Introduction to the Estonian special issue of *FULL*[*]

Anne Tamm

This is a special issue of *FULL*, dedicated to the 100th anniversary of the independence of the Republic of Estonia. Estonia is one of the three sovereign countries where a Uralic language is a national language as well as the language spoken by the majority of the population. The Estonian language belongs to the Southern group of the Baltic-Finnic branch of the Finnic languages. Its closest relatives are Livonian, Votic, and South Estonian: Võro and Seto; both are considered as dialects in some approaches (see more details and further information in "Finno-Ugric peoples" n.d.).

Independence from the Russian Empire was declared on 24 February 1918, when the administrative areas referred to as Estonia and the Estonian speaking areas of Livonia were united in the Republic of Estonia. Estonia is thus the youngest sovereign state in the triplet with Hungary and Finland; the latter gaining independence on 6 December 1917. On 6 August 1940, the Republic was annexed by the Soviet Union. In 1990, the Congress of Estonia became the representative body of the citizens of the Republic of Estonia. Actual independence was regained through a gradual process, with the Soviet troops leaving the territory in 1994 (see more details and further information in "The story of our freedom" n.d., "Maarjamäe History Centre" n.d., "Eesti rahva museum" n.d.). Currently, the Republic of Estonia seeks to transcend its physical borders by offering E-Residency, which enables entrepreneurs to start a trusted location-independent EU company online ("What is E-residency?" n.d.). A network of cultural institutes provides information about Estonian culture and society across the world ("Estonian Institute" n.d.), with outposts in Tallinn, Helsinki and Budapest ("Estonian Institute in Hungary" n.d.).

The Estonian language is spoken by approximately 1.1 million people worldwide. According to the census in 2011–2012, Estonian is the first language of 68.5% of the total population of 1,294,236 in the Republic of Estonia. More specifically, the exact count of Estonian native speakers was 886,859 ("Rel 2011: Eestis räägitakse emakeelena 157 keelt" 2012). In addition, 147 persons report the knowledge of a sign language. The legacy of a long period as part of the Soviet Union is partly reflected in the large share of Russian (29.6%) or Ukrainian (0.6%) native speakers and partly by a considerable number of speakers of Finno-Ugric languages other than Estonian. The Estonian census records the following other Finno-Ugric speakers: 7423 Finns, 416 Mordvinians, 357 Ingrian Finns, 354 Karelians, 234 Maris, 189 Udmurts, 160 Hungarians, 93 Komis, 52 Vepsians, 51 Izhorians, 20 Komi Permyaks, and even 22 (self-reported) Livonian speakers ("RLE06: Loendatud püsielanikud emakeele ja soo järgi" 2012). Local Estonian dialects are spoken by 131,243 people according to the census data, which amounts to 10.1% of the permanent population. The knowledge of Võru is mentioned by 87,048, the Insular dialect by 24,520, and the Mulgi dialect by 9698 persons (ibid.). Originally, the South Estonian and North Estonian dialects had separate written variants, recorded in separate series of Bible translations. They were also spoken in different administrative regions for several centuries. To the present day, South and North Estonian dialects are mutually unintelligible. The

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Võru Institute ("Võru instituut" n.d.) is a center for learning more about the southern dialects.

Estonian has developed a written language that was standardized at the beginning of the 20th century on the basis of the Northern variants. The writing system uses Latin letters with the addition of *š, ž, õ, ä, ö,* and *ü*. There are numerous resources for learning Estonian, many of which are available online for free, e.g. a high-quality learner's dictionary ("Eesti keele põhisõnavara sõnastik" n.d.) or an online grammar course ("Tere tulemast! Welcome!" n.d., or "Oneness City, Estonia" n.d.), or an attractive video and audio course ("Keeleklikk" n.d.).

The presence of these many Finno-Ugric languages and dialects makes Estonia a popular target of urban and field linguists of Finno-Ugric languages. In major universities, such as the University of Tartu, Tallinn University and TalTech, students whose native language belongs to endangered Finno-Ugric languages are common. Tartu has been a safe haven for speakers of Uralic languages, and recently a large-scale permanent exhibition has been opened to visitors in the Estonian National Museum, located in Tartu. The Department of Finno-Ugric languages at the University of Tartu offers Hungarian and Finnish as well as endangered Uralic languages in its curriculum. Since 1927/1991, the foundation Fenno-Ugria has supported academic and other relationships between Estonia and the endangered Finno-Ugric language areas, in recent decades, via the government funded Kindred People's Programme. The University of Tartu, the Tallinn University of Technology, the Institute of the Estonian Language and the Estonian Literary Museum have united to form a Center of Estonian Language Resources. The Institute of the Estonian Language, which is a national research and development institution, houses an additional body of language resources and offers language services to public. It provides the rooms for the Mother Tongue Society as well. A number of scholars and native speakers of endangered Uralic languages are regularly employed at the Institute of the Estonian Language, partly because of lexicographic activities that target the kindred languages; bilingual dictionaries of Estonian and Mari, Udmurt and Erzya are already published and available online.

The goal of the present issue of FULL is to celebrate the anniversary of the Republic of Estonia by celebrating the work of Estonian linguists for their efforts during a whole century to render Estonian one of the best described non-Indo-European languages in the world. This Special Issue is a *special* issue, since it is a humble tribute paid to Estonia, Estonian, and Estonian linguistics containing work on Estonian which is untypical in the sense that all contributors work outside of Estonia or are not native speakers of Estonian. Hopefully, this is a welcome surprise!

The issue contains four papers. The two research articles revolve around the Estonian case system. The first one, titled *Non-autonomous accusative case in Estonian,* is contributed by Mark Norris. Marcel den Dikken and Éva Dékány are the authors of the second article, titled *Adpositions and case: Alternative realisation and concord*. This is followed by a thorough review of the recent major volume on Estonian syntax edited by Erelt and Metslang, written by David Ogren. The thematic issue is completed by an overview of generative works on the structure of Finnish and Estonian syntax by Anne Tamm and Anne Vainikka.

The first research article, *Non-autonomous Accusative Case in Estonian* by Mark Norris, concerns the Estonian case system. It reconsiders the status of accusative case in the language, presenting two novel arguments suggesting that accusative exists as a non-autonomous syntactic case in the grammar of Estonian. This position, which has been

adopted in a number of previous works, departs from what may be considered as the standard view of Estonian grammar, which assumes a leaner set of cases: the standard position is that there is no accusative case in Estonian. Mark Norris's paper focuses on objects of verbs which show an alternation in case-marking that appears to be conditioned by morphological number: the object is genitive when singular and nominative when plural. The author contends, on the basis of two sets of phenomena, that these cases are morphological realisations of a syntactic accusative case. While the two sets of phenomena have been noted before, they have heretofore not been considered in the context of the debate on the Estonian case system.

The first argument comes from case-marking in pseudopartitives, where the genitive borne by objects behaves differently from genitive borne by elements in other positions in the language. The second argument is based on an apparently optional alternation in the form of the inanimate relative pronoun, which involves using the nominative form of the pronoun where the genitive form would be expected. As the author argues, in both of these instances the genitive borne by objects behaves differently from other genitives, resulting in a situation in which the hypothesized accusative, in fact, corresponds to a unique morphological form. After demonstrating that the accusative allows a simple explanation of the pseudopartitive and relative pronoun facts reviewed, Norris presents two possible formalizations of the morphological realisation of the assumed non-autonomous accusative case (both within the framework of Distributed Morphology), arguing that the one that includes a postsyntactic operation of Impoverishment is superior to the one that does not.

The second research article, by Marcel den Dikken and Éva Dékány, titled *Adpositions and case: Alternative realisation and concord*, presents a general outlook on 'inherent' ('semantic') case and case concord. Following the familiar insight that inherent case in case-rich languages such as Estonian correspond to adpositions in case-poor languages such as English, the authors adopt the hypothesis that inherent case is tied to the actual presence of adpositions in the syntax. Their paper develops this view on the basis of the Estonian case system (which, adopting the position also defended by Mark Norris, they take to include the accusative). In particular, they argue that an inherent case marker may be of two kinds: (*i*) it is either the (morphologically bound) exponent of an adposition, or (*ii*) it is an alternative morphological realisation of a phonologically zero adposition. The latter scenario, however, is possible only if the nominal that bears the case-marker that morphologically realises the null adposition is a direct syntactic complement selected by the adposition. Their study makes the case for the existence of these two types of semantic cases by demonstrating that both types are present in Estonian.

The seven spatial cases are of type (*ii*): each one involves a case-marker on a nominal phrase selected by a null adposition. The four non-spatial semantic cases (the terminative, the essive, the abessive and the comitative; the so-called 'last four cases'), on the other hand, can only belong to type (*i*): as the authors argue, the nominals that they are encliticised to as morphologically bound adpositions are not their selected argument. This central distinction between two types of inherent cases, which is shown to interact– among others – with case concord and partitive case assignment in Estonian, forms the backbone of den Dikken and Dékány's paper.

Syntacticians in Estonia have contributed a major achievement for the anniversary year, as the comprehensive volume *Eesti keele süntaks* (The Syntax of Estonian) was brought to completion in 2017. The book review section of this issue features an extensive review of this work, by David Ogren. This volume, edited by Mati Erelt and Helle Metslang, is the

largest and most detailed description of Estonian syntax ever compiled: its twenty-three chapters, written by scholars at the University of Tartu, collectively describe all the major areas of Estonian syntax. At the same time, the book is structured in such a way that each chapter may also be read as a standalone reference on its topic. The careful and lucid descriptions, which draw inspiration from older Estonian grammars as well as the comprehensive Finnish grammar *Iso suomen kielioppi*, are distinctively modern, relying heavily on recent studies and linguistic data taken from various Estonian language corpora. As it becomes clear from David Ogren's review, this reference book is a highly valuable addition to the library of anyone studying the grammar of Estonian and other Finno-Ugric languages.

The present issue of FULL concludes with a short paper titled *An overview of generative works on the structure of Finnish and Estonian syntax*, by Vainikka and Tamm, whose aim is to put the work of Estonian linguists in perspective by making a comparison with work on Finnish. The paper covers 50 plus 50 years of research on either side of the Gulf of Finland, mainly on the syntax of these languages, focusing on the generatively inspired work. Since most of the work that was impacted by generative ideas in syntax was carried out in the Soviet times in Estonia, the article could as well be called *Trees and movement behind the iron curtain*. This exactly conveys the isolation combined with curiosity for what happened on the other side.

It is encouraging to see that the work of Estonian linguists is gradually being discovered by new generations of linguists outside of Estonia, who are well versed in diverse methods and theoretical frameworks. And conversely, Estonia has opened up to the world of linguistics, experimenting with new methods and approaches and providing linguistic thinking with challenging facts.

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In Memoriam Anne Vainikka

Anne Tamm

Anne Vainikka
July 31, 1958 – June 16, 2018

In June 2018, Anne Vainikka, a coauthor of a contribution of this special issue passed away after a battle against cancer.

Anne Vainikka had a Ph.D. in Linguistics from the University of Massachusetts, Amherst, with a dissertation titled *Deriving Syntactic Representations in Finnish* (1989)—the second dissertation ever on Finnish syntax (the first was defended 13 years earlier by Hakulinen). Vainikka's dissertation provides the groundwork for most work on Finnish syntax; the volume remains a valuable reference for Finnish syntacticians to date (the link to her dissertation is here).

Vainikka was also coauthor of the seminal article introducing the new phenomenon of partial null subjects (Vainikka & Levy 1999), for Finnish and Hebrew. Furthermore, Vainikka's series of articles on Finnish structural case (1993, 2003, 2011) acts as the cornerstone for much work on Finnish case. Recently, Vainikka & Brattico (2014) describe the phenomenon of true long-distance case (in Finnish), occurring over several clause boundaries. Vainikka's second field of specialization was language acquisition, including earlier work on various child languages (e.g. Vainikka [1993/4] on the development of L1 English case, and Varlokosta, Vainikka & Rohrbacher [1998] on L1 Greek root infinitives) and more recent work on naturalistic L2 acquisition with Martha Young-Scholten, culminating on their 2011 volume on the L2 acquisition of German syntax where their new approach "Organic Grammar" was presented. Vainikka was the CEO and founder of The Verb Company, and a Visiting Scholar at Johns Hopkins University and the University of Delaware.

Anne Vainikka was active as a mentor for young scholars; her PhD student Taija T. Saikkonen defended her thesis in Helsinki a few weeks before Anne passed away.

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Various works were still in progress. With Karoliina Lohiniva, she was working on the Finnish *-kin* particle. In her last project, Syntax of the Uralic Languages, Vainikka accomplished something that could only be accomplished by her exceptional combination of sunny personality and high professionalism. Her goal was to raise awareness of the individual Uralic languages and preserve as much as possible of the enormous treasure trove of syntactic phenomena that they are, and to allow knowledge to flow freely without artificial boundaries imposed by various approaches to language.

In order to achieve these goals, she began to work on an edited volume titled *Uralic Syntax* with Cambridge University Press, co-organizing workshops on Uralic Syntax in Budapest and Tallinn, where modern syntacticians, traditionally trained Uralicists, typologists, field linguists and endangered Uralic language speakers were convened. In the design of the edited volume, general chapters covered more in-depth topics in modern syntax, typically including data from various Uralic languages. A uniform syntactic questionnaire formed the basis for describing the individual languages: Enets, Erzya, Estonian, Finnish, Hungarian, Inari Saami, Surgut Khanty, Mansi, Mari, Nganasan, Selkup, and Udmurt. Anne Vainikka brought together various types of expertise and talent, creating a vibrant new community where she is now sorely missed. A memorial page at the University of Massachusetts, Amherst will be available here. An obituary on the LinguistList can be found here, and a memorial written by Tom Roeper here.

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Non-autonomous Accusative Case in Estonian*

Mark Norris

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).

Keywords: *Estonian, case, syncretism, pseudopartitives, Impoverishment*

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]

* For comments on and assistance with various stages of this work, I thank James Collins, Claire Halpert, Boris Harizanov, Heidi Harley, Ruth Kramer, Nick LaCara, Jeffrey Parrott, Jeffrey Punske, Ethan Poole, and the audience at the 49th Annual Meeting of the Societas Linguistica Europaea in Naples, Italy in 2016. Thanks as well to two anonymous reviewers for helpful and critical comments, which have helped strengthen the argumentation and empirical coverage of the discussion. For their judgments and insight regarding the Estonian examples presented here, I thank Leelo Kask, Katrin Jänese, Kärt Lazić, and Anne Tamm.

[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;

(1) *Pist-is* ***võt-me*** *lukku* *ja* *keera-s* ***ukse*** *lahti.*
stick-PST.3SG key-GEN lock.ILL and turn-PST.3SG door.GEN open
'She stuck the key in the lock and opened the door.' (EKSS, entry for *võti*)

(2) *Katk* *hävita-s* ***põdrakarja-d.***
plague.NOM destroy-PST.3SG moose.herd-PL.NOM
'The plague destroyed (the) moose herds.' (EKSS, entry for *hävitama*)

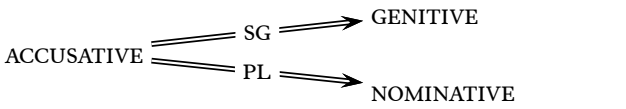
In (1), there are two singular objects in genitive case: *võtme* 'key.GEN' and *ukse* 'door.GEN'. In (2), there is a plural object bearing nominative case: *põdrakarjad* 'moose.herd.PL.NOM'. If the case-marking is switched, the resulting sentences are ungrammatical.

(3) * *Pist-is* ***võti*** *lukku* *ja* *keera-s* ***uks*** *lahti.*
stick-PST.3SG key.NOM lock.ILL and turn-PST.3SG door.NOM open
Intended: 'S/he stuck the key in the lock and opened the door.'

(4) * *Katk* *hävita-s* ***põdrakarja-de.***
plague.NOM destroy-PST.3SG moose.herd-PL.GEN
Intended: 'The plague destroyed (the) moose herds.'

To be sure, there are situations where singular objects may be nominative in Estonian, but the contexts in (1)/(3) do not allow them. In contrast, objects are never genitive plural.[2]

The proper characterization of these objects is controversial, and the debate is ongoing. There are essentially two viewpoints about this interaction between number and case. The first is that what we are dealing with is an abstract, syntactic case, which is realized as genitive case when singular and nominative case when plural. Because this abstract case is assigned primarily to objects, it is typically called accusative. This view is assumed or explicitly argued for by Ackerman & Moore (1999), Caha (2009), Hiietam (2003, 2005) and Tamm (2007), and it is represented schematically in (5).

(5)


This hypothetical Estonian accusative is a non-autonomous case: a case without a unique morphological marking (Mel'čuk 1986: 66). This is systematic for all common nouns in Estonian, and their modifiers track these morphological forms as well (i.e., genitive when

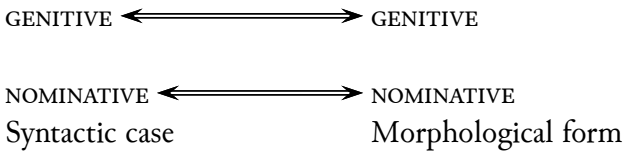
PARLIAMENT, a corpus of parliamentary proceedings; and EKSS, a dictionary of Estonian. All are available at `http://www.keeleveeb.ee/`. Glossing abbreviations are as follows: 1 first person, 2 second person, 3 third person, ACC accusative case, ADE adessive case, ALL allative case, ANIM animate, DA *da*-infinitive, DEM demonstrative, GEN genitive case, GI *-gi* discourse marker, ILL illative case, IMP imperative, INE inessive case, NEG negation, NOM nominative case, PAR partitive case, PASS passive, PL plural number, PST past, PST.PCPL past participle, REL relative (pronoun), SG singular number.

[2] Objects in in Estonian may also bear partitive case, but I will largely ignore partitive objects in this article, returning to it only briefly in the conclusion.

singular, nominative when plural). In other words, there are no single words in Estonian with a uniquely identifiable accusative form.

The alternative viewpoint, which has been the standard view in Estonian linguistics (e.g., it is represented in the normative standard grammars by Erelt et al. 1993, 2000 and 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.

(6)



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

[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.

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 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*)

[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 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).

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

(8) Genitive case on complements of adpositions:

a. *Kardina-d* *on* [*akna* *ees*].
curtain-PL.NOM be.3 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* *pääsukesi*
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., *pääsukesi* 'finches' in (9) and *piima* 'milk' in (10). I refer to the first noun as N1 and the second as N2.[7]

[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.

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)

(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* [*hulga* *inimesi*]
find-PST-1SG bunch.GEN people.PL.PAR
'I found [a bunch of people]' (Partitive Pattern)

b. [*hulga* *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

[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.

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*
third.GEN tart.GEN / tart.PAR price.NOM be.PST.3SG
kaks rubla.
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
'[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*
how much you.NOM bag.GEN potato-PL.GEN / potato-PL.PAR
eest mak-si-d?
for 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 skiied 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 pseudopartitives 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]

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

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

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 2018c 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

[10] An anonymous reviewer pointed to an interesting fact observed by Metslang (2017a): 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 2017a: 274)

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.

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]

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

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).

[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 2018c). 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 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] ≫ [+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 (2018c). 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.

(19) a.

	N1	N2	
Partitive Case ⇒		PAR	
External Case ⇒	NOM	~~NOM~~	(PAR ≫ NOM)

b.

	N1	N2	
Partitive Case ⇒		~~PAR~~	(ADE ≫ PAR)
External Case ⇒	ADE	ADE	

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) { **Genitive**, Illative, Inessive, Elative, Allative, Adessive, Ablative, Translative } ≫ Partitive ≫ { Nominative, **Accusative** }

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. 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

[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, nothing that dative

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]

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 ⇒		PAR	
External Case ⇒	GEN	~~GEN~~	(PAR ≫ 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 ⇒		~~PAR~~	(GEN ≫ PAR)
External Case ⇒	GEN	GEN	

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.

(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 genitive 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.

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* *püüd-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)

[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 sõltlaiend, muudel juhtudel laiend ühildub käändes."

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

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 (2017b: 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*
Q DEM is-GI DEM book which.NOM/GEN you yesterday
ost-si-d?
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*
they lived primarily DEM.GEN expense which they we.GEN
käest ära võt-si-d või ost-si-d.
from away take-PST-3PL or buy-PST-3PL
'They primarily lived off of what they either took or bought from us.'
(Metslang 2017b: 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 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.

[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.

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*
code-PL.NOM which.*NOM/✓GEN existence I before
kahtlusta-nud-ki *pol-nud*
suspect-PST.PCPL-GI NEG.be-PST.PCPL
'codes whose existence I had not previously suspected' (BALANCED)

(31) *mõisa-le,* **mis/✓mille* *omanik* *on* *Concordia*
manor-ALL, which.*NOM/✓GEN owner be.PRS.3SG Concordia
ülikooli *rektor* *Mart* *Susi.*
university.GEN 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*
dinner-PL.NOM which.*NOM/✓GEN for require-PASS large-PL.PAR
summa-sid
sum-PL.PAR
'dinners for which large sums (of money) were paid' (BALANCED)

(33) *periood,* **mis/✓mille* *kohta* *ta* *ise* *ütle-b*
period which.*NOM/✓GEN about s/he self.NOM say-PRS.3SG
"ela-si-n *nagu* *diplomaat".*
live-PST-1SG like 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* P^0]$_{PP}$: 5450 tokens
string: , +mille@word &p>@syn +(k)

(35) [*mis* P^0]$_{PP}$: 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 2018a). 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 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.

[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.

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 (39c) 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 positions. 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).

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

(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.'

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:
[ ] ↔ /-$\emptyset_{NOM}$/
[+GOV] ↔ /-$\emptyset_{GEN}$/
[+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 $\emptyset_{NOM}$ and $\emptyset_{GEN}$ and what is meant by -{de, te}.

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

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 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 $\emptyset_{\text{NOM}}$ and $\emptyset_{\text{GEN}}$ are intended to communicate that selection of, e.g., $\emptyset_{\text{GEN}}$ will lead to the form that is associated with the genitive. Concretely, this could be because $\emptyset_{\text{GEN}}$ is associated with a particular feature that causes stem change, or because adjacency to $\emptyset_{\text{GEN}}$ 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]

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

[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.

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 genitive. I propose that, in Estonian, syntactic 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] ↔ /-{de, te}/ **

b. [+PL] ↔ /-d/ **

c. [+GOV] ↔ /-$\emptyset_{GEN}$/ ⇐

d. [ ] ↔ /-$\emptyset_{NOM}$/

(44) NOM.SG [-GOV, -OBL, -PL]

a. [+GOV, +PL] ↔ /-{de, te}/ **

b. [+PL] ↔ /-d/ **

c. [+GOV] ↔ /-$\emptyset_{GEN}$/ **

d. [ ] ↔ /-$\emptyset_{NOM}$/ ⇐

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:

(41) Impoverishment rule:
[+GOV] → ∅ / ___ [-OBL, +PL]

[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.

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] ↔ /-{de, te}/ **
b. [+PL] ↔ /-d/ ⇐
c. [+GOV] ↔ /-$\emptyset_{GEN}$/ **
d. [ ] ↔ /-$\emptyset_{NOM}$/

(46) GEN.PL [+GOV, +OBL, +PL]

a. [+GOV, +PL] ↔ /-{de, te}/ ⇐
b. [+PL] ↔ /-d/
c. [+GOV] ↔ /-$\emptyset_{GEN}$/
d. [ ] ↔ /-$\emptyset_{NOM}$/

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:

[ ]	↔	/-$\emptyset_{NOM}$/	
[+GOV]	↔	/-$\emptyset_{GEN}$/	
[+PL]	↔	/-d/	
[+OBL, +PL]	↔	/-{de, te}/	⇐

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] ↔ /-{de, te}/ **

b. [+PL] ↔ /-d/ ⇐

c. [+GOV] ↔ /-$\emptyset_{GEN}$/ **

d. [ ] ↔ /-$\emptyset_{NOM}$/

(49) GEN.PL [+GOV, +OBL, +PL]

a. [+OBL, +PL] ↔ /-{de, te}/ ⇐

b. [+PL] ↔ /-d/

c. [+GOV] ↔ /-$\emptyset_{GEN}$/

d. [ ] ↔ /-$\emptyset_{NOM}$/

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 -$\emptyset_{GEN}$ match one of the features of the bundle.

(50) ACC.PL [+GOV, -OBL, +PL]

a. [+OBL, +PL] ↔ /-{de, te}/ **

b. [+PL] ↔ /-d/ ⇐?

c. [+GOV] ↔ /-$\emptyset_{GEN}$/ ⇐?

d. [ ] ↔ /-$\emptyset_{NOM}$/

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] ↔ /-{de, te}/ **

b. [+PL] ↔ /-d/ ⇐ (NUMBER ≫ CASE)

c. [+GOV] ↔ /-$\emptyset_{GEN}$/

d. [ ] ↔ /-∅$_{NOM}$/

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 disprefered 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* / **kahe* *heategu.*
do-PST.1SG today two.NOM / two.GEN favor.PAR
'I did two favors today.' (Metslang 2017b: 273)

(53) *Ema* *vii-s* *oma* *kaks* / **kahe* *last*
Mother bring-PST.3SG own two.NOM / two.GEN child.PAR
lapseaeda.
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

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

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 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):
$[\text{+GOV}] \rightarrow \emptyset$ / ___ Card^0 [-OBL]

This rule would remove the [+GOV] specification from any accusative numeral (i.e., Card^0 [+GOV, -OBL] $\rightarrow$ Card^0 [-OBL]). As a result, the vocabulary items referring to genitive (i.e., [+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 [+GOV]. However, for numerals, we could say genitive is only spelled out in the context of [+GOV, +OBL], as depicted in (55).

(55) Vocabulary items for numerals:

[ ]	$\leftrightarrow$	/-$\emptyset_{\text{NOM}}$/
[+GOV, +OBL]	$\leftrightarrow$	/-$\emptyset_{\text{GEN}}$/
[+PL]	$\leftrightarrow$	/-d/
[+GOV, +PL]	$\leftrightarrow$	/-{de, te}/

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

[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 (2018b) for further discussion.

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 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 2017b) 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 nothing 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

[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* *hulk* *mehi* *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 *hulk* surfacing as nominative rather than accusative/genitive *hulga* and a plural N2 *mehi* 'men'. If *hulk* 'group' was really a cardinal numeral in this construction, we would expect singular *mees-t* 'man-PAR' rather than *mehi*. Thus, treating these unexpected nominative N1s as elements of Card^0 is not straightforward.

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] ↔ *mis*
D[-ANIM, +REL, +GOV] ↔ *mille*

(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).

[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 lingusitic') 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.

[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.

(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.

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 (Helimski 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.

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-*

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

infinitive clauses (Metslang 2017b). 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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Adpositions and Case: Alternative Realisation and Concord*

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

Keywords: *adposition, alternative realisation, case, concord, exponence, pseudo-partitive*

1 Preliminaries

1.1 Semantic cases as autonomous or alternative realisations of P

Semantic cases of case-rich languages, such as the inessive or the ablative, translate in case-poor languages such as English with the aid of a designated spatial adposition, such as locative *in* (for INESS) or directional *from* (for ABL). Taking this equivalence seriously leads to two plausible options for the treatment of semantic cases: as autonomous spell-outs of P, as in (1a), or as what Emonds (1985, 1987) calls 'alternative realisations' of Ps

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that are themselves silent, licensed as such by the case morphology (K) on the noun phrase that serves as their complement, as in (1b).[1] We argue that not only Universal Grammar but also individual languages exploit both options. Both (1a) and (1b) give an inessive or ablative phrase in a case-rich language the same structure as that of an *in-* or *from-*PP in a case-poor language such as English. In neither (1a) nor (1b) is semantic case an *assigned* case – *contra*, for instance, Nikanne (1993) and Baker & Kramer (2014), who treat semantic cases in Finnish and Amharic, respectively, as being assigned by empty Ps to their complement.

(1) a. $[_{PP}\ P{=}K\ [_{xNP}\ N]]$

b. $[_{PP}\ P_{\emptyset}\ \ [_{xNP}\ N{+}K]]$

As a refinement of Emonds' concept of alternative realisation that lends it more precision, we argue here that alternative realisation of a P by case morphology on P's complement always involves a semantic, selection-based inherent case dependency. Only when P and the noun phrase (xNP) in its complement are in a selectional relationship in which a designated case is involved does the case on the noun phrase allow the nature of the silent P to be recovered. In the absence of such a relationship between P and the noun phrase, the case form of the latter tells us nothing about the nature of the preposition: that case form is then entirely environmental (i.e., structural), not inherent. Structural case is never specialised enough to be able to recover particular instances of P.

Alternative realisation can be thought of as a relationship of matching (potentially translatable in terms of the syntactic relationship called 'Agree') between the case features of P and K, the case morpheme on xNP, specific enough to facilitate the recovery of the silent P.

1.2 Case concord

Case concord, on the other hand, is a relationship of copying, not matching: a case assigned to xNP is copied over to an adjectival or nominal element which engages in a modification or predication relationship with xNP. Under concord, there is a one-to-many relation between a particular case morpheme K and its hosts: K is hosted not just by the head of the noun phrase but also by other elements associated to that noun phrase via modification or predication.

We do not take case concord to involve the syntactic relationship of Agree. Our primary reason for this is that case concord does not require matching for features other than case between the terms in the case-concord relationship. The Russian examples below (Irina Burukina, p.c.) show that in this language *(a)* there is φ-feature concord between the subject and an adjectival predicate even when there is no case concord between them (in (2), the [+PAST] example on the right has the φ-concordial adjective marked with instrumental case), and *(b)* when there is no φ-feature concord between a predicate nominal and its

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

subject, there can nonetheless be case concord between them (as is shown by the left-hand examples in (3)). The examples in (2) and (3) demonstrate that case concord is not tied to φ-concord. While φ-concord might involve Agree, case concord cannot.

(2) *Devočka* *krasivaja.* */Devočka* *byla* *krasivoj.* (Russian)
girl.F.SG.NOM beautiful.F.SG.NOM was beautiful.F.SG.INST
'The girl is beautiful.' / 'The girl was beautiful.'

(3) a. *Eti* *fakty* *problema.* */Eti fakty*
these fact.M.PL.NOM problem.F.SG.NOM
byli *problemoj.*
were problem.F.SG.INST
'These facts are a problem.' / 'These facts were a problem.'

b. *Mal'čiki* *komanda.* */Mal'čiki* *byli* *komandoj.*
boy.M.PL.NOM team.F.SG.NOM were team.F.SG.INST
'The boys are a team.' / 'The boys were a team.'

It is entirely standard to assume that the subject of predication, in canonical predication constructions, is in the specifier position of a functional head (called RELATOR in Den Dikken 2006) which takes the predicate as its complement. Assuming so, the left-hand examples in (2) and (3) would, if we were to model case concord as an Agree relationship, have to be instances of Spec-Head agreement (or 'Upward Agree'). But this is impossible in (3): the Spec-Head relation is more picky than the (Downward) Agree relation in demanding a TOTAL MATCH between probe and goal.

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

> Confining ourselves to the Semitic *Sprachbund*, we see that when clausal subjects occupy the specifier position of an agreement-bearing head, they invariably trigger agreement on the verb. When subjects occur in a post-verbal position, however, agreement is unstable, varying from impossibility in normative Standard Arabic, optionality with a variety of existential predicates in both Hebrew, Doron (1983), and the Arabic dialects, Mohammad (1989, 1999), to obligatoriness in Hebrew 'triggered' inversion, Shlonsky (1997).
>
> The generalization governing the distribution of subject–verb agreement is the following:
>
> > Agreement morphology is *obligatorily* manifested when the subject is in Spec/Agr (or Spec/T) at Spellout, whereas agreement may or may not be displayed on the verb when the clausal subject or agreement trigger is not in that position at Spellout (see Guasti and Rizzi, [2002], for further evidence and elaboration).

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

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

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

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

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

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

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

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

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

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

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

Finally, consider the following twist to (5): the head of the possessive noun phrase (i.e., the possessed noun, N1) lacks a phonological matrix, for example as a result of an ellipsis operation that fails to expone N1 overtly (cf. English *I like Bill's book, but hate Bob's* _).

N1 is the syntactic locus of the case feature assigned by (and alternatively realising) P. But in the PF component, N1, being silent, cannot host κ_{INESS}. The solution is to relocate (at PF) the case morpheme κ_{INESS} on N2. This noun will now have *two* case morphemes on it: both κ_{GEN}, which it got from being the possessor of a possessive noun phrase, and κ_{INESS}, which was dumped on it due to the silence of N1.

(8) $[_{\text{PP}}\ \text{P}_{in}\ [_{\text{xNP1}}\ [_{\text{xNP2=POSS'OR}}\ \text{N2-}\kappa_{\text{GEN}}\text{-}\kappa_{\text{INESS}}]\ \text{N1}_{\emptyset}\text{-}\cancel{\kappa_{\text{INESS}}}]]$

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

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

(9) $[_{\text{PP}}\ \text{P}_{in}\ [_{\text{xNP1}}\ [_{\text{xNP2=POSS'OR}}\ \text{AP-}\kappa_{\text{GEN}}\text{-}\kappa^{\text{k}}_{\text{INESS}}\ \text{N2-}\kappa_{\text{GEN}}\text{-}\kappa^{\text{k}}_{\text{INESS}}]\ \text{N1}_{\emptyset}\text{-}\cancel{\kappa_{\text{INESS}}}]]$

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

1.3 Preview of this paper

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

Estonian has eleven semantic cases. Seven of these are spatial cases,[2] for which we argue in what follows that the designated case morphology is located inside the complex noun phrase, as an alternative realisation of a postposition (or, for the directional cases, a pair of postpositions) structurally located outside the complex noun phrase (see (10a)). For the remaining four semantic cases,[3] κ is outside the complex noun phrase that it combines with and represents the surface exponent of a postposition, as in (1a). Here, then, κ is

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

[3] Theses are the terminative, essive, abessive, and comitative. Because these cases are standardly ordered last (and in this particular order) in the list of Estonian cases, they are handily referred to collectively in grammars of Estonian as 'the last four cases'. From the discussion in our paper, it will emerge that treating the non-spatial semantic cases separately from the spatial ones is eminently motivated; but from our analytical

not an alternative realisation of a silent P but the autonomous realisation of P itself. In the non-spatial semantic cases, P is autonomously rather than alternatively realised because alternative realisation is structurally impossible in these cases: unlike in the seven spatial cases, xNP in the last four cases is not an argument of the postposition. Rather, in the terminative, abessive, and comitative the postposition takes a small clause as its complement (see (10b.*i*)), while in the essive, P combines with a predicate nominal within a small clause (see (10b.*ii*)). (In (10) and throughout the paper, 'RP' stands for 'RELATOR phrase' in the sense of Den Dikken 2006.)

(10) a. *the spatial semantic cases*
$[_{PP}\ [_{xNP}\ (AP^{*}\text{-}GEN\text{-}\mathbf{K}^{i})\ N\text{-}GEN\text{-}\mathbf{K}^{i}]\ \mathbf{P}{=}\emptyset]$

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

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

2 Case study: Estonian case

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

point of view, it would have made more sense to place the essive at the very bottom of the list because its syntax is different from that of the other three 'last cases'. For the sake of convergence with the extant literature on Estonian, however, we will preserve the order in which the cases are customarily listed, with the essive coming after the terminative and before the abessive and the comitative.

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

(11)

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

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

Closer inspection of all eleven semantic cases (i.e., the seven spatial cases (ILLAT–TRANSL) plus the last four cases (TERM–COM)) reveals that as a set, these have in common the fact that the forms of the nouns and the modifiers that they combine with are based on the form of the genitive (see Blevins 2005: 1, Blevins 2008: 245 and Moseley's 1994 learners' grammar of Estonian): in (11), *ilus<u>a</u>* 'beautiful.GEN' and *ramaat<u>u</u>* 'book.GEN' in the singular, and *ilus<u>ate</u>* and *raamat<u>ute</u>* in the plural.[5]

The seven locative cases in addition show concordial case inflection on the adjective for the semantic case involved, which we do not see in the last four cases: there, the case

[5] More precisely, in both the singular and the plural, 'the base of a semantic case form is a morphomic stem, corresponding to the genitive form' (Blevins 2005: 5), which, in turn, is 'predictable from the partitive singular' (p. 6). Descriptively, an airtight generalisation about the morphophonological relationship between the semantic cases and the genitive is difficult to arrive at, especially in light of the fact that for stems such as *sadu* 'rain' and *rida* 'row', the genitive singular is virtually a stand-alone in the paradigm: in what Blevins (2008: 249) calls 'grade-alternating first declension paradigms', the genitive singular is represented by the 'weak stem' (*saju* and *rea*, resp.), which elsewhere in the paradigm shows up only in the nominative plural. (On the totally systematic morphological containment relation between the nominative plural and the genitive singular in Estonian, see Caha (2016). We fully endorse his view that the nominative plural is a binominal possessive noun phrase, with an overt genitival possessor and a silent head ('GROUP').)

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

marker (*-ni, -na, -ta, -ga*) shows up only on the last element of the noun phrase. Let us bring this out more clearly, as in (12) (which presents the singular forms only, for which the pattern comes out most transparently):

(12)

ILLAT	*ilus-a*	*-sse*	*raamat-u*	*-sse*
INESS	*ilus-a*	*-s*	*raamat-u*	*-s*
ELAT	*ilus-a*	*-st*	*raamat-u*	*-st*
ALLAT	*ilus-a*	*-le*	*raamat-u*	*-le*
ADESS	*ilus-a*	*-l*	*raamat-u*	*-l*
ABL	*ilus-a*	*-lt*	*raamat-u*	*-lt*
TRANSL	*ilus-a*	*-ks*	*raamat-u*	*-ks*
	A-GEN	-K	N -GEN	-K
TERM	*ilus-a*		*raamat-u*	*-ni*
ESS	*ilus-a*		*raamat-u*	*-na*
ABESS	*ilus-a*		*raamat-u*	*-ta*
COM	*ilus-a*		*raamat-u*	*-ga*
	A-GEN		N -GEN	-K

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

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

This picture presents us with the following central explananda:

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

3 P, case, and concord

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

The semantic cases from the illative down to the translative all involve the category P. In case-poor languages such as English, these cases are rendered with a designated spatial adposition; in case-rich Estonian, by contrast, the spatial cases serve as alternative realisations of Ps that are themselves silent, licensed as such by the case morphology on the

noun phrase that serves as their complement. This will help us account for the fact that all spatial cases are concordial. But we will also need to accommodate the fact that the seven spatial cases are all built on the genitive, which also shows concord. This 'double concord' pattern dictates very precisely a carefully articulated syntactic analysis for spatial expressions.

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

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

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

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

3.1.1 The non-directional spatial cases: Inessive, adessive

In the non-directional spatial cases (the inessive and the adessive), the nominal core of spatial expressions is placed in the complement of a single P-head, which we will represent with their standard English translations: P_{in} for INESS and P_{on} for ADESS. The reason why we are using these labels to name the two basic spatial Ps, rather than the labels 'INESS' and 'ADESS', is that the P-heads are not themselves realised as inessive or adessive case in Estonian: if they received an exponent by themselves, inessive and adessive case morphology would show up exactly once, in the position of P, just as in English. (For illustration the behaviour of a free-standing postposition in Estonian, see (18b), below.) The fact that inessive and adessive case are concordial indicates that the two locative Ps (P_{in} and P_{on}) themselves remain silent in Estonian, and are alternatively realised by case morphology attached as a suffix to the material in their complement.

The complement of P_{in} and P_{on} is the structure of the nominal core in (15). It is on this noun phrase that the syntax locates the spatial case features (which we will generalise over as 'K') that alternatively realise the silent locative P: see (15a). Since the noun phrase in the complement of $P_{in/on}$ (xNP1) is headed by a silent noun PLACE, the case morphology of xNP1 cannot be exponed on this noun. Instead, it is realised on the possessor.[6] And since

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

A reviewer points out that work using alternative realisation (e.g., Emonds 2000: ch. 4) presents

the possessor shows internal case concord, the case morphology that alternatively realises $P_{in/on}$ also participates in concord, as shown in (15b).

(15) a. $[_{\text{PPloc}}\ [_{\text{xNP1}}\ [_{\text{xNP2=POSS'OR}}\ (\text{AP*-GEN}^{i})\ \text{N2-GEN}^{i}]\ [\text{N1=PLACE}_{\emptyset}]]\text{-}\mathbf{K}\ P_{in/on}]$

b. $[_{\text{PPloc}}\ [_{\text{xNP1}}\ [_{\text{xNP2=POSS'OR}}\ (\text{AP*-}[\text{GEN-}\mathbf{K}]^{i})\ \text{N2-}[\text{GEN-}\mathbf{K}]^{i}]\ [\text{N1=PLACE}_{\emptyset}]]\text{-}\mathbf{\cancel{K}}\ P_{in/on}]$

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

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

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

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

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

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

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

b. $[_{\text{PPdir}}\ [_{\text{PPloc}}\ [_{\text{xNP1}}\ [_{\text{xNP2=POSS'OR}}\ (\text{AP*-}[\text{GEN-}\mathbf{K+K}]^{i})\ \text{N2-}[\text{GEN-}\mathbf{K+K}]^{i}]\ [\text{N1=PLACE}_{\emptyset}]]\text{-}\mathbf{\cancel{K+K}}\ P_{in/on}]\ P_{to/from}]$

other cases where empty intermediate heads allow or force alternative realisation on the next lexicalised head. Thus, subject φ-features are alternatively realised on V (only) if the intervening I is empty.

3.1.3 The spatial cases: Summary

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

(17) a. INESS is the alternative realisation of P_{in}=∅
$[_{PPloc}\ [_{xNP1}\ [_{xNP2=POSS'OR}\ (AP^{*}\text{-}GEN^{i})\ N2\text{-}GEN^{i}]\ [N1=PLACE_{\emptyset}]]\text{-}\mathbf{INESS}\ P_{in}]$

b. ADESS is the alternative realisation of P_{on}=∅
$[_{PPloc}\ [_{xNP1}\ [_{xNP2=POSS'OR}\ (AP^{*}\text{-}GEN^{i})\ N2\text{-}GEN^{i}]\ [N1=PLACE_{\emptyset}]]\text{-}\mathbf{ADESS}\ P_{on}]$

c. ILLAT is the alternative realisation of P_{in}+P_{to}=∅ (in change-of-location contexts)
$[_{PPdir}\ [_{PPloc}\ [_{xNP1}\ [_{xNP2=POSS'OR}\ (AP^{*}\text{-}GEN^{i})\ N2\text{-}GEN^{i}]\ [N1=PLACE_{\emptyset}]]\text{-}\mathbf{ILLAT}\ P_{in}]\ P_{to}]$

d. ELAT is the alternative realisation of P_{in}+P_{from}=∅
$[_{PPdir}\ [_{PPloc}\ [_{xNP1}\ [_{xNP2=POSS'OR}\ (AP^{*}\text{-}GEN^{i})\ N2\text{-}GEN^{i}]\ [N1=PLACE_{\emptyset}]]\text{-}\mathbf{ELAT}\ P_{in}]\ P_{from}]$

e. ALLAT is the alternative realisation of P_{on}+P_{to}=∅
$[_{PPdir}\ [_{PPloc}\ [_{xNP1}\ [_{xNP2=POSS'OR}\ (AP^{*}\text{-}GEN^{i})\ N2\text{-}GEN^{i}]\ [N1=PLACE_{\emptyset}]]\text{-}\mathbf{ALLAT}\ P_{on}]\ P_{to}]$

f. ABL is the alternative realisation of P_{on}+P_{from}=∅
$[_{PPdir}\ [_{PPloc}\ [_{xNP1}\ [_{xNP2=POSS'OR}\ (AP^{*}\text{-}GEN^{i})\ N2\text{-}GEN^{i}]\ [N1=PLACE_{\emptyset}]]\text{-}\mathbf{ABL}\ P_{on}]\ P_{from}]$

g. TRANSL is the alternative realisation of P_{in}+P_{to}=∅ (in change-of-state contexts)
$[_{PPdir}\ [_{PPloc}\ [_{xNP1}\ [_{xNP2=POSS'OR}\ (AP^{*}\text{-}GEN^{i})\ N2\text{-}GEN^{i}]\ [N1=PLACE_{\emptyset}]]\text{-}\mathbf{TRANSL}\ P_{in}]\ P_{to}]$

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

3.2 The last four cases as autonomous realisations of postpositions

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

In taking this approach to the last four cases, we are in agreement with Nevis (1986), who argues that the markers for the last four cases in (18a) are postpositions that assign genitive case to their complement, just like the free-standing postposition *eest* 'for' in (18b).

What makes the last four cases different from a P like *eest* is that they need to lean on something to their left: they are enclitic.[7]

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

b. [*ilusa* *raamatu*] *eest*
beautiful.GEN book.GEN for
'for a beautiful book'

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

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

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

(19) $[_{PP}\ [_{xNP}\ N{+}K]\ P_{\emptyset}]$ → ✓alternative realisation

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

(20) a. *$[_{PP}\ [_{RP}\ [_{xNP}\ N{+}K]\ [_{R'}\ [\text{PREDICATE}{=}\emptyset]\ \text{RELATOR}]]\ P_{\emptyset}]$ → * alternative real.

b. $[_{PP}\ [_{RP}\ [_{xNP}\ N]\ [_{R'}\ [\text{PREDICATE}{=}\emptyset]\ \text{RELATOR}]]\ P{=}K]$ → ✓ autonomous real.

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

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

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

b. $[_{RP}\ [_{xNP}\ \emptyset]\ [_{R'}\ [\text{PREDICATE}]\ \text{RELATOR=P=K}]]$ → ✓autonomous realisation

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

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

3.2.1 Comitative and abessive

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

(22) a. With(out) John on third base, we will never win this game.

b. $[_{PP}\ \text{P=}\textit{with(out)}\ [_{RP}\ \textit{John}\ [_{R'}\ \text{RELATOR}\ [\textit{on third base}]]]]$

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

(23) a. She went to the movies with(out) her parents.

b. [$_{PP}$ P=*with(out)* [$_{RP}$ *her parents* [$_{R'}$ RELATOR [THERE]]]]

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

(24) A. *Van-e hely?* (Hungarian)
is-Q space
'Is there space?'

Bi. *Van.*
is
'There is.'

Bii. *Nincs.*
is.not
'There is not.'

(25) [$_{RP}$ *hely* 'space'/*pro* [$_{R'}$ RELATOR=*van/nincs* [THERE]]]

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

(26) a. *ilusa* *raamatu* -{ga/ta}
beautiful.GEN book.GEN- COM/ABESS

b. [$_{PP}$ [$_{RP}$ [$_{xNP}$ A-GEN^{i} N-GEN^{i}] [$_{R'}$ [THERE] RELATOR]] $P_{with(out)}$=*ga/ta*]

A few words are in order about the fact that the comitative and abessive in Estonian also have instrumental uses, as in *ta kirjutas kirja pliiatsi-ga* 'he wrote a letter with a pencil, in pencil'. The analysis presented in this subsection for the comitative and abessive can be applied to their instrumental uses, such that *he wrote a letter with a pencil* would, on this approach, be represented syntactically as *he wrote a letter with* [$_{RP}$ *a pencil* THERE] – with the silent indexical that serves as the small-clause predicate being interpreted as something like 'in his hand'. On this approach, world knowledge leads to the inference that if the agent had a pencil in his hand while writing a letter, this pencil will likely have been used as the instrument for writing the letter. This naturally leads to a certain degree of indeterminacy,

with the Estonian examples in (27) being vague on whether the *-ga*-marked item served as an instrument for walking/swimming or just happened to be in the agent's hand while he was walking/swimming.

(27) a. *Jaan* *jalutas* *lipu-ga.*
Jaan walk.PST.3SG flag-COM
'Jaan walked with a flag.'

b. *Jaan* *jalutas* *kepi-ga.*
Jaan walk.PST.3SG stick-COM
'Jaan walked with a stick.

c. *Jaan* *ujus* *päästevesti-ga.*
Jaan swim.PST.3SG life.vest-COM
'Jaan swam with a life vest.'

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

3.2.2 Terminative

With this analysis of the comitative/abessive on the table, the terminative case ('until, up to') is quite readily treated in terms of a structure involving small-clause complementation as well, once again with the abstract locative predicate THERE.[8] Thus, for an English example

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

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

such as (28a), we propose the syntax in (28b).[9]

(28) a. *until/till the end*

b. [$_{PP}$ P=*until/till* [$_{RP}$ *the end* [$_{R'}$ RELATOR [THERE]]]]

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

(29) a. *ilusa* *raamatu-ni*
beautiful.GEN book.GEN-TERM

b. [$_{PP}$ [$_{RP}$ [$_{xNP}$ A-GEN N-GEN] [$_{R'}$ [THERE] RELATOR]] P_{until}=*ni*]

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

3.2.3 Essive

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

(i) *koos ilusa raamatuga*
'with a beautiful book'

(ii) *ilma ilusa raamatuta*
'without a beautiful book'

(iii) *kuni ilusa raamatuni*
'until a beautiful book'

[9] The structure in (28b) collapses the locative and directional layers of terminative *until/till* into a single P-element, for the sake of simplicity. Both layers are in fact likely to be active in terminatives. The etymology and internal constitution of *until* and *till* are not sufficiently clear to serve as a basis for any claim to this effect. But Dutch terminative *tot* has been traced back to a combination of two P-elements: *toe* and *te*. Since *toe* is uniquely directional and *te* is overwhelmingly locative, it makes sense to take *toe* to be the head of the terminative PP, with *te* being the exponent of the locative P-head in its complement.

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

(i) *anyá-val és életmentő-vel, *anya/anyá- és életmentő-vel* 'with mother and life-saver'

(ii) *anya-ként és életmentő-ként, anya- és életmentő-ként* 'as mother and life-saver'

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

(30) a. *as a beautiful book*

b. [$_{RP}$ *ec*=PRO [$_{R'}$ RELATOR=P=*as* [*a beautiful book*]]]

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

(31) a. *ilusa* *raamatu-na*
beautiful.GEN book.GEN-ESS

b. [$_{RP}$ *ec*=PRO [$_{R'}$ [$_{xNP}$ A-GEN N-GEN] RELATOR=P$_{as}$=*na*]]

The genitive marking on the predicate nominal in Estonian (31) is a reflex of structural case marking. The predicate is not the selected, thematic dependent of the RELATOR head, hence not eligible for inherent case assignment. The case borne by the predicate in (31) is the same as the one assigned to possessors in possessive noun phrases – something in

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

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

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

(i) *Kaugelt* *vaadates* *tundub* *maja* *päris* *väikese-na.*
from_afar look.CVB seem.3SG house quite small-ESS
'From a distance, the house seems quite small.'

which Estonian behaves like typologically related Hungarian, where dative (rather than genitive) case is used both for possessors and for the predicates of small clauses embedded under verbs such as *tart* 'find', as shown in (32).[13]

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

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

(33) *Ik ga als mezelf.* (Dutch)
I go as myself.ACC
'I go (to the fancy-dress party) as myself.'

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

3.3 Case and P in Estonian: Summary

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

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

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

(34)

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

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

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

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

We have argued, taking our cue from Emonds (1985, 1987), that the seven spatial cases of Estonian are morphemes on N which alternatively realise a silent P. The postulation of silent Ps alternatively realised by specialised case morphology on their complement is the equivalent, from Emonds' perspective, of what is called 'inherent case assignment by P' in other work. From the latter point of view, P assigns inherent case to its complement. Alternative realisation recasts this *without* case assignment being implicated. There are two ways to think about the case relation between P and the xNP in its complement: EITHER P assigns case to xNP and thereby licenses xNP, causing the head of xNP to bear a special case morpheme ('inherent case assignment'), OR a specialised case morpheme is directly inserted on the head of xNP and thereby licenses P, causing P to remain silent

('alternative realisation'). The two perspectives cannot both be right: mixing them into a cocktail wherein P both licenses xNP by assigning it case and is licensed to be silent by case morphology on xNP results in circularity. We have taken the alternative realisation approach because we consider it to be more explanatory than the traditional inherent case assignment approach. We therefore have no business with *inherent* case assignment of spatial Ps to their complements. And assuming that a P which is alternatively realised by dedicated case morphology on its complement in addition assigns a *structural* case to this noun phrase would introduce a redundancy. If we think of the relationship between a head and its complement as being in need of formal licensing, *one* means of formal licensing should do in any given case. For the relationship between P and its xNP complement, this means that it is licensed EITHER by structural case assignment of P to xNP OR by alternative realisation of P by case morphology on xNP. From this it follows that Ps that are alternatively realised by case on xNP do NOT assign structural case – and this in turn entails (given our argument that the spatial cases of Estonian are alternatively realised silent Ps) that the genitive case seen on xNP in Estonian spatial case constructions is NOT assigned to it by P. The alternative that remains is the one we developed in section 3.1, above: the genitive in the seven spatial cases is the reflex of xNP being the possessor of a silent noun PLACE.

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

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

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

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

b. [*ilusa* *raamatu*] *eest*
beautiful.GEN book.GEN for
'for a beautiful book'

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

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

b. [*tüki* *leiva*] *eest*
piece.GEN bread.GEN for
'for a piece of bread'

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

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

b. *[*tüki* *leiba*] *eest*
piece.GEN bread.PAR for

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

(37) *Tõin* [*tüki* *leiba*].
bring.PST.1SG piece.GEN bread.PAR
'I brought a piece of bread.'

(37′) **tõin* [*tüki* *leiva*]
bring.PST.1SG piece.GEN bread.GEN

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

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

Norris (2015, 2018b) interprets the facts in (36)-(37) as demonstrating that Estonian makes a syntactic distinction between two different genitive cases. He follows previous proposals to the effect that, surface morphophonological appearances notwithstanding, Estonian has accusative case (see Saareste 1926, Hiietam 2005, Tamm 2007, Miljan 2008, Caha 2009: ch. 3.2.3), and calls the genitive borne by singular 'total objects' of transitive verbs 'accusative'.[14]

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

This forges a parallel between Estonian and familiar nominative-accusative case systems, and fills an otherwise rather conspicuous gap in the Estonian case paradigm, which features no morphologically discrete accusative form.

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

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

(38′) *[*tükk* *leib*]
piece.NOM bread.NOM

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

(39) *Case in Estonian pseudo-partitives: take 1* (Norris 2018b)
The case value of the N2 phrase is determined by the case value of N1 in the following ways:

a. if N1 is nominative or accusative, the pseudo-partitive will show the partitive pattern;

b. otherwise, it will show the matching pattern (case concord).

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

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

(40) TERM [PP [RP [xNP N-GEN] [R′ [THERE] RELATOR]] P$_{until}$=*ni*]
ESS [RP *ec*=PRO [R′ [xNP N-GEN] RELATOR=P$_{as}$=*na*]]
ABESS [PP [RP [xNP N-GEN] [R′ [THERE] RELATOR]] P$_{without}$=*ta*]
COM [PP [RP [xNP N-GEN] [R′ [THERE] RELATOR]] P$_{with}$=*ga*]

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

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

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

4.3.1 Derived specifiers versus the rest

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

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

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

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

(41) *Case in Estonian pseudo-partitives: take 2* (this paper)
The case value of the N2 phrase is determined by the way in which the pseudo-partitive noun phrase values its case:

a. if the pseudo-partitive values its case in a DERIVED specifier position, the pseudo-partitive will show the partitive pattern;

b. otherwise, it will show the matching pattern (case concord).

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

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

4.3.2 Feature union in case-concordial pseudo-partitives

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

(43) a. *Eet* [*je* *bord* ***met*** *aardappelen*] *leeg!* (Dutch)
eat your plate with potatoes empty
'Finish your plate with potatoes!'

b. #*Eet* [*je* *bord* ***met*** *aardappelen*] *op!*
eat your plate with potatoes up
#'Eat up your plate with potatoes!'

c. #*Eet* *je* *bord* *op!*
eat your plate up
#'Eat up your plate!'

(44) a. *Eet* [*je* *bord* *aardappelen*] *leeg!*
eat your plate potatoes empty
'Finish your plate of potatoes!'

b. *Eet* [*je* *bord* *aardappelen*] *op!*
eat your plate potatoes up
'Eat up your plate of potatoes!'

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

(45) *The case-concordial pseudo-partitive*
$[_{\text{RP}=\{\text{FF1}\}\cup\{\text{FF2}\}}\ [_{\text{xNP1}}\ \text{N1}_{\{\text{FF1}\}}]\ [_{\text{R}'}\ [_{\text{xNP2}}\ \text{N2}_{\{\text{FF2}\}}]\ \text{RELATOR}=\emptyset]]$

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

(46) *The partitive-marked pseudo-partitive*
$[_{\text{RP}=\{\text{FF1}\}}\ [_{\text{xNP1}}\ \text{N1}_{\{\text{FF1}\}}]\ [_{\text{R}'}\ [_{\text{xNP2}}\ \text{N2}_{\{\text{FF2}\}}]\ \text{RELATOR}=\text{PARTITIVE}]]$

4.3.3 Case in Estonian pseudo-partitives: Analysis

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

By contrast, the Spec-Head relation (under which a probe and a goal in a derived specifier position agree) demands a TOTAL MATCH between probe and goal. In the case-concordial pseudopartitive in (45), labelling is performed via the union of the feature sets

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

of N1 and N2. This makes it impossible for the TOTAL MATCH condition imposed on the Spec-Head relation to be satisfied: no single probe can have a match for the union of {FF1} and {FF2}.

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

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

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

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

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

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

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

4.3.4 A note on numeral-noun constructions

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

(47) a. [*kolme* [*koti* *kartuli-te*]] *kõrval*
three.GEN bag.GEN potato.PL.GEN next.to
'next to three bags of potatoes'

b. [*kolm* [*kotti* *kartileid*]]
three.NOM bag.PAR potato.PL.PAR
'three bags of potatoes'

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

(48) a. [*tüki* *leiva*] *eest*
piece.GEN bread.GEN for
'for a piece of bread'

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

b. [*tükk* *leiba*]
piece.NOM bread.PAR

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

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

(49) a. *een* *drietal*
a three.count
'a set of three, a threesome, a trio'

b. *een* *drietal* *mensen/aardappelen*
a three.count people/potatoes
'a set of three people/potatoes'

The interesting thing to note about this Dutch numeral-noun construction is that it behaves very much like the case-concordial pseudo-partitive, not just when it comes to the

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

absence of a linking P between the two nominal elements but also with respect to the selectional 'ambidexterity' that we observed for case-concordial pseudo-partitives in section 4.3.2. For (49a) (which does not feature a second noun) one finds that it is generally usable only with reference to humans (or, at least, animate entities), even if there is a salient inanimate available in the context: see (50a). But (49b) is not sensitive to this restriction; and as a result, (50b) with *aardappelen* makes perfect sense (whereas (50b) without *aardappelen* included is felicitous only in a cannabilistic context).

(50) a. (*Wat* {*taalkundigen*/#*aardappelen*} *betreft*), *ik zie een*
what linguists/potatoes concerns I see a
drietal op deze foto.
three.count on this picture
'As regards {linguists/potatoes}, I see a threesome in this picture.'

b. *Jan heeft een drietal* #(*aardappelen*) *opgegeten.*
Jan has a three.count potatoes up.eaten
'Jan ate up a set of three (potatoes).'

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

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

b. *Eet* [*je bord aardappelen*] *op!*
eat your plate potatoes up

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

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

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

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

4.4 Postlude on case concord and displacement to derived specifier positions

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

4.4.1 Ā-fronting

The way in which we derived the empirical generalisation in (41) hinges on the hypothesis that the case-concordial pseudo-partitive is labelled by union of the features of the two constituent noun phrases, which causes it to be impossible for the resulting structure to be a total match for a probe under Spec-Head agreement. But we know that the case-concordial pseudo-partitive can be Ā-fronted into the left periphery. Thus, consider the pair of Dutch examples in (53) (cf. (43)):

(53)	a.	*Hoeveel*	*borden*	*aardappelen*	*kun*	*je*	*leeg*	*eten?*	(Dutch)
		how.many	plates	potatoes	can	you	empty	eat	
	b.	*Hoeveel*	*borden*	*aardappelen*	*kun*	*je*	*opeten?*		
		how.many	plates	potatoes	can	you	up.eat		

The key example here is (53b), which involves selection by the particle verb *opeten* 'eat up' for the features of the second noun, *aardappelen* 'potatoes', and by the logic of the above discussion requires the features of N2 to be represented on the pseudo-partitive. This is possible in our proposal thanks to labelling via feature union. But in our account of the Estonian pseudo-partitive we argued that when a complex object is labelled via union, it is ineligible for movement to a derived specifier position. So how can (53b) support Ā-fronting to SpecCP, indubitably a derived specifier position?

It is commonplace to say that *wh*-constituents in questions have an additional feature, call it [Q], which makes them different from non-*wh*-constituents. This [Q] feature is entirely invisible internal to the clause: it is active exclusively in the position for *wh*-constituents (SpecCP), where it engages in a feature-checking relation with C, under Spec-Head agreement. It is this [Q] feature that ultimately labels the *wh*-phrase for the purposes of *wh*-fronting. Internal to the clause, the *wh*-constituent behaves in the way expected of it on the basis of its 'L-related' features (such as [PLURAL] and [ACC]); in the left periphery, it is the [Q] feature that takes the lead.

There are various ways in which this can be formally given shape. The simplest one will be to capitalise on the fact that by the time a *wh*-phrase is displaced to SpecCP to establish a Spec-Head relation with C, all of the L-related featural relations that this phrase may be engaged in will have been established, and the features involved in these relations will have been deactivated. So for ALL *wh*-objects alike, whether they be case-concordial pseudo-partitives or something else, it holds that by the time they are displaced

to SpecCP and establish a Spec-Head relation with the C-head, they bear only one active feature, [Q].[19]

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

4.4.2 Concordial attributive modification

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

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

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

[19] It is entirely imaginable that the [Q] feature in fact gets added to a phrase late in the syntactic derivation, at the point at which all L-related features have already been valued and deactivated. This will deliver the same positive result as a more radical approach to the treatment of the [Q] feature: merger of the [Q] feature and its minimal bearer (*hoeveel* 'how many' in Dutch (43)) directly in SpecCP, so that the *wh*-constituent is initially represented as a discontinuous object, with the two constituent parts eventually united by displacement of the non-*wh* portion. In languages that do not tolerate discontinuous *wh*-phrases (i.e., languages, such as English and Dutch, that cannot say things like **how many have you eaten potatoes?*; contrast this with French *combien as-tu mangé de pommes de terre?* 'how.many have you eaten of potatoes'), their underlying discontinuity can then be thought of as a motivation for displacement of the non-*wh* portion – a 'trigger for *wh*-movement', but crucially without movement of the [Q] part: it is precisely the other part of the *wh*-phrase that moves in its stead. Such movement does not result in the establishment of a Spec-Head relation between C and the moved constituent: the moved constituent does not check any features against C at all; C is in a Spec-Head relation with the bearer of [Q], which is base-generated in SpecCP, and the moved non-*wh* constituent 'submerges' with [Q] to put Humpty Dumpty together to form a continuous *wh*-phrase.

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

Only in case-concordial pseudo-partitives do we find labelling via union of the features of the two constituent noun phrases, and its concomitants in the realms of selection and feature checking.

5 Conclusion

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

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

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

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

The four cases that are traditionally ordered last in the list of Estonian's fourteen cases (the terminative, essive, abessive and comitative) are also adpositional – in fact, more directly so than the seven spatial cases above them on the list. While the Ps involved in the syntactic representation of the latter are silent and alternatively realised by case morphology in their complement, the last four cases are perforce the spell-outs of their Ps themselves.

This is because the noun phrases with which these Ps combine are not selected by them: in the essive, this noun phrase is the predicate of a small clause, and in the terminative, the abessive and the comitative it is the subject of a small clause. Alternative realisation is strictly restricted to selectional dependencies. In the absence of such a dependency, the case morphology has no choice but to spell out P (a postposition) autonomously.

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

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

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BOOK REVIEW

Eesti keele süntaks (The Syntax of Estonian) (Tartu: University of Tartu Press, 2017, 924 pages)

David Ogren

Abstract

Eesti keele süntaks, edited by Mati Erelt and Helle Metslang, contains 23 articles written by scholars at the University of Tartu, collectively describing all areas of Estonian syntax. It is the largest description of Estonian syntax ever compiled. The volume is distinctively modern, relying heavily on recent studies and employing example sentences taken from various Estonian language corpora that were not available to the writers of previous Estonian reference grammars. It draws inspiration from older Estonian grammars as well as the comprehensive Finnish grammar *Iso suomen kielioppi*, but it makes numerous classification choices that differ from those made in its predecessors. The book is intended to aid in all kinds of activity related to the Estonian language, whether language instruction, language planning, or academic research. It is a welcome addition to the library of anyone studying the grammar of Estonian and/or related languages.

Keywords: *Estonian, syntax, reference grammar, descriptive*

Eesti keele süntaks (The Syntax of Estonian, henceforth EKS), edited by Mati Erelt and Helle Metslang, is a compendium of 23 articles covering all the main areas of syntax, together forming the largest description of Estonian syntax ever compiled. The articles are authored by leading experts in Estonian linguistics at the University of Tartu: Mati Erelt, Helle Metslang, Renate Pajusalu, Tiit Hennoste, Liina Lindström, Ann Veismann, and Helen Plado. The book represents a substantial update and expansion of the previous most comprehensive treatment of Estonian syntax, *Eesti keele grammatika* (Erelt *et al.* 1993); the intervening decades have witnessed new theoretical approaches as well as the rise of expansive text corpora, insights from which are reflected in the new publication. The book is intended to aid in all kinds of activity related to the Estonian language, whether language instruction, language planning, or academic research. It is a valuable resource for both academic professionals and university students.

The book begins with two introductory articles. The first of these, "Eesti keele lauseehituse uurimisest" (On the study of Estonian syntax), presents an overview of previous research and descriptions of Estonian syntax dating back to the 17th century. While the 17th and 18th century saw the publication of some cursory descriptions of syntactic phenomena, true research in the field of Estonian syntax cannot be said to have begun until the 19th century, with the rise of comparative-historical linguistics and the awareness of the position of Estonian as a Finno-Ugric language with particular similarities to Finnish (EKS: 30). The second half of the 19th century saw the publication of the first systematic academic descriptions of Estonian syntax, as well as the first significant treatment of Estonian syntax written in Estonian, that of Hermann (1896). In the first half of the 20th century, descriptions of Estonian began to be made by comparison to Finnish rather than German or Latin, and efforts were made by language reformers (e.g. Johannes Aavik) to de-Germanize the language. The study of Estonian

syntax in the second half of the 20th century was characterized by the influence of structuralist and generative grammar, as well as later by the development of the functional–typological approach and the consideration of semantic roles and pragmatics, among others. The crowning achievement of 20th-century Estonian syntactic research was the publication of *Eesti keele grammatika* II (Erelt *et al.* 1993). The discussion of earlier descriptions of Estonian syntax notes the errors and general disorder characterizing many works, while also acknowledging the aspects in which some authors were ahead of their time.

The second introductory article, "Sissejuhatus süntaksisse" (Introduction to syntax), is an overview of essential terms and concepts in the field of syntax, beginning with notions as broad as those of sentence, phrase, and part of speech. The article also covers semantic and syntactic roles as well as enumerating the primary sentence types found in Estonian (EKS: 86).

The next six articles are devoted to the various syntactic roles: "Öeldis" (Predicates), "Alus" (Subjects), "Sihitis" (Objects), "Öeldistäide" (Predicatives), "Öeldistäitemäärus" (Predicative adverbials), and "Määrus" (Adverbials). The first of these, covering the predicate, is the longest article of the book. It provides an overview of all of the syntactic and semantic categories of the Estonian verb system: tense, mood, voice, negation, aspect, modality, etc. The article is organized primarily on an onomasiological rather than semasiological basis, which is reflected in the detailed treatments of topics such as aspect and modality, wherein differences in meaning are expressed primarily lexically rather than morphosyntactically (as Erelt himself states regarding modality, EKS: 143). However, a semasiological approach is seen as well, for instance, in the description of the usage and meanings of the jussive mood (EKS: 172–176). While the main aim of the article is to describe the present-day language, there are occasional brief digressions into the historical development and/or previous descriptions of various aspects of the Estonian verb system.

The article "Alus" (Subjects) covers the semantic role of the grammatical subject in different sentence types (normal, existential, possessive, experiencer, and result sentences) and describes the phenomenon of differential subject marking (nominative vs. partitive subject), which occurs in a variety of non-canonical sentences.

The next article, "Sihitis" (Objects), describes the different semantic types of direct objects and the different semantic roles that the grammatical direct object can fill. Also, in this article an outline is given of the system of differential object marking in Estonian. This includes both the total vs. partial object alternation, which is largely determined by aspect and therefore plays a central role in the expression thereof, as well as the distribution between nominative and genitive as the case of the total object.

The two short articles "Öeldistäide" and "Öeldistäitemäärus" give overviews of the various forms and functions of predicatives and predicative adverbials respectively. The treatment of predicative adverbials as a distinct syntactic role, rather than treating them as a subtype of the adverb class, represents a divergence from previous descriptions of Estonian syntax.

The onomasiological approach is also clearly visible in the "Määrus" (Adverbials) article, which presents a very detailed classification of Estonian adverbials, organized by function/meaning rather than by form. In many cases the boundaries between adverbial classes are fuzzy at best, especially because these boundaries do not clearly correspond to the distinctions made within the language itself, i.e. the boundaries between different grammatical constructions. However, the authors of the article express a clear awareness

of the limitations of the classification system and the occasional arbitrariness of the boundary lines drawn.

Following articles 3–8, devoted to the various parts of the sentence, articles 9–14 focus on phrases. Each of these articles describes a different type of phrase: "Nimisõnafraas" (Noun phrases), "Omadussõnafraas" (Adjective phrases), "Määrsõnafraas" (Adverb phrases), "Võrdlustarind omadus- ja määrsõnafraasina" (Comparative constructions as adjective and adverb phrases), "Kaassõnafraas" (Adpositional phrases), and "Kvantorifraas" (Quantifier phrases). (There is no article in this section devoted to verb phrases, as finite verb phrases are covered in article 3 "Öeldis" (Predicates) in the previous section, and non-finite verb phrases are covered in article 23, "Sekundaartarindiga laused" (Sentences with secondary constructions)). Each article gives an overview of the functions and structural variants of each phrase type. In many cases, especially when dealing with semantically limited classes, the descriptions go beyond the morphosyntactic level and even include lists of typical lexemes (sometimes exhaustive lists, sometimes merely illustrative) found in individual constructions, thereby describing the function of those lexemes. As in other sections of the book, considerable attention is devoted in these articles to exploring boundary cases, constructions that could be classified in multiple ways and that therefore serve as good illustrations of the salient features of particular categories. A good example of this is the discussion on page 420 of expressions that could arguably be classified as either adpositional phrases, affixal adverbs, or adverbs. The article "Kaassõnafraas" (Adpositional phrases) includes a discussion of how adpositional phrases develop, thereby touching on the differences between adpositions and case-inflected forms of nouns and highlighting words which are currently undergoing grammaticalization and developing into adpositions, e.g. *suhtes* 'relation-INE', with the adpositional meaning 'in relation to, with regard to').

Articles 15 and 16 are devoted to the classification and description of non-constituent elements: article 15 "Üldlaiend, kiil, irdelemendid" (Disjuncts, parentheticals, dislocations) and article 16 "Sidend" (Conjunctions). Articles 17–21 focus on communicative structure: article 17 "Kommunikatiivsed lausetüübid" (Communicative sentence types), article 18 "Lause infostruktuur ja sõnajärg" (Sentence information structure and word order), article 19 "Viiteseosed" (Referential relationships), article 20 "Ellips" (Ellipsis) and article 21 "Rinnastus" (Coordination).

The volume concludes with two lengthy articles covering complex sentences: article 22 "Liitlause" (Complex sentences) and article 23 "Sekundaartarindiga laused" (Sentences with secondary constructions). "Secondary constructions" comprise three categories: 1) non-finite constructions, 2) absolute constructions, and 3) nominalizations (EKS: 756).

Understandably for a volume of this size, there is some duplication across articles. For instance, on page 210, in the "Öeldis" (Predicates) article, reference is made to the fact that negative verb forms require partial objects, a topic covered in greater detail in the article devoted to objects. Another example is the large degree of overlap between the "Adverb" and "Adverb phrase" articles, with the latter containing long lists of adverbs of different types, i.e. adverbs that can serve as the head of the corresponding different types of adverb phrases. Such examples highlight an important principle of the book's structure: each article is intended to be able to function as a standalone reference on its subject. This is of course ultimately unachievable, because of the interrelatedness of different topics within grammar; however, in cases when some aspect of a particular topic is not discussed in depth in the primary article devoted to that topic, appropriate

references are made to the other sections of the book where those subtopics receive attention. For instance, the particularities of object case variation in infinitival constructions are discussed not in the article "Sihitis" (Object), but in the article "Komplekslause" (Complex sentences), and accordingly, within the "Sihitis" (Object) article the reader is pointed to the relevant section in the "Komplekslause" (Complex sentence) article.

The book takes a distinctively construction-centric stance in the description of numerous phenomena. For instance, in discussing sentences such as *Tore, et sa tuled* 'Nice that you're coming', it is noted that these are no longer considered elliptical sentences, but rather examples of a separate, fully developed grammatical construction (EKS: 279).

The book relies heavily on new research and new corpora. A high percentage of the example sentences used in the book are taken from corpora and are marked accordingly. In some cases, corpus data is brought as evidence in order to explicitly contradict claims made in previous descriptions of Estonian grammar, including the 1993 *Eesti keele grammatika* II. This willingness to reconsider and revise previous claims is a clear strength of the book. Occasional reference and comparisons are also made to the comprehensive Finnish grammar *Iso suomen kielioppi* (ISK, Hakulinen *et al.* 2004), which the book clearly takes inspiration from, despite making numerous classification choices that differ from those made in ISK. Another outstanding feature of the book is the lists of literature references provided at the end of each subsection of each article, making it easy for the reader to find relevant sources for individual topics.

Eesti keele süntaks is a welcome addition to the library of anyone studying the grammar of Estonian and/or related languages.

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An overview of generative works on Finnish and Estonian syntax

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This contribution provides an overview of the main works on the syntactic structure of Finnish and Estonian, sketching the main achievements of the research on these languages, characterizing the main topics of the research, and guiding the readers to further topics, sources and authors. The history of generative linguistics and the development of ideas has followed quite different paths in Estonia and Finland, largely due to the divergent political situation. This is sketched in the paper.

Keywords: *Estonian, Finnish, syntax, social networking in academia, politics and academia, Generative Grammar Group*

1 Introduction

The aim of this short paper is to give a brief overview of the main works on Finnish and Estonian syntactic structure, to sketch the development of generative syntactic work on these languages, and to provide a further guide to available sources and authors. For this special issue on Estonian, the main focus is on the work that has shaped the syntactic thinking of Estonian.

Over the years, the academic cultural ties between Estonian and Finnish scholars have been strong, and there is ample evidence of mutual influences in linguistics as well. The social and political settings of the two academic traditions were obviously quite different, though. Therefore, the generative work on Estonian and Finnish has developed in quite different ways, which is useful to know before launching a further study.

Much generative syntactic work on Finnish has been done outside Finland by various individual scholars, for instance, theses at various universities, whereas the most influential Estonian generative work can be found in collective volumes published by larger research teams. Therefore, in order to serve as a springboard for the interested readers who might wish to venture further to less accessible sources, we found it useful to provide the Estonian names of the series, editors, and leading professors.

2 Main reference works on Finnish and Estonian syntax

The major Estonian dissertations (Candidate of Science theses or dissertations, in the bibliography referred to as 'CSc dissertations') inspired by generative syntax were written in Soviet Estonia and had to be in Russian in order to be defended. The language of dissertations on Finnish syntax has often been English, partly because it was possible and, partly, because the dissertations were defended in universities that operated in English or had international dissertation committees. Comprehensive works on the structure of Finnish and Estonian are, however, written in Finnish and Estonian, respectively.

The main work on the structure of Finnish is the extensive reference grammar *Iso suomen kielioppi* (henceforth 'ISK') published (in Finnish) as a result of a working group established expressly for this purpose (Hakulinen, Vilkuna, Korhonen, Koskinen,

Heinonen & Alho 2004). The first 400 pages of the volume cover phonology and derivational morphology, and the second part, about 700 pages, details the basic sentence structure of Finnish. The final section, about 500 pages, discusses various other syntactic phenomena.

Until 2017, the basic reference work on Estonian syntax was *Eesti Keele Grammatika* II [the Grammar of the Estonian Language], referred to as 'EKG II' in sources that are in Estonian. The team of the Estonian Academy of Sciences, the Institute of Language and Literature, consisting of Mati Erelt, Reet Kasik, Helle Metslang, Henno Rajandi, Kristiina Ross, Henn Saari, Kaja Tael, and Silvi Vare published the volume in 1993. In 2017, this extensive reference work was succeeded by *Eesti Keele Süntaks* [The Syntax of Estonian] by Mati Erelt and Helle Metslang as editors, as the third volume in the series of the University of Tartu, *Eesti keele varamu* [The Treasury of Estonian] (923 pages, henceforth referred to as 'EKS'). Most of the articles are also written by the editors, Mati Erelt and Helle Metslang. In addition, some team members of the University of Tartu, Renate Pajusalu, Tiit Hennoste, and Liina Lindström have contributed one chapter each, and some colleagues from the University of Tartu have co-authored some of the chapters (Helen Plado and Ann Veismann). The reviews and squibs section of the present Special Issue on Estonian provides a more detailed overview of the EKS (Ogren, this volume).

3 The generative underpinnings of the comprehensive works

The character of the comprehensive works on Finnish and Estonian syntax, the ISK, the EKG II and the EKS, is not generative—these are academic reference grammars. However, the senior authors of the reference books started their careers within the generative tradition, debating the details of trees, transformations and movement; they have played an important role in the development of linguistics in Finland and Estonia. The first generative work on Estonian was Harms (1962), which was published outside of Estonia, contained a few dozens of pages on syntax that did not amount to a full-fledged syntax reference book.

After a brief period of interest in Finland on generative grammar in the 1960s and early 1970s, as reflected mainly in Auli Hakulinen's work, e.g. Hakulinen (1974) on syntactic movement, and Hakulinen & Karttunen (1973) on generic 3rd person subjects, as well as Hakulinen (1975, 1976), there was almost no work done on the topic for close to 15 years.

The situation was similar for Estonian (i.e., there were two "waves" of interest); however, there were surprisingly many works inspired by generative approaches in the Soviet Estonia of the 70s and 80s. The list of these works can be found on in "Publikatsioonid" (n.d.). Despite the general ban on gatherings that were likely to lead to discussions, the State University of Tartu could officially allow the establishment of a working group on structural linguistics in 1965. This group became known as the Generative Grammar Group, the so-called GGG ("Ajalugu" n.d.). The linguists who made up the GGG count as the leading figures of Estonian linguistics: Mati Hint, Tiit-Rein Viitso, Erelt, Metslang, Ülle Viks, Huno Rätsep, Haldur Õim, Reet Kasik, Ellen Uuspõld, etc. (see a list of the members in "Töörühm" n.d.). Various sources mention around 20 scholars who gathered around the activities at the Chair of Estonian language; several of them came from other areas than linguistics, such as mathematics or literature ("Ajalugu" n.d.).

The group sought contacts outside and inside of the Soviet Union. In 1967, it was possible to organize a pan-Soviet generative linguistics event at Kääriku [the ski resort of Estonia]. Rätsep mentions contacts with the Universities of Gothenburg, Berlin, Zagreb, Praha, and also scholars such as Ilse Lehiste from Ohio State University, and the Hungarian-born Ferenc Kiefer from Sweden, who smuggled the manuscripts of GGG further to the Western publishers (Rätsep 1990: 6). The articles referred to up-to-date generative works, and via Lehiste, the group learned much about Fillmore's Case Grammar. Ferenc Kiefer also took current literature to Tartu—and brought back manuscripts from Estonia. In this way, the group was able to publish in Western volumes, such in Kiefer (1973) and Kiefer & Ruwet (1973) ("Artiklid ja uurimused" n.d.). Ferenc Kiefer remembers establishing the contacts as follows.

> One of my colleagues from Stockholm, Hans Karlgren, was a statistical linguist, and he was also editor of a journal, Statistical Methods in Linguistics (SMIL). (The journal was active for around 20 years, and then expired slowly.) Anyway, Karlgren got acquainted with Tuldava [a linguist from Soviet Estonia in Stockholm—AT] quite early in the 70s. Karlgren repeatedly came up with the idea of visiting Tuldava in Tallinn. I was not particularly interested in Tuldava, but I was quite interested in visiting Estonia. Meanwhile, some colleagues from Moscow brought the activities of the Tartu group to my attention. So that's how the trip [from Sweden] to Estonia started. We spent a day in Tallinn, which basically meant a city tour and statistical linguistics for us. We made our trip from Tallinn to Tartu in a car and in the vigilant company of Tuldava + a comrade in a dark suit. We were not allowed to stay overnight, but we could meet the members of the "generative grammar group" (Huno Rätsep, Haldur Õim, Mati Erelt), who gave an enthusiastic overview of their research. They gave me their publications—mostly written in Estonian—and upon my suggestions to write in English, they answered that their work "is meant for the Estonian nation". Their volumes contained English abstracts, so I could figure out what the research was about. They also showed me some manuscripts that were in English. I realized that the works of the Tartu group were valuable for the Western public as well. I collected their manuscripts, which subsequently formed the basis for an extensive article on the Estonian generative linguistics for Trends in Soviet Theoretical Linguistics. Their study was welcomed with serious interest in the linguistic world. [Ferenc Kiefer, 'Re: Szovjet generativ grammatika csoport', email in 2018][1]

The GGG was most active between 1965 and 1973 ("Ajalugu" n.d.). After 1973, it became gradually more difficult to publish according to Rätsep, and the attempts of Kiefer to publish a volume on the Western works foundered after obtaining the permissions failed (Rätsep 1990: 6). In Estonia, the group still published ten volumes in the series of *Keel ja struktuur* [Language and structure], seven volumes titled *Keele modelleerimise probleeme* [Problems of language modelling] (Valge 2015: 5) ("Kogumikud"

[1] "It was possible for foreigners to visit Tartu, but Tartu was not the place where they were allowed to stay overnight (what if they go and have a good look at the Military Raadi Airfield)—[so the foreigners] were carted off to Viljandi or back to Tallinn" (Helle Metslang, p.c. and email June 10, 2018).

n.d.), and volumes in English or Estonian called books of abstracts ("Teesikogumikud" n.d.).

Several members of the group obtained a degree of Candidate of Sciences with dissertations on syntax, e.g. Uuspõld (1966) on adverbial non-finite structures, Metslang (Niinemäe) (1978) on the syntax of Estonian runo songs, or Valge (1981) on coordination. While several group members ventured out of classical syntactic topics but stayed within the topic of language modelling (e.g., Viks 1978), there were also instances where other scholars defended a dissertation on Estonian syntactic phenomena, such as Rajandi (1969) on impersonals, published as Rajandi (1999). One of the comprehensive works was a monograph on the inventory of Estonian argument frames by Rätsep (1978).

Many activities that later led to the first extensive reference book on Estonian syntax continued in Tallinn at the Academy of Sciences, where a number of former GGG members found a job (Erelt 2017). Their research was published in a series titled *Ars Grammatica* in the 80ies (Erelt 2015: 7). However, after regaining sovereignty, the interests of the Estonian syntacticians gradually turned towards typology, cognitive linguistics or Construction Grammar as in Finland, or to previously uncharted territories, such as child language. These trends are well reflected in the dissertations that were oriented towards language structure and supervised by Erelt, Õim, Ehala and Metslang at the start of the 21st century (Lindström 2005, Tragel 2003, Sahkai 2011, Argus 2008, respectively).

A website is dedicated to GGG ("Tutvustus" n.d.), which provides a detailed overview of the activities and facts (in Estonian). Multiple web pages under this link give a glimpse of the changes in the Soviet science politics, the timeline of the articles that set the tone in the new socio-academic environment, and snapshots of the social life in the linguistic academia of the time of the GGG. In addition to a gallery of quaint photos of those times, the collection of links reveals an additional interesting fact for potential historians of the GGG and for those who would like to know more about the work of those times: all the publications related to GGG are collected in the home of Mati Hint, in a house in the Estonian archipelago.

4 Modern works

Since the first wave of generative syntax in the 1960s and 1970s, the following PhD dissertations have been completed on Finnish syntax (granting university and topic provided): Vainikka (1989; Massachusetts/Amherst; several topics), Nikanne (1990; Helsinki; syntax/semantics of case), Korhonen (1993; Helsinki; conjunctions), Koskinen (1998; Toronto; non-finite constructions), Nelson (1998; Edinburgh; case), Manninen (1999; Edinburgh; adverbs), Thomas (2003; Westminster; partitive case), Huhmarniemi (2012; Helsinki, *wh*-movement), Palomäki (2016; Georgia, the -HAN particle) and Lohiniva (2018; Geneva; the -KIN particle).

Also of note is the Ph.D. dissertation of Vilkuna (1989; U. Helsinki) on Finnish word order, although not from a generative perspective, as well as Pylkkänen (2008; MIT) in which Finnish causatives are discussed. Furthermore, notable MA theses on Finnish syntax include van Steenbergen (1987; Groningen; binding), Oraviita (1992; Tromsø; empty categories) and Toivonen (1995; Brandeis; infinitives). The only other book-length treatments of Finnish syntax are two edited volumes, Holmberg & Nikanne (1993) and Nelson & Manninen (2003). A special issue on Finnic was edited by

Svenonius and Dahl in Nordlyd in 2003. Furthermore, the Biberauer et al. (2010) volume deals extensively with the mixed null subject situation in Finnish (see Holmberg 2010). In Finland, the volumes by Brattico (2008) and Reime (2017) make the argument for generative linguistics applied to Finnish.

By far the most common topic covered in all the works on Finnic syntax (or morphology), using any theoretical framework, is case marking. ISK (see pages 1171–1214) summarizes the syntax and semantics of Finnish case. Recently, the Estonian works on case have increased, but impersonals are also an evergreen topic since the 60s. The Finnic case paradigms are indeed impressive. Finnish, for instance, has 12 productively used nominal cases, along with three cases that are not fully productive. Of the 12 productive cases, six are locative cases, also used in various possessive constructions and as 'quirky subjects' (Finnic has no separate dative case with the exception of Livonian). Two of the cases can be seen as 'small clause' cases (essive and translative), typically involving adjectives or change of state; little syntactic work has been conducted on the translative (see Fong 2003), but for some recent work on the essive, see Hynönen (2017) and Metslang and Lindström (2017) on the Finnish and the Estonian essive, respectively. The Estonian morphological case table includes 14 cases, but there is much discussion about the syntactic nature of them and about which of them should be included in the list of cases.

The remaining four grammatical cases form the bulk of the work on Finnish case. The two main challenges involve case marking of the object NP: (a) the aspectually conditioned accusative/partitive variation (see e.g. Vainikka 1993, de Hoop 1996, Kiparsky 2001, Nikanne 2006, Brattico 2009, Acton 2014) and (b) the three realizations of the accusative object; see Vainikka & Brattico (2014) on the long distance nature of this process, and Anttila & Kim (2011, 2017) for an Optimality Theoretic approach to case and the adverbial accusative; cf. also Kim et al. (2001), Poole (2015).

What are the trends in Estonian syntax since the early wave of generative syntax in the 1960s and 1970s? Although crossing the borders of the Soviet Union, even to the Eastern bloc, was subject to permissions, a considerable number of Estonian scholars were allowed to the GLOW conference in Budapest in 1988. This resulted in a renewed impetus to clarify phenomena of Estonian such as non-configurationality, which was equally puzzling for scholars of Hungarian and Finnish (e.g. É. Kiss 1995, Vilkuna 1995). The Estonian Information Structure has been addressed in articles in the late 80-ies and early 90s, e.g., by Tael (1988a, 1998b, 1990), also in response to generative frameworks (Help 1991). The beginning of the 90ies meant the possibility of obtaining a degree outside of Estonia, which resulted a. o. in Ehala's dissertation on Estonian language change (Ehala 1996; Cambridge), as well as various articles discussing the applicability of generative syntactic framework to Estonian and published in English afterwards (e.g., Ehala 1998).

Satu Manninen and Diane Nelson published an edited volume on generative approaches to Finnic and Saamic (see above) that included Ehala's article on phonology (Ehala 2003) and Hiietam and Börjars' article discussing the evidence for assuming the definite article in Estonian (Hiietam & Börjars 2003). The proceedings of Scandinavian Conferences of Linguistics contain occasional articles on aspects of Estonian as well (e.g., Rutkowsky 2001 on noun phrases). When Peter Svenonius and Anne Dahl published a special issue of the Proceedings of the 19th Scandinavian Conference of Linguistics in Tromsø in 2003, they included the syntactic work of PhD students from Europe such as Vihman (Edinburgh) on impersonals and Hiietam (Manchester) on third person

pronouns in comparison with Finnish (Kaiser & Hiietam 2003) alongside work on Finnish and Saamic.

The start of the 21st century saw the dissertations of Hiietam (2003) and Vihman (2004), which preceded perhaps the first generatively intended dissertation of the post-GGG generation that addresses Estonian (Tamm 2004), which analyzes the Estonian DOM in terms of Lexical Functional Grammar. Later, more LFG related Estonian syntactic work was presented at the LFG conferences: Torn (2006) on obliques, Tamm (2006) on case, Tamm (2008) on raising and control (control and EQUI in LFG, respectively), and Sahkai & Tamm (2018) on contrastive topics as a key to the Estonian SOV/SVO dispute and the V2 phenomena.

Recent theoretical interest in Estonian continues to focus on the venerable topic of Estonian C/case (Cann & Miljan 2012, Huhmarniemi & Miljan 2016, Miljan et al. 2017, Norris 2015, 2016, 2018a, b, c, this volume, den Dikken & Dékány, this volume).

The workshops of the Congresses of Finno-Ugric Studies (CIFU) in 2010 (Hungary, "Finno-Ugric syntax and universal grammar" n.d.) and 2015 (Finland, Mantila et al. 2015) featured Uralic syntactic workshops that included Estonian and Finnish (see also the blog entry Vainikka 2015). The two languages were also discussed at two workshops in Budapest. One of them focused on the papers of the volume *Uralic Syntax* with Cambridge University Press (2016) (FinnoUgricSyntax n.d.), and the other workshop, Syntax of the Uralic Languages (2017) (SOUL 2017 n.d.) included a sub-workshop with a talk by Metslang on evidentiality in the Estonian corpora and a poster on Contrastive Topics in Estonian (Metslang 2017, Sahkai & Tamm 2018). Various issues of the journal *Finno-Ugric Languages and Linguistics* (FULL) publish work on Estonian and Finnish syntax ("About the journal" n.d.).

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