selects the proper exponent for nominative plural and genitive plural.

- (48) NOM.PL [-GOV, -OBL, +PL]
 a. [+OBL, +PL] \leftrightarrow /-{de, te}/ **
 b. [+PL] \leftrightarrow /-d/ \Leftarrow
 c. [+GOV] \leftrightarrow /- \emptyset_{GEN} / **
 d. [] \leftrightarrow /- \emptyset_{NOM} /
- (49) GEN.PL [+GOV, +OBL, +PL]
 a. [+OBL, +PL] \leftrightarrow /-{de, te}/ \Leftarrow
 b. [+PL] \leftrightarrow /-d/
 c. [+GOV] \leftrightarrow /- \emptyset_{GEN} /
 d. [] \leftrightarrow /- \emptyset_{NOM} /

As before, *-d* is inserted for the nominative plural nominal, as its specification of [+PL] matches the greatest number of features of the nominative plural nominal. The same is true for genitive plural.

Selecting the proper form for the accusative plural is less straightforward. Without further modification, the competition cannot be resolved for an accusative plural nominal, as both *-d* and $-\emptyset_{\text{GEN}}$ match one of the features of the bundle.

- (50) ACC.PL [+GOV, -OBL, +PL]
- a. [+OBL, +PL] \leftrightarrow /-{de, te}/ **
 - b. [+PL] \leftrightarrow /-d/ \Leftarrow ?
 - c. [+GOV] \leftrightarrow /- \emptyset_{GEN} / \Leftarrow ?
 - d. [] \leftrightarrow /- \emptyset_{NOM} /

If the competition is based on the actual number of features that match, then there is a tie between (50b) and (50c), as both match a single feature. Recall that the desired choice is *-d*. This issue did not arise in the Impoverishment analysis because accusative plural nominals are no longer specified as [+GOV] after Impoverishment, so (50c) is not eligible for insertion.

In order to generate the proper form for the accusative plural, an analysis without Impoverishment would have to add an additional mechanism to the resolution of competition between vocabulary items. The clearest way to do this would be to state that, in case two vocabulary items match the same number of features, then the vocabulary item that matches the highest ranked feature(s) is the vocabulary item that is chosen. This would be paired with a ranking of number features over case features.

- (51) ACC.PL [+GOV, -OBL, +PL]
- a. [+OBL, +PL] \leftrightarrow /-{de, te}/ **
 - b. [+PL] \leftrightarrow /-d/ \Leftarrow (NUMBER \gg CASE)
 - c. [+GOV] \leftrightarrow /- \emptyset_{GEN} /
 - d. [] \leftrightarrow /- \emptyset_{NOM} /

With this modification, the morpheme *-d* will be inserted for accusative plural nominals.

I believe this analysis is less promising for two reasons. First, though this analysis does not make use of Impoverishment, it requires a stipulation of its own: the ranking of plurality features over case features for the purposes of competition for insertion. With respect to feature ranking, the issue has been discussed in detail for the features person, number, and gender (Harley & Ritter 2002, Noyer 1997), thus there is independent motivation for Vocabulary Insertion prioritizing some features over others for the purposes of competition for insertion. However, I am not aware of any discussion of the ranking of number and case in this domain. Thus, the two analyses are at least equal in terms of the number of mechanistic stipulations required. However, it could be that future research uncovers a crosslinguistically motivated hierarchy of the kind explored by Harley & Ritter (2002). That could perhaps make the feature-ranking portion of this analysis less stipulative.

The second reason that the analysis without Impoverishment is dispreferred is that the features of its vocabulary items are less motivated. In the Impoverishment analysis,

genitive vocabulary items are both specified as [+GOV]. Under the analysis without Impoverishment, the genitive singular vocabulary item is sensitive to [+GOV], but the genitive plural vocabulary item is sensitive instead to [+OBL]. While it is true that vocabulary items cannot always be independently motivated, this dual nature of genitive vocabulary items results in a system that seems more accidental than systematic.

5.3 A loose end: accusative numerals never show morphological genitive

Having now proposed an analysis of the non-autonomous accusative case in terms of Impoverishment, I wish to make a brief digression to discuss how numerals could be incorporated into the account. In total object contexts, numerals do not bear genitive case. Instead, they remain nominative, as shown in (52)–(53) below.²⁷

- (52) *Teg-in täna kaks / *kabe heategu.*
do-PST.1SG today two.NOM / two.GEN favor.PAR
'I did two favors today.' (Metslang 2017: 273)
- (53) *Emma vii-s oma kaks / *kabe last lapseaeda.*
Mother bring-PST.3SG own two.NOM / two.GEN child.PAR daycare.ILL
'Mother brought her two children to daycare.' (Erelt et al. 2000)

These examples are a puzzle for all analyses of object case-marking in Estonian, because they break the connection between “genitive” (that is, morphological genitive) and singular number (that is, the absence of morphological plurality) on total objects. There are, of course, other contexts where morphological genitive does not occur on any objects (with or without numerals), but with numerals, the morphological genitive qua accusative never occurs. While I cannot provide a definitive answer here, I sketch two possible analyses for incorporating this behavior numerals, leaving this as an open issue for future work on case-marking in the Finnic languages.

In line with the general approach I propose here, where the syntax is maximally simple and the morphology of case is more complex, I assume accusative is assigned to total objects with numerals like those in (52) and (53). As before, this would mean the numeral would have case features [+GOV, -OBL], and because they are morphologically singular, I assume they are specified [-PL].²⁸ To account for the fact that numerals surface as nominative (i.e., the zero-marked form) when assigned syntactic accusative case, there are at least two possibilities, which differ only on theoretical grounds, as far as I can tell. One option is to propose an additional Impoverishment rule that applies only to numerals. The second option is to propose that vocabulary items for numerals are slightly different than for the rest of the language.

In the analysis I proposed in section 5.1, Impoverishment is applied only in the context of the plural feature [+PL]. Thus, it would not be applied to numerals, which are [-PL]. We would need a separate Impoverishment rule for numerals. This rule would be more restricted than the one proposed in (41c). For example, we might say that it applies

²⁷ Thanks to an anonymous reviewer who recommended discussion of examples like these.

²⁸ Importantly, it is possible for numerals to be plural-marked in Estonian. The choice between singular and plural numerals is based on what is being counted. See Norris (2018) for further discussion.

only to a elements of the category Card^0 , which Danon (2012) proposes as the label for cardinal numerals. A hypothetical rule of this type is given in (54).

- (54) Impoverishment rule for Numerals (hypothetical):
 $[+\text{GOV}] \rightarrow \emptyset / \text{--- Card}^0 [-\text{OBL}]$

This rule would remove the $[+\text{GOV}]$ specification from any accusative numeral (i.e., $\text{Card}^0 [+\text{GOV}, -\text{OBL}] \rightarrow \text{Card}^0 [-\text{OBL}]$). As a result, the vocabulary items referring to genitive (i.e., $[+\text{GOV}] \leftrightarrow /-\emptyset_{\text{GEN}}/$) could not be inserted.

Alternatively, we could propose an analysis that does not make use of Impoverishment. Instead, the unexpected nominative form of numerals in accusative position could be treated as a difference in vocabulary items. For most lexical items in terms of the analysis proposed in 5.1, genitive singular forms are inserted in the context of $[+\text{GOV}]$. However, for numerals, we could say genitive is only spelled out in the context of $[+\text{GOV}, +\text{OBL}]$, as depicted in (55).

- (55) Vocabulary items for numerals:
 $[] \leftrightarrow /-\emptyset_{\text{NOM}}/$
 $[+\text{GOV}, +\text{OBL}] \leftrightarrow /-\emptyset_{\text{GEN}}/$
 $[+\text{PL}] \leftrightarrow /-\text{d}/$
 $[+\text{GOV}, +\text{PL}] \leftrightarrow /-\{\text{de}, \text{te}\}/$

Thus, when an accusative numeral is sent to spell-out specified as $[+\text{GOV}, -\text{OBL}]$, only the nominative vocabulary item could be inserted. This is because the genitive vocabulary item for the numeral is exceptionally specified as $[+\text{OBL}]$, which clashes with the $[-\text{OBL}]$ value assigned in the syntax.

These analyses each have strengths and weaknesses, and it is not clear to me how they could be distinguished on empirical grounds. The Impoverishment analysis formalizes this phenomenon as a general pattern connected to a certain syntactic category: Card^0 . This succeeds at capturing the fact that this is applied across cardinal numerals (except *üks* ‘one’), as only one stipulation needs to be made. However, as noted in footnote 10, this same phenomenon, unexpected nominative in total object position, can variably occur with pseudopartitives, where the head is not obviously a cardinal numeral.²⁹ In contrast, according to the alternative hypothesis, the fact that all cardinal numerals (besides ‘one’) surface as nominative in total object position is formally an accident. Since it is a property of individual vocabulary items (or a special vocabulary item inserted in the context of a

²⁹ One obvious stipulation one could make is that these elements are exceptionally Card^0 heads when they surface as nominative. The trouble for this kind of solution is that it is not clear that they behave syntactically like numerals when they surface as nominative. For example, “complements” of numerals are always singular, but it is possible to have a plural N2 when the N1 of a pseudopartitive is unexpectedly nominative.

- (i) *Võt-si-d bulk mebi vangi.*
 take-PST-3PL group.NOM man.PL.PAR prisoner.PAR
 ‘They took a bunch of men (as) prisoner(s).’ (Erelt et al. 2000)

Here, we have an N1 *bulk* surfacing as nominative rather than accusative/genitive *bulga* and a plural N2 *mebi* ‘men’. If *bulk* ‘group’ was really a cardinal numeral in this construction, we would expect singular *mees-t* ‘man-PAR’ rather than *mebi*. Thus, treating these unexpected nominative N1s as elements of Card^0 is not straightforward.

list of particular roots), the generalization is not connected to any other property in the grammar. The upside of that view, though, is that unexpected uses of nominative outside of numerals (e.g., on N1 of a pseudopartitive) can be easily incorporated with the rest of the analysis, though this is perhaps not surprising given that the facts are stipulated across the board.

I emphasize again that these facts are a challenge for all existing accounts that I am aware of. In descriptive grammars, authors (e.g., Metslang (2017)) state that genitive is not used for total objects that are plural “in form or in content” (Estonian *vormilt või sisult*), but it amounts to listing the contexts where genitive is not allowed. There are no formal accounts of the patterns in Estonian. The most formal account is that proposed by Miljan & Cann (2013). They propose that genitive marks dependency on some head whereas nominative is unmarked (or the absence of) case. While the account allows us to understand the attested facts, it is not clear how it rules out ungrammatical alternatives. For example, it is not clear in that account why genitive is not possible on plural total objects or, importantly, total objects with numerals. Discussing accounts of Finnish would take us too far afield, but it is worth noting that Kiparsky (2001) does not even address numerals in his seminal work on Finnish structural case. This is notable given the very broad empirical coverage of Kiparsky’s study.

5.4 Extending the analysis to the *mis*~*mille* alternation

Thus far, we have analyzed accusative’s change from genitive form when singular to nominative form when plural. However, the analysis as stated does not extend to the *mis*~*mille* alternation. Though the *mis*~*mille* alternation also involves a change from genitive to nominative, the analysis just proposed includes Impoverishment in the context of plural, but the *mis*~*mille* alternation is not sensitive to number. As a result, we would predict only *mille* in every instance. Furthermore, the *mis*~*mille* alternation is optional, whereas the alternation between genitive when singular and nominative when plural is not. To have a system that generates the *mis*~*mille* alternation, we need to make additional proposals.

5.4.1 *mis*~*mille* alternation analysis in terms of Impoverishment

Because the *mis*~*mille* alternation involves usage of an unmarked form (nominative *mis*) where we expect a marked form (genitive *mille*), I propose that this also an instance of Impoverishment. However, this instance of Impoverishment is optional.³⁰ Building on analyses of verb agreement paradigm leveling in a number of dialects of English by Nevins & Parrott (2010), I propose an analysis making use of the two vocabulary items in (56) and the optional Impoverishment rule in (57).

(56) Vocabulary items for inanimate relative pronoun *mis* (a partial list):

D[-ANIM, +REL]	↔	<i>mis</i>
D[-ANIM, +REL, +GOV]	↔	<i>mille</i>

³⁰ Of course, the word *optional* suggests completely free choice in using either *mille* or *mis*, but it is unlikely that that is what the data would reveal upon closer inspection. There are certainly factors that condition the choice between *mille* and *mis*, be they based in Grammar (i.e., ‘purely linguistic’) or in Usage (i.e., ‘sociolinguistic’), or both, to use terms from Adger (2007). Nevertheless, I treat the alternation as formally optional here, leaving open an analysis of its precise characterization.

- (57) Impoverishment of accusative inanimate relative pronoun (optional):³¹
 [+GOV] %→ ∅ / D[-ANIM, +REL, -OBL ___]

The vocabulary items in (56) are actually no different from the items proposed at the beginning of Section 5: nominative forms are totally unspecified with respect to case features, and the genitive form references only [+GOV]. As for the Impoverishment rule in (57), there are several pieces that are important. First, it must only apply to the inanimate relative pronoun, hence it applies in the environment of D[-ANIM, +REL]. Second, it applies only in accusative contexts (not in the context of all genitives), and so it must reference [-OBL] in the environment in addition to targeting [+GOV]. The analysis would not change if the rule deleted all case features, but as written, this rule looks maximally similar to the other Impoverishment rule proposed in (41c).³²

I turn now to illustrations of the analysis.

5.4.2 *mis~mille alternation analysis: illustrations*

Because the vocabulary items are set up just as they were before, the proper form is chosen for both nominative ([-GOV, -OBL]) and genitive ([+GOV, +OBL]) relative pronouns (58)-(59).

- (58) Nominative: D[-ANIM, +REL, -GOV, -OBL]
 a. D[-ANIM, +REL, +GOV] ↔ *mille* **
 b. D[-ANIM, +REL] ↔ *mis* ⇐
- (59) Genitive: D[-ANIM, +REL, +GOV, +OBL]
 a. D[-ANIM, +REL, +GOV] ↔ *mille* ⇐
 b. D[-ANIM, +REL] ↔ *mis*

Again, competition between these items is regulated by the Subset Principle. The only vocabulary item that matches a subset is chosen in (58), and the vocabulary item matching the greatest number of features is chosen in (59).

The competition is very similar for accusatives (60)-(61).

- (60) Accusative (without Impoverishment): D[-ANIM, +REL, +GOV, -OBL]
 a. D[-ANIM, +REL, +GOV] ↔ *mille* ⇐
 b. D[-ANIM, +REL] ↔ *mis*
- (61) Accusative (after Impoverishment): D[-ANIM, +REL, -OBL]
 a. D[-ANIM, +REL, +GOV] ↔ *mille* **
 b. D[-ANIM, +REL] ↔ *mis* ⇐

Once the [+GOV] feature of accusative pronoun is deleted, as in (61), the *mille* form is now overspecified, and so it cannot be inserted. Otherwise, the shared [+GOV] feature value of accusative and genitive results in insertion of *mille*, as seen in (60). As mentioned in footnote 30, what remains to be unpacked is what conditions the application of this optional (i.e., variable) rule of Impoverishment, but I believe this could be incorporated with the kind of analysis just presented.

³¹ I follow Nevins & Parrott (2010) in using %→ to indicate that an Impoverishment rule applies variably/optionally.

³² Thanks to an anonymous reviewer for suggesting I consider more carefully how to bring this analysis closer in line with the general analysis proposed.

5.5 Analysis summary and familial comparison

If we adopt the proposal that Estonian has an abstract accusative case, then we are on the hook for an explanation of how that accusative can come to be realized as genitive when singular but nominative when plural. The analysis I proposed makes use of both underspecification and Impoverishment to generate the morphological form of the accusative. I argued that this analysis is superior to a version that putatively makes use of only underspecification on the grounds that its vocabulary items are more arbitrary and that it, in fact, requires additional stipulation (and is therefore plausibly no less stipulative than an analysis with Impoverishment). While it remains to be seen whether the analysis here can be incorporated into a complete morphosyntactic analysis of the Estonian case system, I believe it is a promising start.

I close this section with some discussion of the accusative in a historical and familial context. Wickman (1955) proposes an accusative case in Proto-Uralic indicated by **-m* (pp. 145–149), and it seems that this proposal is commonly assumed (Abondolo (1998), Laakso (2001), but see Künnap (2006), Miljan (2008) for critical discussion). The **-m* was transparently preserved in at least Eastern Mari (Kangasmaa-Minn 1998: 225–6), Nenets (Salminen 1998: 538), Selkup (Helinski 1998: 558), and the now extinct Kamassian (Simoncsics 1998: 585–6). Though the **-m* was lost, unique accusatives were preserved in Udmurt (Csúcs 1998: 282–3), Zyrian (Komi) (Riese 1998: 268–9), and other varieties of Komi (Hausenberg 1998: 312). In the Finnic languages, there was a general sound change turning word-final **-m* into *-n*, which resulted in the collapse of genitive and accusative singular for common nouns in those languages (Laakso 2001: 196). This same collapse also occurred in some Saami languages (e.g., Inari Saami (Sammallahti & Morottaja 1993: 125), North Saami (Hansson 2007: 118), and Skolt Saami (Feist 2010: 139)).³³ In some Finnic and Saami languages (Estonian among them), the genitive/accusative *-n* ending was lost. This results in an accusative/genitive that is not marked with a unique suffix, though for some lexical items, a stem change may occur.

Though the accusative shows major syncretism in Finnic languages and in some Saami languages, it nevertheless surfaces in other places. Laakso (2001) notes that personal pronouns were an exception to the collapse of accusative and genitive case, and thus personal pronouns often still have unique accusative forms. This is certainly true for Finnish (Kiparsky 2001) and Votic (Ariste 1968: 55–6). Accusative surfaces in certain contexts in Saamic languages, too; in Skolt Saami, *miine* ‘something’, *mii* ‘what.sg’ and *kook* ‘RELATIVE.PRONOUN.PL’ have unique accusative forms (Feist 2010: 260, 326, 348), and in North Saami, the numerals and the pronoun *mii* ‘what’ have unique accusative forms (Nickel 1990: 69). Estonian’s accusative syncretism is the most extreme, with no single word forms that can be identified as uniquely accusative. However, it still shows its face in the corners of the grammar explored here.

³³ Pite Saami has preserved a unique accusative *-v* for the singular and *-jt* for the plural (Wilbur 2014: 93).

6 Conclusion

In this paper, I have provided two novel arguments in favor of the existence of a syntactic accusative case in Standard Estonian. First, I showed that Estonian pseudopartitives have a unique accusative form: a genitive N1 with a partitive N2. Given that object genitives show different morphological behavior in pseudopartitives, it would be difficult to maintain that the object genitive is the same case as the genitive in other positions. Second, I showed that the inanimate relative pronoun *mis* alternates between the expected genitive form *mille* and nominative/uninflected *mis*, but only in the accusative position. Both of these facts are readily explained if we admit an abstract accusative case for objects into the grammar of Estonian, but they are difficult to explain in a model where the genitive borne by singular total objects is no different from genitives in other positions.

There are a number of aspects of the structural case system in Estonian that this article does not address. I mention two here. First, though I have focused here on situations where singular total objects bear morphological genitive case, there are also situations where singular total objects must bear nominative, not genitive. In the standard language, genitive is not possible for objects of imperatives, objects of impersonals, and objects of certain *da*-infinitive clauses (Metslang 2017). It is worth pointing out that these environments are a challenge for all analyses discussed herein. Either we ask why genitive disappears in these environments, or we ask why accusative disappears. Of course, given the dissociation between the morphology and syntax of case I proposed, we might wonder whether these are accusatives that are all impoverished postsyntactically. But, there is no morphological evidence for the presence of accusative in these contexts in the first place, as I know of no reason to identify two different types of nominative akin to the two different “types of genitive” discussed here. Thus, there would be no evidence for a distinct case in the syntax (akin to the accusative), and an Impoverishment account would therefore be on shaky ground. And given the inclusion of the passive/impersonal context, pursuing a syntactic account (i.e., one where accusative/genitive are just not assigned in these contexts at all) seems the most promising.

Second, I have not broached the topic of partitive case, which is also assigned to objects in Estonian. Partitive case is best known within generative literature from Finnish (see Csirmaz (2012), Kiparsky (2001)), and the facts in Estonian are similar, though not identical. It interacts with nominal semantics, verbal semantics, and negation (among possibly other things), and a complete analysis of the structural case system of Estonian requires a solid account of partitive case. This work at least clarifies the issue by making the argument that the partitive on objects is alternating with a dedicated case, i.e., accusative, rather than alternating with nominative when plural and genitive otherwise. (Partitive does alternate with nominative in those contexts just discussed, where accusative/genitive is not available.)

More broadly, this investigation serves as a new example of the understanding we can gain by analyzing case systems as both syntactic and morphological—two systems which interact but are not isomorphic (Deal 2016, Goddard 1982, Legate 2008, 2014, Spencer 2006). Though the addition of a syntactic accusative arguably results in a more complex case system in Estonian, the complexity is warranted. On a language-particular level, the accusative helps us better understand case-marking in Estonian, at least in the domains

explored here. More strongly, it renders Estonian less exotic, both in relation to other Uralic languages and to languages outside the Uralic family. Data from Estonian can and should be brought to bear on general debates surrounding the assignment of case to internal arguments. Rather than being the only Finnic language without an accusative, Estonian is like other Finnic languages in that it has an accusative that is not morphologically robust. And like many other non-Finnic languages, Estonian has a dedicated case for some objects of transitive verbs.

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