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Anne Tamm

Scalar Verb Classes

Scalarity, Thematic Roles, and Arguments in the Estonian Aspectual Lexicon

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To my mother

PREFACE

This book project has been completed with the support of the Estonian Academy of Sciences awarded for finishing a monographic publication. I am truly grateful for this acknowledgement from Estonia, since my everyday work takes me far from this country.

The book contains a selection of my work from 1996-2011. Most of the lexical puzzles are derived from my work on a lexical database project at the Free University in Amsterdam (the VU) while living in Leiden, right across the canal from the Institute for Dutch Lexicology, where I could participate in the events and lectures as much as I wanted in 1994/1995. I have profited enormously from the true international spirit at the subdepartment of Lexicology at the VU. Because of amazing synergy effects in discussions in the excellently planned collectivist coffee and tea breaks, it is at this point difficult to point out the separate individuals who had the best ideas about my lexical semantic problems, but I am giving it a try: thanks, Geert Booij, Isa Maks, Willy Martin, Elsemiek ten Pas, Jeroen Redel, and Hennie van der Vliet.

Most of the data that made me puzzle are derived from the large lexical database of the Dutch-Estonian reversible dictionary project of the Dutch Language Union that started in 1997. However, I must thank Enn Veldi's review of my coauthored and small but ambitious dictionary for realizing that the question about the lexical underpinnings of the Estonian object case alternation is a scientific topic.

At the Theoretical Linguistics Programme at the Eötvös Loránd University it turned out that the answer to the simple question involves deep knowledge of more areas of linguistics and is theory-dependent, moreover, involving more research methodologies than the one and only right theory and method. My professors, colleagues and co-students Katalin É. Kiss, Ferenc Kiefer, András Komlósy, Christopher Piñón, Ágnes Bende-Farkas, Olena Sydorenko, Gréte Dalmi, and Gabriella Tóth (and many others during these long years) have made me realize that there are many types of high standards and that although it is impossible to live up to all of them simultaneously, it is always worth a try to tell something valuable to a maximum range of linguists about what I know is fascinating about language. On the one hand, this book is a thorough revision of selected chapters of my pre-defense dissertation in 2004 (this version concentrated on various scalar properties and their correspondences to Estonian partitive) at the Research Institute for Linguistics at the Hungarian Academy of Sciences, a flourishing center of aspectual research, and the dissertation for completion of the PhD course (this version focused more on case) in 2005.

The bulk of the text is written in 2002-2003 in Notre Dame, South Bend, and it has profited from teaching it as part of my courses in Italy and Hungary. On the other hand, it is the first publication of some results of my postdoctoral research between 2007 and 2011. My first postdoc research was on Estonian aspectual verb classes at the Institute of the Estonian Language, with the database materials and feedback provided by Margit Langemets, Kristiina Ross, Heete Sahkai, Silvi Vare, Ene Vainik, and most of all, Ülle Viks and Helle Metslang. The second project concerned cross-categorial case at the Research Institute for Linguistics. During my postdoc years, the generous Estonian grant gave me the opportunity to present at

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several conferences. I must probably thank the lack of a single forint for anything like books or conference attendance in my Hungarian grant for plucking up the courage and organizing a series of events myself and accepting invitations to talks, volumes, or cooperation. I have also been fortunate to present at workshops attended or organized by renowned and innovative scholars on aspect, verbs, case, and the partitive, and to get valuable feedback on my work from Louise McNally, Helen de Hoop, Peter de Swart, Sander Lestrade, Andrej Malchukov, Irina Nikolaeva, Angeliek van Hout, Angelika Kratzer, Martina Faller, Olga Borik, Henk Verkuyl, Bernard Comrie, Östen Dahl, Balthasar Bickel, Giorgio Iemmolo, Patrick Caudal, Farrell Ackerman, Casper de Groot, Ida Toivonen, Anders Holmberg, Asya Pereltsvaig, Ora Matushansky, Heidi Harley, Sergei Tatevosov, Gillian Ramchand, Peter Svenonius, Miriam Butt, Anette Frank, Rachel Nordlinger, Jane Simpson, Aet Lees, Helena Metslang, Birute Klaas, Virve-Anneli Vihman, Katrin Hiietam, Elsi Kaiser, Helena Sulkala, Seppo Kittilä, Jaakko Leino, Tuomas Huumo, and many others. This book has, therefore, profited from many questions and discussions, but the resulting ideas are detailed in my works published after the completion of the dissertation in 2004; the bibliography contains references to most of them. I will not be able to thank everyone, but I remember well all the questions, discussions, shared materials, advice, kindness, cooperation, and feedback. I am grateful to my Italian colleagues Silvia Luraghi, Pier Marco Bertinetto and Guglielmo Cinque for inviting me for talks.

The Central European University has provided me with the calm lifestyle to finish the manuscript and improve it on the basis of the Internet use of object case alternation in Estonian in the academic year 2010/2011. At first sight, research on aspect, verbs, and case seems to fall far from general social cognitive reserach focus in the Central European University, but I am grateful to Gergely Csibra, György Gergely, and Dan Sperber for expressing their belief in it and in helping me realize how progress in linguistics serves the development of other cognitive sciences and vice versa. My new colleagues have taught me for instance what is epistemic vigilance or that babies are aware of goals early on, endpoints of actions, just like the goals encoded in the aspectual predicates. Francesca Giardini, Christophe Heintz and Olivier Morin formed a warm Italian-French bubble for me during the severe winter of 2010/2011. They and the newer CEU Business School denizens pop up as subjects or objects in some of the Estonian example sentences in this book if their names have an Estonian version.

I am grateful to my long-term colleagues Beatrice Tottossy, Rita Manzini, Kinga Kapacsy, Lena Dal Pozzo, Arianna Antonielli, and Lorenzo Amato from the University of Florence. I would like to thank Arianna Antonielli for consequently taking care of the details that have determined the good shape of the manuscript. Without the enormous perseverance of Beatrice, you wouldn't be reading this text as a book, and without her creative attitude to the Italian academic situation, Estonian would not be so visible at all in the Italian linguistic scenery. Many thanks to the reviewers for feedback and encouragement and to Gianguido Manzelli for commenting on this manuscript. I am solely responsible for all signs of absentmindedness or academic obstinacy in this book.

It is impossible to thank adequately my family, Zsolt, Joosep, and Ilona. The spectrum of good experience they have exposed me to in this period is wide and rich. It includes the birth of Ilona and Joosep leaving home for university studies in the Netherlands. Many thanks to Zsolt for standing by me through all these changes with humor (happy birthday, Zsolt!).

Budapest, 14 July 2011

CHAPTER 1

INTRODUCTION

1.1 *Main focus*

The topic of the book is the role of lexical semantics in clausal aspect and the semantics-syntax interface. One goal is to demonstrate how a language works where scalar aspectual distinctions are relevant for morphosyntactic encoding. The other goal is to show that the morphosyntactic distinctions that pertain to the domain of aspect or event structure in the verbal domain are in fact the instantiation of more general semantic distinctions that operate in other categories as well. The third goal is to provide a verb classification that is predictive of morphosyntactic encoding.

No monographic study of a specific language has combined yet these three goals, although their joint pursuit allows one to answer questions such as: How are verbs and clausal aspect related? Are aspect and transitivity related, as suggested by Hopper and Thompson (1980)? Does aspectual case relate to verbs, their thematic roles and argument structure, or does it encode clausal aspect? Are there languages where morphosyntactic data support the hypothesis of Bolinger (1972) that gradability is a feature of grammatical categories other than adjectives? Finally, if there are languages where such cross-categorial parallels are morphosyntactically expressed, how do these languages function exactly? In a wider perspective, this book contributes to the understanding of the semantic parallels between categories such as verbs, adjectives, and nouns.

These general questions have remained a challenge despite extensive previous studies on the phenomenon frequently referred to as the Finnish partitive and on aspectual composition in general. The Finnish accusative-partitive object case alternation is the best studied instance of aspect-based Differential Object Marking. In the rich complement and adjunct case system of the Finnic languages, case encodes thematic roles as well as non-thematic information. Therefore, these languages provide excellent data for discovering the relationships between aspect, thematic and argument structure. In order to answer the identified questions, the empirical material of this book consists of the aspectual transitive verb classes in Estonian, a Uralic language spoken by approximately one million people. Estonian belongs to the Finnic languages of which Finnish is more researched compared to several smaller languages[1]. Among the many

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typologically intriguing features, Estonian transitive verb classes display a strong correlation between object case encoding and aspect (Metslang 1994; Tamm 2004e). The correlation between object case and aspect has been established for other Finnic languages as well. Dahl and Karlsson (1975) draw parallels between the Slavic perfective-imperfective distinction and the Finnish accusative-partitive object case alternation; Kiparsky (1998) relates the object case alternation to (un)boundedness that is close to (a)telicity. Encoding aspect—the category that has to do with the internal temporal properties of events—is obligatory in most Estonian transitive clauses.

Verbs' aspectual properties seem to directly determine the morphological encoding of the object case. One set of morphosemantic cases appears with one type of aspect and the other set (‹partitive›) with the opposite aspect. Partitive is a morphological case that is part of the case inventories of the Finnic and Sami languages (cf. Larsson 1983). The non-partitive case is the morphological genitive or nominative; these cases are referred to as the ‹total› in this approach, since mainly the semantically conditioned instances of the ‹accusative› are studied. Examples (1) and (2) illustrate the object cases and the aspect of the clauses.

(1) atelic verb – partitive – clausal aspect: atelic, imperfective

a. *Mati* *vaata-s* *televiisori-t.*
M[NOM] watch-PST.3S TV-PTV
‹Matthew watched TV, Matthew was watching TV.›

b. *Mati* *vaata-s* *#televiisori/*televiisor.*
M[NOM] watch-PST.3S TV.GEN/NOM
Intended to mean: ‹Matthew watched TV, Matthew was watching TV.›

Examples (1) and (2) illustrate the phenomenon of object case alternation or, in typological literature, Differential Object Marking. Sentence (1a) is a grammatically correct Estonian sentence. It has a verb—*vaatama* ‹watch›—that stands for an activity with no logical and inherent endpoint. In an event of watching TV, one can carry on endlessly. The activity is terminated by factors that fall outside the logical course of the event denoted by the verb: a power outage, a phone call, or Matthew may intentionally walk away. Lexically, the verb meaning does not require that the event of TV watching should come to an end; the activity could continue endlessly. The verbs such as *vaatama* ‹watch› are referred to as atelic or imperfective. On the contrary, the event of finding a book does not terminate when Mary walks away from the bookstore or when a power outage interrupts the course of the event. The event is terminated by factors that are within the logical course of it and part of the meaning of the verb. The event terminates when the book is found, not otherwise. Moreover, once the book is found, the event is over and cannot continue. The obligatory endpoint is part of the meaning of *leidma* ‹find›. It is grammatically relevant that

the meaning of the atelic verb *vaatama* ‹watch› does not have an inherent endpoint, whereas the meaning of the telic verb *leidma* ‹find› has one, because it matters for object encoding in Estonian. Sentence (1a) with the verb *vaatama* ‹watch› has a partitive object, whereas the same verb is semantically unacceptable with a total object (1b); semantic incompatibility is signaled by the hash mark in this book. The sentence is ungrammatical with the nominative, which is a possible object case in other environments such as the imperative; ungrammaticality is signaled by an asterisk in this book. On the contrary, sentence (2a) with the verb *leidma* ‹find› has a total object, sentence (2b) with the verb *leidma* ‹find› and a partitive object is semantically unacceptable on a single-event reading (2b); semantic incompatibility is again signaled by a hash mark. The sentence (2b) has an interpretation where there are multiple events, but this option is pragmatically odd. The sentence must be understood in a context where finding a book is a property of Mary or where Mary finds the book repeatedly; pragmatically not felicitous sentences are signaled by a percent sign in this book.

(2) telic verb – no partitive – clausal aspect: telic

a. *Mari* *leid-is* *poe-st* *raamatu.*
M[NOM] find-PST.3S shop-ELA book.TOT
‹Mary found a/the book in a shop.›

b. #/%*Mari* *leid-is* *poe-st* *raamatu-t.*
M[NOM] find-PST.3S shop-ELA book-PTV
‹Mary found a/the book in a shop.›

The Finnic object case alternation is still a challenging phenomenon in linguistics, because the relationships between the morphosyntax of case marking, lexical semantics and clausal semantics are difficult to tease apart. There are two largely diverging ways of looking at the data; one would relate case to features that compose clausal aspect (e.g., Kiparsky 1998) and the other would link case to verb semantics via a thematic relation (e.g., Krifka 1998). The examples in (1) and (2) demonstrate that a purely clausal aspectual explanation as well as a purely thematic role-based one cannot account for the data on object case marking. The verbs *vaatama* ‹watch› and *leidma* ‹find› do not have two aspectual interpretations, and they do not allow for both object cases but only one. This means that verbs are lexically restricted in the aspect they express. In addition, the thematic role of the object is that of theme in both verbs, still the object case and aspect differ in the sentences with *vaatama* ‹watch› and *leidma* ‹find›. This means that even if verbs are lexically restricted in the aspect they express, the restriction cannot be directly related to the thematic role of the object. There are approaches that offer in-between solutions. In the aspectual interface account of Tenny (1994: 2), who formalizes the insight of Hopper and Thompson (1980) about the tight relation between objects and aspect, the lexicon mediates between syntax and semantics via aspectual roles. Ackerman and Moore (2001: 98) propose

a solution in terms of thematic roles that are split up in smaller proto-roles, one of which is an aspectual one. In their account, the argument with less proto-roles is marked with the less canonical object case, which is the partitive. Another lexicalist solution would be to include a degree argument among the arguments of predicates, as in adjectives and participles based on transitive verbs, as in Kennedy and McNally (2005: 350). These proposals have not been tested against a large sample of verb class behavior in a language with explicit morphosyntactic markers of the relevant aspectual phenomena. This book provides the missing large sample, the Estonian aspectual verb classes, and suggests a more accurate model that fits the data on the interaction between verbs, aspect, and case. It adopts a general typological perspective, but aims at representing verb classes in a stricter formal system. The study aspires to represent the phenomena in an intuitive way that is backed up with both native speakers' intuitions and judgments as well as corpus data.

The book presents its material in the form of finding an answer for the following puzzles:

1. How can we draw lists of verbs that «take partitive» and «take accusative», while the verbs cannot be fixed as verbs assigning case solely on the basis of their lexical properties?
2. How to make a verb classification that predicts morphosyntactic encoding, but does not over-restrict the object case encoding?

1.2 *Less straightforward relationships between lexical aspect and object case*

1.2.1 *Verbs of creation and consumption*

The relationship between the lexical aspect and the object case encoding is less staightforward in other instances. The object case alternates between two types of case with some verbs, such as *sööma* ‹eat›, as in (3a) and (3b).

(3)

a. *Toomas* *sõ-i* *võileiva.*
T[NOM] eat-PST.3S sandwich.TOT
‹Thomas ate a sandwich.›

b. *Toomas* *sõ-i* *võileib-u.*
T[NOM] eat-PST.3S sandwich-PTV.PL
‹Thomas was eating sandwiches.›

With consumption verbs such as *sööma* ‹eat›, connecting case to the verb directly is problematic, since one verb allows two object cases. On the basis of examples (1)-(3), one could still assume a telicity or perfectivity based object case marking system, where partitive encodes atelicity or imperfectivity and total-accusative encodes telicity or perfectivity. There are two main ways of approaching the lexical problem of two aspectual object cases in literature. Both take into account that the verb al-

lows for two aspectual interpretations, telic and perfective (3a) or atelic and imperfective (3b). These approaches can be labeled as ‹two-entry› and ‹one-entry› approaches and rephrased as the ‹lexical› and ‹compositional› approaches respectively.

In the ‹lexical› or the ‹two-entry› approach the diverging aspectual interpretations are linked to the patterns of differential object case marking via their lexical aspectual semantics. This approach explains the case variation along the lines of the similarity of the effect of the object case with the Russian lexical aspect. The telicity-case correlation, where the imperfective sentence has a partitive object as in (3b) and the telic or perfective sentence has an accusative or total object as in (3a) can be reached by positing different lexical entries *eat 1* (4a) and *eat 2* as in (4b). These entries differ in their aspectual semantic content, which in turn is linked to different morphosyntactic realizations. The lexical entry *eat 1* in example (4a) corresponds to the sentence in (3a) and is lexically telic or perfective, mapping to total case marking on the object NP in morphosyntax. The lexical entry *eat 2* in example (4b) corresponds to the sentence in (3b) and is lexically atelic or imperfective, mapping to the partitive case marking on the object NP.

(4)

a. *sõ-i (võileiva)* (‹Thomas ate a sandwich.›)
   Lexical entry: *eat 1*
   telic/perfective semantics – total object encoding
b. *sõ-i (võileib-u)* (‹Thomas was eating sandwiches.›)
   Lexical entry: *eat 2*
   atelic/imperfective semantics – partitive object encoding

In the ‹compositional› or ‹one-entry› approach, the diverging aspectual interpretations and the differential morphosyntactic encoding are linked making use of one single lexical entry. While in the two-entry approach, Estonian semantics-syntax matches can be seen to be mediated by the lexicon in a way that is similar to Russian, where lexical aspect largely determines sentential aspect, in the one-entry approach, the role of the individual lexical items can be regarded to be similar to English. As one option, one lexical entry of *eat* can be maintained, as in (5), if the aspectual value for the clause is determined by the composition of the verb semantics and its object NP's semantics.

(5)

a. *sõ-i (võileiva)* (‹Thomas ate a sandwich.›)
   Lexical entry: *eat*
   telic/perfective semantics – total object encoding
b. *sõ-i (võileib-u)* (‹Thomas was eating sandwiches.›)
   Lexical entry: *eat*
   atelic/imperfective semantics – partitive object encoding

This approach allows the properties of the noun phrase to play a role in the object case marking. More specifically, the quantized or specific singular NP *sandwich* versus the nonquantized or nonspecific bare plural NP *sandwiches* impose different aspectual values to the clause with the verb *eat,* as in (6). In example (6a), the quantized or specific singular NP *sandwich* imposes the telic aspectual interpretation to the clause with the verb *eat*, as witnessed by the compatibility with the time frame adverbial ‹in an hour› and the incompatibility with the durative adverbial ‹for an hour›. Example (6b) illustrates how the nonquantized and nonspecific bare plural NP *sandwiches* imposes an atelic aspectual interpretation. Its atelicity is tested by its compatibility with the durative adverbial ‹for an hour› and the incompatibility with the time frame adverbial ‹in an hour›.

(6)

a. *Mary ate the sandwich *for an hour/in an hour.*

b. *Mary ate sandwiches for an hour/*in an hour.*

The quantification or the physical boundaries of the object determine the temporal boundaries of the event with creation and consumption verbs, such as *build* or *eat*. In a sentence describing the event of eating the sandwich, it is the object—the sandwich—that provides an endpoint to the event of traversal of the activity through it. As the sandwich disappears, the event is completed—it is telic, as in (6a). The eating event is not telic if such an endpoint does not exist because of the properties of the NP; the event has no endpoint in example (6b), since the quantity of the sandwiches is not determined.

The quantity and specificity oppositions of NPs are related to «affectedness» oppositions, another way of understanding how verbs and the object together may determine both the telicity of the clause and the object case. If there is a specific and quantized object, it can be totally affected, as in (6a). If there is no specific and quantized object, it cannot be totally affected either in the event as in (6b). The Estonian counterparts of examples (6a) and (6b) are illustrated in Example (3). If the telicity of the event can be related to the properties of the NP, and the endpoint of the event is reached—the sandwich is eaten up—then the object case is total. A complete, «total» event is realized together with the disappearance of the sandwich, as in (3a). The object in this case is «totally affected». On the contrary, if the object referent is not «totally affected», then the object cannot be marked with total, and it is marked with partitive, as in (3b).

In negation, one cannot reason along similar lines, since the quantity or specificity of the object is not relevant in object encoding. However, the «affectedness» explanation still holds. The object is not «totally affected» if the sandwich is not eaten, since it is not affected at all, so it cannot be marked with total (7a) and is marked with partitive (7b).

(7)

a. *#Toomas* *ei* *söö-nud* *võileiva.*
T[NOM] NEG eat-ACT.PST.PTCP sandwich.TOT
Intended to mean: ‹Thomas did not eat a sandwich.›

b. *Toomas* *ei* *söö-nud* *võileiba.*
T[NOM] NEG eat-ACT.PST.PTCP sandwich.PTV
‹Thomas was not eating a sandwich; Thomas did not eat a sandwich.›

1.2.2 *Degree achievements*

The object case-marking data in sentences (1)-(7) are frequently discussed in terms of aspect and lexical semantics in previous approaches, but the properties of «degree achievements» as in example (8) have received less attention than they deserve. This class of verbs poses a puzzle for the aspectual approach, since connecting aspect and case is problematic with degree achievements in their occurrences with partitive objects, as in (8a)-(8d), while the sentences are not clearly atelic or imperfective.

(8) telic verb, partitive object, telic clause

a. *Firma* *laienda-s* *tee-d.*
firm[NOM] widen-PST.3S road-PTV
‹The firm widened the road.›

b. *Mari* *solva-s* *Jüri-t.*
M[NOM] insult-PST.3S J-PTV
‹Mary insulted George.›

c. *Mari* *ehmata-s* *Jüri-t.*
M[NOM] frighten-PST.3S J-PTV
‹Mary frightened George.›

d. *Mari* *lõ-i* *Jüri-t.*
M[NOM] hit-PST.3S J-PTV
‹Mary hit George.›

The sentences in (8) have partitive objects despite the telicity or perfectivity of the verbs ‹frighten›, ‹offend›, ‹hit›, and ‹widen›, which appear in sentences that may be referred to as telic, terminative, bounded, or perfective. Either lexically or compositionally, these telic, terminative, bounded, or perfective sentences with partitive objects differ semantically from those telic, terminative, bounded, or perfective sentences that have total objects in (2) and (3), with ‹find› and ‹eat›. The two types, exemplified by the examples in (8) as opposed to those in (2) or (3), seem to encode two types of endpoints. Before introducing what this might mean for the lexical encoding, it is desirable to capture the difference of the two types of endpoints. Intuitively, the

sentences in (8) with ‹frighten›, ‹offend›, and ‹widen› do not only differ in object encoding, but they represent a different type of endpoint of the event than the endpoints in sentences in (2a) or (3a), with the verbs ‹find› and ‹eat›.

1.2.3 *Verbs that refer to the same event but encode different endpoints*

Estonian has an inventory of telicizers, that is, linguistic means to provide endpoints to the events. In example (1), the verb ‹watch› encodes no endpoint, neither does the sentence. Example (2) has an endpoint encoded by the verb, since the lexical meaning of the verb ‹find› provides a natural endpoint for the event lexically, encoding a change with a result. In example (3) with the verb ‹eat›, the properties of the sandwich that is being eaten determine whether the event has an endpoint. The endpoint of the sandwich-eating event coincides with the disappearance of the whole sandwich, so the last piece of it is specially related to the endpoint of the eating event. In (8), with ‹widen›, ‹frighten›, ‹hit›, and ‹offend›, the endpoint is not related to the physical dimensions of the object and the puzzle that this book sets out to solve relates mainly to this class of verbs. Intuitively and pre-theoretically, the endpoint is related to an implicit other measurement—widening the road by the measure of *two meters*, for instance. In other cases, the exact endpoint cannot be verified by perception. When the event of offending or frightening is temporally over, the exact endpoint of it cannot be traced by perception, for instance, the result of the change in the mental state of the experiencer cannot be exactly verified. The event has temporal boundaries in the examples in (8), but it is not «rounded off» or completed according to the judgment of the speaker. Alternatively, it does not have a perceivable, stable and definitive result.

However, the puzzle becomes more complex if we look at the object case encoding of the same verbs in other environments. Identical verbs can denote events that are realized in full according to the speaker's expectations about the results and endpoints of these events. In those cases, the object case is total. However, with some of these verbs, the use of an aspectual particle is necessary.

(9) telic verb, total object (and an aspectual particle), telic clause

a. *Firma* *laienda-s* *tee.*
firm[NOM] widen-PST.3S road.TOT
‹The firm widened the road; it was a road that the firm widened.›

b. *??Mari* *solva-s* *Jüri* *ära.*
M[NOM] insult-PST.3S J.TOT PRT
‹Mary managed to insult George.›

c. *Mari* *ehmata-s* *Jüri* *ära.*
M[NOM] frighten-PST.3S J.TOT PRT
‹Mary frightened George completely.›

d. *Mari* *lõ-i* *Jüri* *maha.*
M[NOM] hit-PST.3S J.TOT PRT
‹Mary hit George (and killed him); Mary killed George (by hitting).›

It cannot be the objective nature of the events—widening, offending, hitting, or frightening—that determines the object case assignment, because the object case alternates with identical verbs. The object NP's referent is identical in both sets of examples: the road (not a part of it), and George (not a part of George). The notions of completeness and a perceivable result are not exclusively dependent on the real-world, encyclopedic facts that interact with perception only.

An event of widening the road or frightening someone has a temporal beginning and an end in objective terms; these events have an endpoint as part of the lexical meaning of the verbs in question. This is a matter of semantics. However, the endpoints and, consequently, the events are categorized or communicated differently in subjective terms. This is a matter of pragmatics. The behavior of this verb class indicates that the idea or an expectation about a complete event is crucial for the morphosyntactic aspectual encoding. This book will discuss that the scalarity of verb meaning plays an important role in constraining the morphosyntactic encoding in the composition of the clausal aspect.

The endpoint may be communicated as conforming to a certain expectation of the speaker or not conforming to it. In case of ‹finding the book›, if the subject has spotted a book, the expectation about what can be considered a full event is fulfilled. In case of ‹eating the sandwich›, when there is no sandwich any more, the event can be categorized as having a result and as being completed. There are various reasons for why an event does not meet the speaker's expectations about a total event, its completion or result. On the one hand, there may be no expectations about a concrete endpoint or result about other events, as in the case of ‹watching TV›. On the other hand, the achievement of the expected endpoint or result of the event can be classified as not conforming to an expectation, if parts of the sandwich are still in sight. Thirdly, the speaker may simply not know what to expect about the endpoint or result of an event, as in the case of ‹widening the road›: the result of the event is that the road is widened, and no one works on it any more. The following is, however, not clear: should the road be widened more at another time according to the plan? Was the road perhaps widened more than intended? The speaker has no access to the intentions of the planners or wishes to communicate that the road was not widened according to the intentions, his own or others'. Fourthly, the speaker may not be able to verify the endpoint and the result in case of ‹offending›, ‹hitting› or ‹frightening›. The only fact that the speaker recognizes is that the subject has performed a temporally bounded event by the end of which he offends or frightens the one who experiences the consequences. However, how deep the exact consequences affect the experiencer cannot

be objectively verified by the speaker. Ultimately, it is the speaker's wish to communicate knowledge and categorization that determines the type of the endpoint, the type of the event, its aspectual encoding type in terms of lexicalization and, consequently, the object case encoding.

In contrast to the events that do not—or cannot—meet the speaker's expectations about their completion or result, the encoding of the objectively identical event is different because of subjectivity and intersubjectivity. The speaker's expectations about their completion or result are met in the examples in (9). In case of (9a) (‹widen›), the speaker knows how much the road must be widened and the result of the event conforms to this expectation. In example (9b) (‹offending›), the goal of the subject can be to offend George no matter how George reacts; as soon as the offending event is performed, the goal of the event is attained. In case of (9c) (‹frightening›), there is an interpretation where the frightening of George may be unintentional, but it has a visible effect; George might make a visible move, or he might change his mind and act differently from what was originally expected. More plausibly, however, the speaker imagines that the mental state of George has undergone a substantial change. In (9d) (‹hitting›), the result of hitting is clearly differently perceived by the speaker. While in (8d), the experiencer can recover from hitting, in (9d) the experiencer cannot recover from hitting, according to the judgment of the speaker.

These were the various grounds for the speaker to assume that her expectations about the completion or the result of the event are met in the examples in (9). Perhaps most remarkable is the difference in envisaging the endpoint and the encoding of the object case of psych-verbs in (8) and (9) that partly corresponds to the existence or the lack of the intersubjective, empathic experience. The existence of conventionalized intersubjective experience in events such as offending or frightening determines the possibility of the total case. This book studies the exact nature of the two types of endpoints of events, and wishes to show how they are represented in by the lexical and grammatical structure of the language. Some events are scalar; they can be completed and realized to a certain degree or extent up to the endpoint of type 1 (to a certain extent) or completed fully up to the endpoint of type 2 (according to the individual expectation or a preconceived, conventional or communicated standard).

1.2.4 *Types of telicity and telicizers*

In examples (1)-(7), the endpoints are provided by the object or the verb, or both. However, there are other means in the Estonian grammar to encode endpoints for the events, such as the particles, as in (9b) and (9c). In addition, there are several other particles than *ära* exemplified in (9b), (9c), such as *üle* ‹over› in (10a), prepositional (10b) and postpositional (10c) phrases, locative case-marked phrases such as (10d) and (10e), among which there are resultative phrases formed from nouns (10f) or adjectives (10g), certain case forms of infinitives, such as illative (10h) or elative (10i),

temporal (10j) or spatial measure phrases (10k), (10l). As in several languages, measure phrases are object-like and bear object case. These forms typically encode the presence of an endpoint, and contribute to the telicity of the phrase. The transitive clauses with total objects illustrated in (10a)-(10l) also encode that the expectation about the endpoint or result of the event is met. They can appear in clauses with partitive objects only with special context as in example (13).

(10)

a. *Mari* *kontrolli-s* *kontrolltöö* *üle.*
M[NOM] check-PST.3S test.TOT PRT
‹Mary checked her test.›

b. *Mari* *viska-s* *raamatu* *üle* *laua.*
M[NOM] throw-PST.3S book.TOT over table.GEN
‹Mary threw the book over the table.›

c. *Mari* *pan-i* *raamatu* *laua* *peale.*
M[NOM] put-PST.3S book.TOT table.GEN on
‹Mary put the book on the table.›

d. *Mari* *tõ-i* *raamatu* *koju.*
M[NOM] bring-PST.3S book.TOT home.ILL
‹Mary brought a book home.›

e. *Mati* *vaata-s* *filmi* *lõpu-ni.*
M[NOM] watch-PST.3S film.TOT end-TER
‹Matthew watched a/the film, Matthew was watching a/the film.›

f. *Mari* *luge-s* *raamatu* *riba-de-ks.*
M[NOM] read-PST.3S book.TOT piece-PL-TRA
‹Mary read the book into pieces.›

g. *Mari* *värvi-s* *aia* *punase-ks.*
M[NOM] paint-PST.3S fence.TOT red-TRA
‹Mary painted the fence red.›

h. *Ma* *vii-si-n* *lapse* *uju-ma.*
I[NOM] take-PST-1S child.TOT swim-M_ILL
‹I took the child swimming.›

i. *Ma* *tõ-i-n* *lapse* *uju-mast.*
I[NOM] take-PST-1S child.TOT swim-M_ELA
‹I brought the child from swimming.›

j. *Mari* *oota-s* *terve* *aasta.*
M[NOM] wait-PST.3S whole.TOT year.TOT
‹Mary was waiting for a whole year.›

k. *Mari* *uju-s* *ühe* *kilomeetri.*
M[NOM] swim-PST.3S one.TOT kilometer.TOT
‹Mary swam one kilometer.›

l. *Takso* *vii-s* *Tooma*
taxi[NOM] take-PST.3S T.TOT
kümme *kilomeetri-t* *Pärnu* *suunas.*
ten[NOM] kilometer-PTV P.GEN towards
‹The taxi took Thomas ten kilometers in the direction of Pärnu.›

Verbs, their quantized object NPs, particles, measure phrases, resultative phrases, certain case forms of infinitives, prepositional and postpositional phrases, and case phrases encode endpoints for events. Lexical predicates encoding an event with an endpoint differ in their flexibility in describing events as not yet having reached the endpoint. Various types of endpoints of events allow a description of events in their progress or completion. Consider again some non-complex predicates, such as *ehitama* ‹build› (11) or *sööma* ‹eat› (3), which allow their objects to provide an endpoint to the event but that can describe events as not yet having reached the endpoint.

(11)
a. *Toomas* *ehita-s* *silla*.
T[NOM] build-PST.3S bridge.TOT
‹Thomas built a bridge.›
b. *Toomas* *ehita-s* *silda.*
T[NOM] build-PST.3S bridge.PTV
‹Thomas was building a bridge.›

Verbs such as *ehitama* ‹build› (11) or *sööma* ‹eat› (3) are creation and consumption verbs; the physical boundaries of their object's referent determine the temporal boundaries of the event. In a sentence describing the event of building a bridge or eating a sandwich, it is the object—the bridge or the sandwich—that provides an endpoint to the event of traversal of the activity through the object referent. If the endpoint is reached—the bridge is ready or the sandwich is eaten up—the object case is not partitive, as in (11a) and (3a). If the endpoint is not reached, if the bridge is not ready or the sandwich is not eaten up, that is, if the object is not totally affected, the object is marked with partitive. But similarly to ‹widen› and ‹frighten›, the verbs in (12) can still impose temporal boundaries, if the object is partitive plural or mass noun.

(12)
a. *Toomas* *sō-i* *võileib-u*.
T[NOM] eat-PST.3S sandwich-PTV.PL
‹Thomas has eaten/ate sandwiches.›
b. *Toomas* *ehita-s* *sild-u*.
T[NOM] build-PST.3S bridge-PTV.PL
‹Thomas (has) built bridges.›

Particles, resultative phrases, measure adverbials, certain case forms of infinitives, prepositional and postpositional phrases, and case phrases do not determine clausal aspect fully in Estonian; they only signal that there are expectations about a definite endpoint or result of the event. These linguistic means do not provide an endpoint in combination of transitive verbs in itself. The boundaries they provide for the event can be presented in clauses as not yet attained. If there is a particle, a resultative phrase or a measure adverbial in the clause, the object case may be partitive, as in (13a)-(13d). These sentences describe situations where a particle (13a), a resultative phrase (13b) or a measure adverbial (13c), (13d) provides an expected endpoint to the event. Importantly, this endpoint has not been reached.

(13)

a.	*Mari*	*kontrolli-s*	*kontrolltöö-d*	*üle.*
	M[NOM]	check-PST.3S	test-PTV	PRT
	‹Mary was checking her test.›			
b.	*Mari*	*kärista-s*	*ajalehte*	*riba-de-ks.*
	M[NOM]	tear-PST.3S	newspaper.PTV	piece-PL-TRA
	‹Mary was tearing the newspaper into pieces.›			
c.	*Mari*	*uju-s*	*ühte*	*kilomeetri-t.*
	M[NOM]	swim-PST.3S	one.PTV	kilometer-PTV
	‹Mary was swimming one kilometer.›			
d.	*Takso*	*vii-s*	*Toomas-t*	
	taxi[NOM]	take-PST.3S	T-PTV	
	kümme	*kilomeetri-t*	*Pärnu*	*suunas.*
	ten[NOM]	kilometer-PTV	P.GEN	towards
	‹The taxi took Thomas ten kilometers in the direction of Pärnu.›			

In case of some predicates as in (13d), establishing the linguistic correspondent of the endpoint is not a trivial matter. In some instances, as with the creation verb ‹write›, or a verb of ownership transfer, ‹give›, the object referent does not provide an endpoint to the event and the activity does not affect or traverse the object. Consider predicates that denote events such as the event of writing a book. Those verbs have objects that are created and traversed in the course of the activity, but the endpoint is rather reached via an abstract path towards an imagined ideal, instead of by physical creation or traversal of an object. Pages that are completely covered by letters, figures and tables are referred to as a written book if the content meets the expectations of a coherent book, as in (14a), not otherwise. Even if the pages are completely covered by letters, figures and tables, the subject can still be writing a book until the expected coherence is not obtained, and the situation can be morphosyntactically encoded with the partitive object.

(14)

a. *Toomas* *kirjuta-s* *raamatu.*
T[NOM] write-PST.3S book.TOT
‹Thomas wrote a book.›

b. *Toomas* *kirjuta-s* *raamatu-t.*
T[NOM] write-PST.3S book-PTV
‹Thomas was writing a book.›

In the events of giving a book to somebody (15c) or putting the book into the drawer (15a), the activity does not traverse the book either, so the physical boundaries of the object referent are not related to the progress of the event either, as in the writing events. Likewise, the partial realization of the event does not relate to the partial traversal of the objects in (15b), (15d).

(15)

a. *Toomas* *pan-i* *raamatu* *sahtli-sse.*
T[NOM] put-PST.3S book.TOT drawer-ILL
‹Thomas put the book into the drawer.›

b. *Toomas* *pan-i* *raamatu-t* *sahtli-sse.*
T[NOM] put-PST.3S book-PTV drawer-ILL
‹Thomas was putting the book into the drawer.›

c. *Toomas* *and-is* *raamatu* *Mari-le.*
T[NOM] give-PST.3S book.TOT M-ALL
‹Thomas gave the book to Mary.›

d. *%Toomas* *and-is* *raamatu-t* *Mari-le.*
T[NOM] give-PST.3S book-PTV M-ALL
‹Thomas was giving the book to Mary.›

1.2.5 *What is totally and partially affected?*

Thus, whether the object is totally or partially affected by the activity seems not to matter for reaching the endpoint of the event. Partially realized events are not realized with regard to just a part of the object. In the middle of the event of putting a book into the drawer, typically, a part of the path of the book towards the drawer is traversed. In case of ‹giving a book to Mary›, the book and its path are not related to the temporal boundaries of the event. It is not the case that only a part of the book has been given to Mary in the middle of the event. As in the verbs in (1)-(12), meeting the expectation about the final endpoint or result yields total object case-marking, and falling short of this expectation yields partitive object case-marking. The examples show that a fully compositional approach is not advantageous in verbs other than creation and destruction verbs. However, a fully lexical aspectual approach in terms of perfectivity

or telicity cannot be successful either, since there are telic or perfective verbs with object case variation.

Evidence such as the data above showed that the relationship between verb meaning, object case encoding and the events they denote is not straightforward in Modern Estonian. The notion of «corresponding to an expectation or conventional standard» seems to be important. Since relatively scarce material is available that integrates the Estonian lexicon, syntax, and semantics, and there are few described languages where lexical aspectual semantics and object case encoding are so clearly related to TAM, the aim of this book is to give a comprehensive account of the role of verbal predicates in the given aspectual system.

I give a brief summary of the main points. In order to capture the puzzles of degree-wise realization of several verb classes such as the degree achievements and psych-verbs in (8) alongside with other verb classes, this book will propose an analysis of transitive verbs as scalar and non-scalar in Chapters 8-10, analyzing the total object case as a semantic case that encodes a closed scale. Partitive is analyzed as encoding the opposite—the lack of a closed scale. Constraining the partitive to the lack of a closed scale allows it to be compatible with both types of verbs, scalar and non-scalar. Verbal predicates introduce a scale or fail to do so. Non-scalar verbs, such as *watch, love, trust, see, want, visit*, have partitive objects but the scalar verbs *eat, read, build, write, bring, find,* and *buy* have either partitive or total objects. Verbs can be scalar by their lexical meaning (*find, frighten*), by their interaction with a property of their object argument (*eat, read, build, write, bring*), and by virtue of a property of an argument or a measure adjunct (*surround, transport, take, eat, read, build, write, bring*). Verbs fall in two groups according to whether they can be bounded by virtue of a property of a measure argument (implicit or not, as in the verbs *transport, take, eat, read, build, write,* or *bring*) or a measure adjunct (*surround, comprise*).

The exact nature of the aspectual and other distinctions that play a role in object case encoding is a matter of disputes, since there are many semantic, pragmatic, and syntactic factors that influence the encoding. On the basis of an analysis of some of these factors, this book wishes to contribute new insights into the role of lexical semantics in clausal aspect and the semantics-syntax interface. The following subsection of the introduction present the setting for the book.

1.3 *The organization of the topics in this book*

The organization of the book follows here. In order to present the verb classification that can explain the patternings, a number of terminological issues and background issues in aspect, case, and verb classification are presented in Chapters 2 to 6. Chapter 2 motivates the main choices in terms of terminology, relationships between verbs, aspectual particles, case marking, and aspect. Chapter 3 introduces the role of aspect and other factors in the object case alternation. This chapter also discusses some

previous views on the relationship between aspect and lexical semantics and relates them to the terminology that will be used in the chapters to come. The chapter presents the role of verb classes in aspectual composition. Chapter 4 revises the previously collected evidence of an aspectual organization of lexical semantics and concentrates on the object's and aspectual particle's role in the aspectual composition. It presents the preparatory data for an aspectual classification of verbs and their relation to object case. Chapter 5 discusses earlier Estonian sources on Estonian verb classes and identifies the unresolved issues about verb classes and object case. Chapter 6 reviews some lexicalist approaches to the thematic relationships and aspect. From Chapter 7 on, the analyzed empirical material is split in four further chapters. Chapter 7 introduces the scalar approaches to the lexicon. Chapter 8 combines the knowledge from the previous chapters and presents the general principles of the Estonian scalar verb classification. Chapter 9 concentrates on scalar verb classes and Chapter 10 on non-scalar verb classes. Chapter 11 is a conclusion.

Endnotes

[1] Finnic (or Baltic-Finnic, Balto-Finnic) languages are a subbranch of the Finnic branch of the Finno-Ugric languages, which in turn forms one of the two branches of the Uralic languages. Viitso (1998: 97) includes seven (Baltic)-Finnic languages, Finnish, Estonian, Livonian, Ingrian, Karelian, Veps, Votic. Between the first and last draft of the book, the status of one of these languages, Livonian, has turned from «moribund» to «dead» with the death of the last native speaker in February 2009. The variants subsumed under Karelian (Karelian proper, Ludic, Livvi-Olonets) are regarded as separate languages across sources, together with Võro-Seto. Kven and Meänkieli are politically recognized minority languages (regarded as Finnish linguistically). «Baltic» in the name of the language group refers to the territory around the Baltic Sea and not the Indo-European, Baltic languages.

CHAPTER 2

TERMINOLOGICAL CHOICES

2.1 *Total (accusative) versus partitive case: motivation of the terminological choices*

A note on the current terminological choices is in order. The readers who do not need an explanation about the terms «total» and «partitive» can skip this subsection. In order to refer to the cases involved in the semantically motivated partitive and non-partitive object case alternation, I have chosen to use new terminology for the non-partitive group of cases, and I have opted for internationally known terminology for the partitive case. Both choices have risks related to misunderstanding; therefore, it is advisable to know them before proceeding.

The general pattern of morphological object and subject case marking in Estonian is presented in Table 2.1 in the spirit of the Standard Estonian Grammar by Erelt et al. (1993), henceforth referred to as *EKG II* (EKG II: 60). Subjects are nominative or partitive, and objects are genitive, nominative, and partitive. The case that is referred to as total has the morphological genitive or nominative form. Instead of the semantic term «total object» one could use the typological syntactic term «accusative object». «Total object» or «complete, full object» (*totaalobjekt, täissihitis*) are the most frequently used terms in Estonian linguistics for the object that is case marked with the morphological genitive or nominative. The term reflects case syncretism as well as the importance of semantics for the object case encoding.

Table 2.1 The place of object case alternation in the Estonian case alternations.

Subject cases	Object cases
Nominative Partitive (alternation in plural count and singular mass nouns only)	Genitive (total) (singular count nouns) Nominative (total) (plural and mass nouns) Partitive (singular and plural)

A brief note on the form of these cases is in order, since the reader might be confused by the lack of clear case endings in the examples while the case glosses are present, and even the identical written form of case forms that appear in minimal pairs. The form of partitive may differ from that of total (morphologically, genitive) in its long vowel quantity (in *õuna* ‹apple.*TOT/GEN*› and *klouni* ‹clown.*TOT/GEN*›, the diphthong is pronounced

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with a short «u», in *õuna* ‹apple.PTV› and *klouni* ‹clown.PTV›, the diphthong is pronounced with a long «u»). In other cases, the partitive stem ends with a vowel with stem alternation or without stem quantity lengthening (*tüübi* ‹type.TOT/GEN›, *tüüpi* ‹type.PTV›) or *-t/-d* (*võtme* ‹key TOT/GEN›, *võtit* ‹key.PTV›, *maa* ‹land.TOT/GEN›, *maad* ‹land.PTV›). See Rätsep (1977, 1979) or Laanest (1975) for further details and the history of the morphological development.

The term «partitive» covers a variety of concepts in linguistics. Partitive is used as the traditional name for a morphological case, also, as the name of the inherent Case in GB theory associated with indefiniteness, and as a semantic notion associated with partial interpretation. This book regards the Estonian partitive as a morphological case but relates it primarily to aspect and defines it as a semantic case[1]. Following Butt and King (2005: 25), this book defines semantic case in a non-standard way as a type of case about which regular semantic generalizations can be made and that has the following characteristics: predictability via the formulation of generalizations across predicates and constructions, and subjection to syntactic restrictions, such as restrictions on grammatical functions of the NPs where the case can appear.

In the standard, morphosyntactically oriented approach to case, the «total case» equals to accusative. If the reader wishes to re-use the examples and generalizations from this book in morphosyntactic or typologically oriented research, it is advisable to refer to the case as «accusative» and gloss it as ACC. If the reader's interests are phonological or morphological, the case referred to as ‹total› should be replaced by ‹genitive› and «nominative».

While calling one of the semantic object cases «total» is consonant with the claims made about this case here, the term «partial», used in Estonian grammars, does not transparently cover the respective semantic content of this semantic case. The partitive marked NP's denotation cannot be understood as «part-of» the denotation of the object NP's referent. Events described in clauses with «partial» objects do not necessarily reflect any «partial» progress of the event either. For instance, in the Estonian correspondents of the sentences *John loves/believes/trusts/hits/sees/shoots etc. Mary*, the object NP «Mary» would be marked with the partitive, but the partitive marked «Mary» is not interpreted as «part of Mary»; there is no partial progress of the event described either. Frequently, the partitive marked object noun phrase has no referent. The details are found in the following section. Therefore, nothing related to parts can serve as an umbrella for the «partial» object phenomena. Therefore, the term «partitive» is preferred to «partial».

Similarly to «partitive case», «total case» is also an instance of semantic case as defined above. In international sources, the total case is frequently referred to as «accusative». Pusztay (1994: 48-49) or Hiietam (2002, 2003) can be consulted for synchronic and diachronic reasons for assuming case syncretism and a separate accusative case in the case system of

Estonian; Kont (1963: 21) can be consulted for a discussion and Saareste (1926) for reasons against assuming a separate accusative case. The «total case» is morphologically an equivalent of what is referred to as accusative by Pusztay or Hiietam. These authors are not concerned with the interfaces or semantics but are typological and syntactic in nature; also, they regard the accusative case as the case that reflects definiteness. The term «total» is generally preferred in more aspectually inclined research about Estonian object. While telicity and the definiteness of objects co-occur frequently, this book explores only the aspectual dimension of the lexical classes. Therefore, the case is approached from the aspectual point of view and this book uses the terminology reflecting aspectual distinctions.

2.2 *Motivation of the approach to verb classification as an aspectual classification*

2.2.1 *Why verb classes?*

This book investigates how verb classifcation predicts the verb's combinability with other elements in the sentence that contribute to the composition of clausal aspect. Therefore, it is concerned with articulating the relations between verbs, aspectual particles, case marking, and aspect. This book presents the role of aspect in verbal lexicon and the object case alternation. Thus, it approaches these topics from the viewpoint of the so-called «aspect hypothesis». However, clausal aspect on the one hand and issues concerning the quantization or specificity feature of the object NP or the presuppositional nature of events, on the other, are connected in a way that will not fully be explicated in this book.

Does it make sense to study verb classes? The following subsections provide the arguments for preferring predicate-related approaches to aspect and object case marking. The examples of the following subsections show that the aspectual oppositions and case-marking alternations are not directly related to the differences in the properties of the object NP. Examining the properties of case-marked NPs is, however, important, since the historical NP-relatedness has shaped the Modern Estonian aspectual system in a way that it does not exactly reflect the standard semantics of perfectivity and telicity, but a more abstract version of part-whole semantics that has spread over the aspect and mood (epistemic modality) categories in Estonian (Tamm 2009).

A link between aspect and referentiality can be established in future research. This is a promising line of research, since it is possible to connect referentiality and the expectations about the results and endpoints, and preconceptions about plans that are present in telic events. This book does not intend to oppose or exclude any alternative interpretations but tries to test and spell out the role of aspectual lexical semantics in more detail, combining methods and insights from several linguistic research traditions. By doing so, other accounts of verbal behavior and case assign-

ment will become considerably better grounded as well. A detailed review and interpretation of previous sources in Chapters 4 and 5 are intended for the reader to see the relationships in the data. The main idea of this book is that the case alternation is largely constrained by lexical semantics. The following subsections offer the motivation of the choices that have determined the preference for aspect and lexicon related explanation to other, related, but morphosyntactically less predictive accounts. A clear account of the role of verb meaning and verb classification is a basis for understanding many issues in the semantics, syntax, and morphology of argument encoding.

2.2.2 *Verbs and aspect and not NP properties*

The so-called «quantification hypothesis» is not considered in this book, but this subsection presents some arguments against adopting a strict quantification explanation for object case marking, following Tamm (2007b, 2007c). A plausible wording for the «quantification hypothesis» could read as in (1). The hypothesis in (1) is too strong. It should be weakened as in (2).

(1)

> The «quantification hypothesis» about the object case marking in Estonian: quantized NPs are marked by the total case as objects; non-quantized NPs or parts of a whole NP are marked by the partitive case.

(2)

> The «quantification hypothesis» covers frequent but not all instances of the total case phenomenon and does not cover the partitive case.

Finding out the facts about quantization is crucial for the undertanding of aspectual verb classes. Several accounts studying compositional aspect and the parallels between the verbal and nominal domains relate the variation in aspect to the quantificational properties of the object NP, such as the specified quantity feature (Verkuyl 1993) in syntax or quantization (Krifka 1992, 1998). These accounts will be introduced in the following sections. From the quantificational perspective, examples (3a) to (3d) show that the expected variation in the aspectual value of the sentence is not paralleled by the difference in the object NP properties.

(3)

a.	*Mari*	*sõ-i*	*(ühte)*	*õunapiruka-t.*	
	M[NOM]	eat-PST.3S	one.PTV	apple.tart-PTV	
	‹Mary was eating an/the (/one) apple tart.›				
b.	*Mari*	*sõ-i*	*(ühe)*	*õunapiruka*	*(ära).*
	M[NOM]	eat-PST.3S	one.TOT	apple.tart.TOT	up/PRT
	‹Mary ate an/the(/one) apple tart (up).›				

c. *Mari* *kirjuta-s* *(ühte)* *raamatu-t*
M[NOM] write-PST.3S one.PTV book-PTV
aasta *aega /* *#ja* *läk-s* *töö-le.*
year time.PTV and go-PST.3S work-ALL
‹Mary was writing a/the (/one) book for a year (anomalous with the alternative: and went to work).›

d. *Mari* *kirjuta-s* *(ühe)* *raamatu*
M[NOM] write-PST.3S one.TOT book.TOT
ühe *aasta-ga /* *ja* *siis* *läk-s* *töö-le.*
one.GEN year-COM and then go-PST.3S work-ALL
‹Mary wrote a (/one) book in one year / and then went to work.›

All examples contain quantized NPs (e.g., one apple tart, one book) regardless of their case-marking. Although examples (3a) to (3d) might suggest otherwise, the part-whole semantics that underlies the historical regular partitive-accusative oppositions has disappeared in Modern Estonian. In example (4a), the referent of the partitive marked noun *võti* ‹key› is not part of the key and in example (4b), the referent of the partitive marked noun *Jüri* ‹George› is not part of George.

(4)

a. *Leid-si-n* *võti-t* *korduvalt.*
find-PST-1S key-PTV repeatedly
‹I found the key several times.›

b. *Mari* *ehmata-s* *Jüri-t.*
M[NOM] frighten-PST.3S J-PTV
‹Mary frightened George.›

Partitive clearly does not mark part-of or nonquantized semantics, but how about the total case? A more intriguing question for a possible quantificational analysis of the case-marked NPs concerns the correspondence between total case and quantization. I argue that there is no clear correlation, even if a correct analysis of the total case needs more data than examined in previous sources and it is out of the scope of this section to give a conclusive set of examples and exact tests. In the Lexical Functional Grammar account of Tamm (2004e), total case is restricted to quantized NPs only; partitive lacks any restrictions on the quantization of the NP it marks. This section revises that position.

Examples (1)-(4) containing quantized NP objects and partitive marking confirm the correctness of an analysis of the partitive without quantization restrictions. However, quantization is indeed a necessary restriction for plural total objects. In case of plural NPs, which are morphologically nominative, it is clear that they are quantized (5).

(5)

Mari	*sõ-i*	*(kõik)*	*õuna-d*	*(ära)*
M[NOM]	eat-PST.3S	(all[NOM])	apple-NOM.PL	up/PRT
/kaks	*õuna*	*(ära).*		
two [NOM/TOT]	apple.PTV	up/PRT		

‹Mary ate (all) the apples (up)/ Mary ate (up) two apples.›

For partitive plurals, on the other hand, there is no restriction on being either non-quantized (6a) or quantized (6b). The partitive plural form differs considerably in Finnish and Estonian; the latter is heavily reduced. Also, the example has a non-progressive reading. In the sentence ‹Mary ate (all) the apples (up)›, the NP (apples) is quantized. The nominative case may be historically related to a restriction on (explicit) quantization. In addition to the universal quantifier, the numeral heads and some other types of quantizing heads of total objects are marked with the morphological nominative. See Lees (2004, 2005) for historical studies and Rätsep (1977, 1979) or Laanest (1975) for the details of the morphological development.

(6)

a.

Mari	*sõ-i*	*ühekorraga*
M[NOM]	eat-PST.3S	simultaneously
me-tt	*ja*	*õun-u.*
honey-PTV	and	apple-PTV.PL

‹Mary was eating honey and apples simultaneously.›

b.

Mari	*sõ-i*	
M[NOM]	eat-PST.3S	
(kõik-i)	*õun-u*	*(ühekorraga).*
all-PTV.PL	apple-PTV.PL	simultaneously

‹Mary ate (all) the apples (simultaneously).›

Contrary to the approach taken in Tamm (2004e), which associates a restriction on quantization with the total object case regardless of the number, this book wishes to provide more details about singular NPs. More specifically, it is problematic to assume a quantity or specificity restriction on singular NPs. The following examples examine the case-marking of Estonian concrete mass nouns, a topic that has not been dealt with in detail before.

Paldre (1997) and Tamm (2011b, to appear a and b) include tests for the Estonian distinction of mass and count; Tamm (2007c, 2007a) use them for an analysis of abstract nouns and their morphosyntactic properties in Estonian. Mass nouns display failure with numerals, with plurals or measure phrases, and in combination with count determiners with *mitu* ‹many›. The reader is referred to further discussion of the issue of the relationship between the morphosyntax and semantics of indefiniteness, case, quan-

tization, and issues of kind semantics in Estonian (Tamm 2007a, forthcoming a and b). Chierchia (1998), Gillon (1992), Krifka (1991), Carlson (1980) and Link (1983) provide several semantic criteria for determining the count and mass nature of a noun. If my data on total objects may be understood as conceptualizing or grammaticalizing a category, then total objects have conceptualized or grammaticalized the naïve semantics of quantization (a condition of count nouns) in Estonian. The Estonian quantization semantics is—up to details such as mass to count shifts of the standard serving or kind type—surprisingly close to but perhaps not absolutely identical to the semantics proposed by these authors. The total case may be understood as an instance of ‹Universal Packager›, however, in a tight, yet flexible symbiosis with transitive verbs. Bearing in mind the slight discrepancy between morphosyntax and semantics, I prefer the less semantically loaded term ‹boundedness› for the category (Jackendoff 1991, 1996). LFG allows for two major types of solutions for the mismatch. The mismatch can be dealt with either in a more formal way, capturing the strictly formal relationships in language or in a more functional way, taking grammaticalization into account. In the first case (more formal), the constraints are between morphology (the case of total objects) and semantics (the ‹ideal› quantization). In the second case (more functional), the goal of the constraints is also to explain grammaticalization. The relevant interface constraints are then located between morphosyntax, the functional feature of boundedness, which corresponds to the naïve conceptualization of quantization in Estonian, and semantics.

Mass and bare plural nouns are typically partitive as objects, but there are also examples with total case-marked mass nouns. However, even in case of the most typical examples of mass nouns as total objects, such as verbs of transportation (7a), it is difficult to establish whether it is pragmatics (implicature) or semantics (entailment) that determines that the transportee is of certain quantity by way of a mass-count shift, such as a shift from mass to standard serving. With a verb of consumption (7b), it is again an implicature that what is consumed is a quantity, such as a bottle of water, or less than a bottle of water or any other type of standard serving. However, the total case-marked NP in examples (7a) - (7b) can instantiate a focus and contain a kind-denoting NP. Since kind-denoting NPs are analyzed as quantized NPs, that is, ‹(one) kind of› ice cream or water, the total objects could be instances of a mass-count shift, that is, a coercion to quantized NPs. With a verb ‹discover› in (7c), the specified quantity of the object is less conspicuous, since what is discovered for the first time is simultaneously an instance and a kind of material. While there can be more alternative kinds of iron, the existence of a set of alternatives (required for focus) cannot form a restriction for total objecthood. Those mass nouns of which there are no alternative kinds (and no possibility of plural forming), such as ‹ekasilicium› in (7d), can be total objects. In addition, example (7e) shows a total case marked mass noun that is disambiguated by adjectives that coerce the noun to be a concrete instance: the ‹mold› that is gradually growing is less likely to be a kind.

(7)

a. *Mari* *tõ-i* *jäätise.*
M[NOM] bring-PST.3S ice-cream.TOT
‹Mary brought ice-cream.›

b. *Jõ-i-n* *vee* *(ja lõpetasin lõunapausi).*
drink-PST-1S water.TOT and finished lunch break
‹I drank the water (and finished my lunch break).›

c. *Umbes* *3400 e. Kr.* *avasta-si-d*
approximately 3400 BC discover-PST-3PL
inimese-d *Egiptuse-s* *raua.*
human-3PL Egypt-INE iron.TOT
‹Approximately in 3400 BC, humans discovered iron in Egypt.›

d. *Winkler* *avasta-s* *«ekasiliitsiumi» ...*
W[NOM] discover-PST.3S ekasilicium.TOT
haruldase *mineraali* *analüüsi-l.*
rare.GEN mineral.GEN analysis-ADE
‹While analyzing a rare mineral, Winkler discovered ekasilicium.›

e. *Avasta-si-n* *vannitoa-st*
discover-PST-1S bathroom-ELA
jõudsalt *kasvava* *hallituse.*
quickly growing.TOT mold.TOT
‹I discovered (some) quickly growing mold in the bathroom.›

In addition, example (8) with a non-referential object NP shows that the correspondence between specified for quantity and total objects fails in combinations with the aspectual particle *ära*. The example is from Metslang (2001: 463), and it reports colloquial usage.

(8)

Min-d *kutsu-ti* *reklaamipäeva-le*
I-PTV invite-IPS.PST advertising_day-ALL
klouni *mängi-ma.*
clown.PTV play-M_ILL
Mängi-si-n *klouni* *ära*
play-PST-1S clown.TOT PRT
ja *sa-i-n* *sada* *krooni.*
and get-PST-1S hundred[NOM] kroon.PTV
‹I was invited to play a clown on the advertising day. So I played the clown and got 100 kroons.›

The so-called «definiteness hypothesis» is not considered in this book either, but this subsection presents some arguments against adopting a

strict definiteness explanation for object case marking as well. A plausible wording for the «definiteness hypothesis» could read as represented in (9).

(9)

The «definiteness hypothesis»: definite NP objects are marked by accusative case, and indefinite NP objects are marked by the partitive case.

The insight that this book follows is worded in (10)[2].

(10)

The «definiteness hypothesis» covers frequent but not all instances of the total case phenomenon and does not cover the partitive case.

In a language without a definite or an indefinite article, it is reasonable to expect a compensating mechanism in the form of NP marking. Several languages, including Uralic languages, have suffixes that are based on definiteness-related notions. The existence of two object cases may plausibly serve as an expression of this kind of compensating mechanism. Statistically, there is certainly some correlation of data between indefinite NPs in imperfective (non-bounded) sentences and definite NPs in perfective (bounded) sentences. More precisely, the partitive case tends to occur with non-specific NPs, especially if the NP denotation is homogeneous, the total case occurs predominantly with specific NPs. These facts are previously explained by independent factors, for instance, by general tendencies in the use of aspect in narratives (Metslang 1994).

Despite the statistical correlation, there is much evidence against a strict definiteness hypothesis. First, there is a definite article *see* ‹this, the› developing from a demonstrative in Estonian (Hiietam 2003); thus, the tendency in developing compensatory mechanisms might be a development of an article system rather than a system based on object case marking. Second, the definiteness hypothesis does not account sufficiently for another fact. In the Estonian correspondents of the sentences *John believes/trusts/sees/shoots etc. the president*, the object NP with «president» is marked with the partitive, and the partitive marked object, «president,» is not indefinite. Also, there is a large class of verbs (creation verbs) in sentences with typically indefinite, discourse-new object referents that nevertheless occur with total objects. Next, the existence of clearly aspectual (event structural) verb classes and their typical occurrence with either total or partitive case marking suggests that the aspectual explanation covers more instances than the definiteness hypothesis. Furthermore, there are no verbs that would give rise to regular minimal pairs on the basis of opposite object case alternation and confirm the definiteness hypothesis. For instance, the object case alternation with the verb *leidma* ‹find› provides negative evidence for the «definiteness hypothesis». In a sentence with the total object, such as *leidsin võtme* ‹I found a key› the total object NP «key» is indefinite, whereas in the imperfective (progressive) sentence

leidsin võtit korduvalt ‹I found the key several times› the partitive marked NP with «key» is definite (specific). Thus, the case alternation cannot be related to the alternation of indefinite-definite features of the respective NPs. Therefore, the definiteness hypothesis, which assumes a link between the feature of definiteness and the total object case or a link between indefiniteness and the partitive object case, does not find sufficient support from the data. This is the reason for adopting an aspect and predicate-related approach to Estonian object case alternation instead of a definiteness related approach. This is a standpoint that diverges from the one taken in the accounts of Belletti (1988), van Hout (2000), or Hiietam (2003). On the other hand, the link between aspect and specificity (understood as in Enç 1991) is still an open topic for further study. However, the success of the «definiteness hypothesis» partly depends on the progress of the research on the «aspect hypothesis» of the object case. Kont (1963: 98) also discusses the relations between the total and «partial» object and the (in) definiteness of the object. This source serves as support for regarding (in) definiteness as a secondary phenomenon in object case marking. For instance, Kont (1963: 96) explicitly argues for the secondary nature of the object's quantification and subordinating the phenomena of definiteness and nominal quantification to verb semantics.

Example (11a) also provides a case where the occurrence of a total object is not subject to the restriction of referentiality either. The infelicity of the continuation in (11b) shows that *klouni* ‹clown.TOT› in (11a) did not introduce an entity that may subsequently be independently referred to in a definite context.

(11)

a. *Min-d* *kutsu-ti* *reklaamipäeva-le*
I-PTV invite-IPS.PST advertising_day-ALL
klouni *mängi-ma.*
clown.PTV play-M_ILL
Mängi-si-n *klouni* *ära*
play-PST-1S clown.TOT PRT
ja *sa-i-n* *sada* *krooni.*
and get-PST-1S hundred [NOM] kroon.PTV
‹I was invited to play a clown on the advertising day. So I played the clown and got 100 kroons.›

b. *??Kloun* *ol-i* *kirju-s* *riide-s.*
clown[NOM] be-PST.3S colorful-INE cloth-INE
‹The clown was wearing colorful clothing.›

The option that is also excluded by example (11a) is that of the definiteness hypothesis, which could be worded as follows: the total case marks definite NPs, and partitive marks indefinite NPs. Total objects are more frequently definite NPs than not, but not vice versa; definite NPs can be par-

titive marked as objects. There are more examples of total objects that are not necessarily definite. A large class of creation verbs with alternating case appears in sentences with typically indefinite or non-specific referents and with total case-marking. Most of the atelic verbs have only partitive objects, and whether the noun phrase is definite does not influence object case (12).

(12)

a. *Mari* *vaata-s* *oma* *raamatu-t/#raamatu.*
M[NOM] watch-PST.3S OWN.GEN book-PTV/TOT
‹Mary was looking at her book.›

Example (12) also illustrates that there are no verbs that give rise to regular minimal pairs of opposite object case that would correspond to definiteness oppositions and confirm the definiteness hypothesis. Instead, verb classes based on case marking tend to be related to classes that resemble Vendler's aspectual classes: states and activities correlate with partitive objects and accomplishments and achievements with total objects.

While there are many issues concerning quantification and definiteness that need to be addressed before deciding whether the quantization restriction on total objects (Tamm 2004e) should be removed or not, the discussed data are still relevant to clarify the nature of aspectual composition. This section examined the specificity or definiteness restrictions and the possibility of analyzing sentences with total object as instantiating mass-count shifts. The latter are harder to pin down than the opposite, count-mass ones: the issue deserves further study. Despite many previously recorded intuitions and observations about the correlations between case and NP-properties, I conclude that the Estonian differential object-case alternation cannot be strictly related to any NP properties. The following section studies the exact relationship between case alternation and aspectual distinctions.

2.3 *Aspectual hypotheses*

2.3.1 *Introduction to the aspectual hypotheses*

This section presents the arguments for not assuming telicity and perfectivity as the exact categories that correspond to the Estonian case alternation. The section gives a brief overview of some verb classes and their aspectual interpretation with partitive objects. A general aspectual hypothesis that combines telicity and perfectivity may be worded as follows: case marking determines viewpoint aspect (following the distinction as in Smith 1991). Event verbs, resultative complements and particles can be hypothesized to determine the telic situation aspect in the two-level aspectual approach. On the one hand, the more specific viewpoint aspectual hypothesis about case could be formulated as follows: partitive case marking occurs in sentences that describe imperfective viewpoint aspect and total case marking occurs in

sentences that describe the perfective viewpoint aspect. On the other hand, a telicity hypothesis about case may have the following formulation: partitive case marking occurs in sentences that describe atelic events and total case marking occurs in sentences that describe telic events. Examples (1.1a) and (1.2a), (11a) and (12) confirm both hypotheses. The sentences with ‹watch tv› and ‹look at a book› are atelic, imperfective, and have partitive objects, whereas ‹find a book› is telic, perfective, and has a total object.

2.3.2 *The viewpoint aspectual hypothesis about case*

There are some problems with the viewpoint aspectual hypothesis about case. Namely, the sentences where partitive objects appear are not necessarily imperfective. The perfective readings of sentences with partitive objects are indicated by a standard test of temporal sequencing. I apply the tests that are used by approaches that keep telicity and perfectivity apart, e.g. Smith (1991). See Tamm (2007b: 490-495) for more data on these verb classes and a discussion of the aspectual tests. The test indicates if an event can be viewed from inside or outside, that is, if a sentence can be interpreted as imperfective or perfective. A perfective sentence co-occurs with the interpretation of temporal sequencing of the relevant events (event 1 happened AND THEN event 2 happened as in: ‹he jumped and ran away› = and then ‹ran away› as opposed to: ‹he sang and danced› is not obviously ‹he sang and then danced›); an imperfective sentence allows an overlap (event 1 and event 2 happened simultaneously). Inserting ‹and then› is felicitous between the two sentences. The sequence is anomalous if no overlap is possible, for instance, if the sentence that is being tested is imperfective and the test sentence contains a punctual verb.

I discuss three main cases of partitive-perfective correspondences: creation verbs with partitive plural objects and transitive achievements including psych-verbs and degree achievements. Firstly, partitive objects of verbs that have case alternation (such as ‹write›) do not appear necessarily in sentences that are imperfective. The effect is illustrated by example (13), which contains a semantically restricted, partitive plural (or a mass singular) ‹bare› NP (such as ‹books›).

(13)

Mari *kirjuta-s* *raamatu-id.*
M[NOM] write-PST.3S book-PTV.PL
((Ja siis) Ta läks ülikooli tööle).
((And then) She went to work at the university).
‹Mary wrote books. Mary did some book-writing. ((And then) She went to work at the university).›

This sentence has a perfective reading according to the test, since the interpretation of temporal order of the described event of book-writing is tempo-

rally sequenced before the working event. However, also an interpretation of overlap is possible with an atelic test sentence, correctly indicating two interpretations for the verb with the partitive object: perfective and imperfective.

Secondly, partitive objects of several event verbs that have no case alternation, such as *alustama, algama* ‹start, begin›, *solvama* ‹offend›, *võitma* ‹win›, *rikkuma* ‹ruin›, *ehmatama* ‹frighten› (14), *üllatama* ‹surprise›, are not imperfective either according to the test. Note that, as opposed to example (13), the object NP is not semantically restricted in (14).

(14)

Mari *üllata-s* *Jüri-t/ #Jüri.*
M[NOM] surprise-PST.3S J-PTV/TOT
((Ja siis) Ta läks tööle).
((And then) She left to go to work.)
‹(First), Mary surprised George (and then left to go to work).›

The sequencing effect occurs in a narration; that is, Mary first frightened George and then left for work. In addition, imperfectivity does not necessarily arise with degree achievement verbs with partitive objects either in (15), although the effect is weaker. The object may be semantically unrestricted in the case of degree achievements as well.

(15)

Firma *laienda-s* *tee-d.*
firm[NOM] widen-PST.3S road-PTV
((Ja siis) Algas töö).
((And then) The work started.)
‹The firm widened the road. ((And then) the work started.)›

Total objects are also possible with degree achievements (16) and their interpretation as perfective sentences is proved by the felicitous temporal sequencing effect of the event before the test event. The tests as in (13)-(16) show the difference between the interpretations.

(16)

Firma *laienda-s* *tee.*
firm[NOM] widen-PST.3S road.TOT
((Ja siis) Algas töö.)
((And then...) The work started.)
‹The firm widened the road, (and then) the work started.›

In sum, case alternation cannot be related to the perfective-imperfective aspect, since partitive objects of verbs with object case alternation do not appear necessarily in sentences that are imperfective.

2.3.3 *The telicity hypothesis about case*

A telicity hypothesis hypothesizes a link between the telicity of the event and the object case. Telic events are hypothesized to have total objects and atelic ones are hypothesized to have partitive objects. Kiparsky (2005) discusses many instances of Finnish, where partitive objects appear in telic VPs. Estonian is similar in this respect. The following examples illustrate partitive objects in Estonian telic VPs that represent events with definite endpoints. As in Finnish, telic sentences with measure phrases may have partitive objects, (17a), (17b).

(17)

a.	*Takso*	*sõiduta-s*	*Peetri-t*	*ühe*	*kilomeetri.*
	taxi[NOM]	drive-PST.3S	P-PTV	one.TOT	kilometer.TOT
	‹The taxi drove Peter one kilometer.›				
b.	*Mari*	*kirjuta-s*	*raamatu-t*	*terve*	*aasta.*
	M[NOM]	write-PST.3S	book-PTV	whole.TOT	year.TOT
	‹Mary was writing a/the book for a whole year.›				

The relationship between object case and telicity is dependent on the exact definition of telicity. These examples prove that there is no relation between object case and the notion of telicity that is understood with reference to endpoints. While the events that are described in these sentences have endpoints, the endpoints are not the inherent endpoints of the events of writing a book or taking Peter somewhere. Depraetere (1995) shows that, in terms of endpoints, there are two types of endpoint-related telicity: telicity proper and boundedness. Telicity is related to the endpoint that is determined by the verb and its arguments, while boundedness is also related to other linguistic means for providing a boundary to the event, such as measure adjuncts. Total case marking of objects and measure adjuncts in Estonian indicates the similarities between them. The distinction is relevant for understanding the type of ‹boundedness› that is useful in the discussion of object case in Estonian.

In addition, degree achievement verbs have either partitive or total objects and are marginally compatible with telicity tests in sentences with partitive objects. The miscellaneous group of achievements consisting of mainly psych-verbs that appear in sentences that are perfective according to tests turns out to be also telic in telicity tests (18a). However, they are telic more marginally than creation and consumption verbs. Also, the verbs that are perfective with partitive plural objects are marginally telic ((18b), (18c), (18d)). Each of these examples describes an event that is an event in its own right. However, comparing the telicity and perfectivity tests with the verbs in sentences (18a)-(18e), telicity tests give a more marginal result than the perfectivity tests. The intuition about marginality can be related to the possibility of adding ‹more› to each instance.

(18)

a. *Firma* *laienda-s* *kahe* *tunni-ga* *tee-d*
firm[NOM] widen-PST.3S two.GEN hour-COM road-PTV
ja *järgmise* *tunni-ga*
and next.GEN hour-COM
laienda-s *ta* *se-da* *veel=gi.*
widen-PST.3S s/he[NOM] it-PTV more=DISTR
‹The firm widened the road (in two hours), and in the following hour, they widened it even more.›

b. *Mari* *üllata-s* *Jüri-t* *ühe* *hetke-ga*
M[NOM] surprise-PST.3S J-PTV one.GEN moment-COM
ja *järgmise* *hetke-ga*
and next.GEN moment-COM
üllata-s *ta* *te-da* *veel=gi.*
surprise-PST.3S s/he[NOM] it-PTV more=DISTR
‹Mary surprised George in a moment and in the next moment, she surprised him even more.›

c. *Mari* *leid-is* *ühe* *hetke-ga* *raamatu-id*
M[NOM] find-PST.3S one.GEN moment-COM book-PTV.PL
ja *järgmise* *hetke-ga*
and next.GEN moment-COM
leid-is *ta* *ne-id* *veel=gi.*
find-PST.3S she[NOM] they-PTV.PL more=DISTR
‹Mary found some books in a moment and in the next moment, she found even more (of them).›

d. *Mari* *kirjuta-s* *aasta-ga* *raamatu-id*
M[NOM] write-PST.3S year-COM book-PTV.PL
ja *järgmise* *aasta-ga*
and next.GEN year-COM
kirjuta-s *ta* *ne-id* *veel=gi.*
write-PST.3S she[NOM] they-PTV.PL more=DISTR
‹Mary wrote some books in a year, and in the next year, she wrote even more of them.›

e. *Mari* *sõ-i* *lühikese* *aja-ga* *õun-u*
M[NOM] eat-PST.3S short.GEN time-COM apple-PTV.PL
ja *järgmise* *hetke-ga*
and next.GEN moment-COM
sõ-i *ta* *ne-id* *veel=gi.*
eat-PST.3S she[NOM] they-PTV.PL more=DISTR
‹Mary ate some apples in a short time, and in the next moment, she ate even more of them.›

The addition test indicates that these verbs can be described as weakly telic, since total objects are anomalous with the addition test (19).

(19)

Mari	*leid-is*	*ühe*	*hetke-ga*	*raamatu*
M[NOM]	find-PST.3S	one.GEN	moment-COM	book.TOT
ja	*järgmise*	*hetke-ga*		
and	next.GEN	moment-COM		
leid-is	*ta*	*ne-id*	*veel=gi.*	
find-PST.3S	she[NOM]	they-PTV.PL	more=DISTR	

‹Mary found a book in a moment and in the next moment she found even more of them.›

Tamm (2007a) analyzes the total case marking on objects and adjuncts in a uniform way; the source contains more details about the relationship between the two types of telicity and the patterns of case marking.

These observations can be related to the non-divisivity and optional cumulativity properties of these predicates. Further details and data on testing Estonian predicates for their divisive and cumulative properties can be found in Tamm (2003b). The events described in (18) are realized to some degree compared to a possible full degree.

2.3.4 *Summary*

While the consumption and creation verbs with incremental themes are the most salient examples, there are many other telic verb classes that display aspectual object case alternation in Estonian. Perfectivity and telicity, as identified by the standard tests, do not form the natural aspectual categories behind case marking. In particular, the examples with achievements, and, as Kiparsky (2005) has established for Finnish, sentences with measure adverbials, degree achievements, and bare partitive plural objects form the largest groups of exceptions. Case-marking based on the quantization of the object is by now replaced by case-marking that reflects aspect, and the functional semantic structure of the Estonian aspectual category in the verbal predicate domain has taken the shape borrowed from the nominal domain. However, it has not taken the shape of mass versus count that is functionally carried over to homogeneous versus quantized events or predicates. Observationally, the following division has developed:

a) homogeneous (non-quantized and non-divisive),
b) «portioned» corresponding to optionally cumulative and non-divisive) and
c) quantized proper (noncumulative and non-divisive).

Instead of an opposition between two poles of perfectivity-imperfectivity or telicity-atelicity, I propose the following about the Estonian aspectual system and aspectual encoding in the lexicon and case semantics (20).

(20)

a. The Estonian aspectual system conceptualizes aspect as a scale on which events can be realized in different degrees.

b. Verbs set the conditions on the type of the scale, and the existence of the scale in the verbal semantics.

c. Case-marking specifies the exact type of degree on the scale.

The salient consumption and creation verbs serve as a good example. Partitive marking on a singular or plural object, such as ‹apple-tart› or ‹book›, yields the interpretation of the predicate as homogeneous. The scale is open. In case of partitive plurals, the interpretation of the predicate is ‹portioned›; the event resembles a portion of apple-tart eating of undefined quantity. The eating event is over, but the quantity that is eaten is not specified. The scale is bounded at a lower end only. Total case-marking on apple-tart yields the interpretation of the predicate as quantized. The scale is closed at the upper end. On the other hand, verbs such as ‹look, watch› do not specify a scale where an event may progress in degrees; such verbs impose homogeneity; they specify a scale that is bounded at the lower end. The verbs such as ‹surprise› or ‹frighten› impose the interpretation of the predicate as ‹portioned› and specify a scale that is bounded at the lower end. The lexicalized ‹frightening› or ‹surprising› event has clear temporal boundaries as verified by the perfectivity test. However, as opposed to the lexicalized ‹eating› or ‹writing› event, it is not lexically conceptualized as having any possible final point related to the effect on the one frightened or surprised. In sum, verbs differ lexically in the properties of the scale they specify.

A problem with earlier formal approaches and the Estonian data was the lack of insight about how the verb, the NP and the case actually interact. Data that help to solve this problem have been addressed in the previous sections. Chapters 7-10 offer a way to formalize the interaction. The goal is to achieve an intuitive division of labor between the elements of grammar and to reflect this particular grammaticalization pattern in LFG. The functional features differ from the functional categories and features of other generative syntactic accounts in that they capture generalizations that are not established formally by means of tests that are structural, syntactic in their nature, but also functionally. The functional bias makes studies of grammaticalization interesting for the syntactic studies in LFG. Therefore, the following subsections propose an account that might be closer to typology than previous generative accounts on Finnic case and vice versa.

Despite the importance of object case in encoding much information about aspect in a sentence, this book rejects a purely aspectual (or event structural) explanation of Estonian object case phenomena. A purely aspectual (or event structural) explanation means explaining the object case oppositions via their correlation with the oppositions perfective-imperfective (or telic-atelic). The «aspect hypothesis» is merely used as a point of departure in this book, and not as an alternative to the definiteness

hypothesis. This book shows how clausal aspect is determined by verbs. Estonian has clear aspectual verb classes that correlate with (a) the typical object case that occurs with these verbs and (b) the possibilities of aspectual expression that are associated with these verbs (see Section 1.1). However, identical verbs can occur in aspectually diverging sentences. An extensive review of data in Chapters 2-3, and a review of previous Estonian work in Chapter 5 serve to provide an empirical backing for these claims. Approaches that aim at regulating the relationship between aspect and case by means of thematic roles are discussed in Chapter 6. However, since they have insufficient empirical coverage for the Estonian object case data, an alternative approach is advocated in Chapters 7-9. The alternative approach is based on scalar lexical aspectual features.

2.4 *Verbs and aspect*

The main reason for assuming a lexicon based approach to object case and not a purely aspectual one is the discrepancy in the one-to-one correspondences between aspectual oppositions and alternations of object case. Perfective sentences can have total or partitive objects; the same generalization holds about telicity and object case. The conditions of the aspect-based assignment of the alternative object cases clearly vary according to verb classification. The availability of perfective aspect with a partitive object in the sentence is verb-class dependent. Telicity and partitive objects co-occur in sentences with measure adverbials; the possibility of measure adverbials is in turn also dependent on semantic restrictions that can be related to verb classification. Therefore, this book has opted for different methodology for approaching the «aspectual hypothesis». Instead of proposing principles for verb classes and establishing their typical object case, and instead of departing from object cases and establishing their link with aspect, those elements or factors are studied in their interaction. The broader perspective has yielded a new picture of the verbal basis of the interaction. Differently from earlier accounts, the interaction is not formulated in terms of thematic or aspectual roles, but in terms of features. The following subsections present the reasons for considering the role accounts and the reasons for ultimately choosing a different approach.

An in-depth study of the relationships between Estonian verbal lexical semantics, morphosemantics, aspect, quantification, and morphosyntax is missing yet, and having it would help to see many fine facts about verbs at the interface between syntax and semantics in other languages as well. Since Estonian has several factors that influence clausal aspect, it is a suitable language to investigate the aspectual contribution of verbal predicates. Aspectual particles, verbs, and case marking of objects and adverbials seem to specify aspect in a mutually complementing and partly overlapping way.

Estonian transitive verbs and the issues of case marking of objects and adverbials, aspectual particles, and transitive verbs are modeled to reflect a synchronic snapshot of Estonian aspectual composition in the crossroads

of genuine Baltic-Finnic or Finno-Ugric characteristics, language change, and influence from contact languages. I wish to demonstrate how Estonian is a language in which the principles of the aspectual systems of several typologically divergent languages can be observed, and in which several semantic distinctions are reflected morphologically. Partitive on objects may correspond to what has been referred to as atelicity.

The principles of aspectual systems that characterize several other languages interact in a mutually complementing and partly overlapping manner in Estonian. Given the richness of available means of aspectual expression, specifying the exact contribution of each of them provides important evidence about the aspectual nature of verbs, particles, and case.

This book does not deal with case marking issues that are not directly related to lexical aspect. Therefore, I will not focus on other factors that influence object case marking, such as voice, negation, mood, and NP matters such as quantification and specificity.

Endnotes

[1] Vainikka and Maling (1996), Kiparsky (1998), de Hoop (1996) offer the best overview of the discussion whether the partitive is inherent (semantic) or structural (grammatical) case in Finnish.

[2] The book deals mainly with singular count nouns.

CHAPTER 3

ASPECT AND VERB CLASSES IN ASPECTUAL COMPOSITION

3.1 *Terminology of aspect*

3.1.1 *Aspect and lexical semantics*

Chapter 2 has introduced the basic terminology for discussing Estonian object cases, aspect, and verb classes. It has identified the main challenges posed by the data. This chapter continues discussing some previous views on the relationship between aspect and lexical semantics and relates them to the terminology that will be used in the chapters to come. This chapter will help the readers who wish to understand the data in terms of previously established aspectual literature; it can be skipped by the readers who are interested in the scalar verb classification.

3.1.2 *The Vendler-Dowty classification*

In addition to the terms «terminativity» and «telicity», aspectual phenomena are frequently characterized in terms of Vendler's or Dowty's classification (Vendler 1957, Dowty 1979). Vendler's classification distinguishes states (e.g., as described by the predicate *know the answer*), activities (e.g., *run*), accomplishments (e.g., *buy a book*) and achievements (e.g., *reach the top*). This book adopts the Vendlerian classification for a more thorough description of verb classes (Section 3.2). Several tendencies of object case behavior divide over natural classes of verbs according to this classification. Other case related facts suggest that one verb can be cross-listed in many aspectual classes, since a verb can express many event types.

3.1.3 *Telicity and atelicity*

This book contributes data that show the problems of encoding telicity in the lexicon. It also proposes an approach where those problems find a solution. Here a further specification of the term «(a)telicity» is in order. The term pair «(a)telicity» is used with varying content and formal rigor across theories for characterizing verbs, situations, events, and sentences that contain a set terminal point, an endpoint, a goal, a culmination, or a result (Krifka 1992, Comrie 1976: 44-45, Depraetere 1995, Dahl 1984).

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Here, the term «telic» is used for sentences that describe an event that has «a set terminal point» (Krifka 1992, see Section 6.2) and that is «non-divisive» and «non-cumulative» (Kiparsky 1998). These terms are further discussed in Chapters 6 and 7. In my approach, differently from most approaches, Estonian transitive verbs do not encode telicity in their lexical entries; they can encode at most the T property or the P property as in Dahl (1981), but not both together. Some transitive verbs can be regarded as telic by virtue of their ability to appear in sentences that describe telic events; this ability is encoded in the lexical entries. However, this book regards some expressions containing certain measure phrases also telic.

In the chapters preceding Chapter 8, those accounts are discussed where VPs or verbs describing states and activities are referred to as atelic, and VPs and verbs describing accomplishments and achievements are referred to as telic. If a verb and its arguments cannot describe an event with a set endpoint, a built-in endpoint, it is considered atelic. For instance, «know the answer» is considered an atelic predicate, while «eat a cake» is considered telic even if «eat» as a verb can refer to an activity.

«Culminational» is taken to be a wider term that will not be used (Moens and Steedman 1987). Two types of lexical encoding of culmination are dealt with in my approach: a culmination of a change, and a culmination with no change. The first type of culmination (culmination of a change) corresponds to the boundability of the first, scale «tier» in my approach; the second type (culmination, or rather a «point» without change) is a boundedness phenomenon of the second, «measure», extent, or span tier.

3.1.4 *The distinction perfective-imperfective: Smith, Dahl, Comrie*

From the discussion of Estonian sources below it will become evident that some sources use the terms telic-atelic and perfective-imperfective as near synonyms. Some use them roughly in terms of the concept «perfective» being in some way dependent on or including the concept «telic». Smith (1991) is an approach where these two terms are distinguished. Both terms have a central role in her account. Smith (1991) describes the distinction perfective-imperfective in terms of a separate aspectual viewpoint level next to the situation level that is described in terms of telicity.

My account defines perfectivity via the notion of the failure of divisive reference (3.1.8.). A related definition, which uses the notion of temporal intervals, is described by Kiefer in terms of events: «An event is perfective only if the activity, event or process pertains to the whole described temporal interval» (Kiefer 2000: 276). Here, perfectivity is understood as a property of clauses or sentences, and it can be encoded in lexical entries. I adopt the approaches that distinguish telicity and perfectivity and that view them as possible properties of verbs as well as sentences. The discussion of Estonian sources in Chapter 4 presents the work of Dahl and Comrie, who also use a distinction of telic and perfective in their terminology.

3.1.5 *Depraetere: temporal boundedness versus telicity*

Depraetere (1995) is a relevant source, since she defines two types of endpoints that are employed in this book. As no exception to the rule in aspectual literature, Kiparsky's understanding of boundedness does not correspond to that of Depraetere (1995). Depraetere presents a classification of situations, which is based on two concepts:

1. Actual *temporal boundaries* that determine the (non-)boundedness of a sentence.
2. *Terminal points or endpoints* of situations that determine the telicity of situations.

Depraetere writes, «(A)telicity has to do with whether or not a situation is described as having an inherent or intended endpoint; (un)boundedness relates to whether or not a situation is described as having reached a temporal boundary» (Depraetere 1995: 2-3). Depraetere's telicity has a linguistic expression in predicates such as *eat an orange*, or *run a marathon*. The temporal boundedness of situations may have linguistic expression in (temporal) adjuncts such as *from three to four,* or *for an hour.* This is important, since the Estonian total case, as will be demonstrated later, can be understood to be the grammatical marker of objects as well as adjuncts. An interesting example of a terminal point is the situation of «staying five minutes under cold water». This situation has a terminal point—the end of the lapse of five minutes. Depraetere's discussion of temporal measure phrases that resemble objects is interesting in terms of Estonian partitive-total case alternation of measure phrases. It is unclear where these elements belong to in the systems of Verkuyl or Kiparsky.

The distinction between two types of terminal points is illustrated by the examples of running the marathon and sunbathing: both have necessarily an endpoint, a moment when one stops running the marathon or sunbathing. However, this terminal point is not part of the meaning of «sunbathing», whereas it is part of the meaning in «marathon-running», which logically ends when the distance of the marathon is covered by running. Depraetere (1995: 2) argues that even though the actual world situations must have a beginning and an end, there is no linguistic reference to these temporal boundaries. The total case of adverbials, however, may be regarded as a type of linguistic reference to these boundaries.

In sum, Depraetere makes a twofold distinction in descriptions of situations, depending in the first instance on whether the situation has an inherent or intended terminal or endpoint; and in the second instance, whether the situation is described as having a temporal boundary or not. Concisely, situations in (1) are classified into having an inherent or intended endpoint (I) and not having an inherent or intended endpoint (II).

(1)

(I) + inherent/intended endpoint
(a) +endpoint reached; + temporal boundary
(b) -endpoint reached; - temporal boundary

(II) - inherent/intended endpoint
(a) + temporal boundary
(b) - temporal boundary
(Depraetere 1995: 2)

Since Estonian has an opposition of nominative and total case marking of durative adverbials that specify a span or measure of time with a clear temporal boundary, a more fine-grained approach is taken to endpoints and boundaries in my book. The total case marked durative adverbials are analysed as specifying an endpoint (as in Depraetere's example of standing five minutes under cold water), while the nominative ones, which fall out of the scope of my study, cannot be analysed as specifying an endpoint. Thus, I divide the temporal boundedness of Depraetere in two subtypes, endpoint and non-endpoint types of boundedness. However, as I will discuss in the chapters to come that there are also instances of lexical temporal boundedness, and many other issues that show that Depraetere's system of two dimensions should be refined.

Thus, Depraetere's temporal situation boundedness does not correspond to Kiparsky's boundedness of VPs (Section 3.2.3). That is, the linguistic description of Depraetere's bounded situation does not necessarily correspond to a VP that in Kiparsky would have the feature [+B] (or in Verkuyl's composition, [+T], Section 3.2.4). Instead, the linguistic description of Depraetere's telic situation corresponds to a VP with the feature [+T] in terms of Verkuyl and the feature [+B] in terms of Kiparsky.

3.1.6 *Summary on boundedness and telicity*

In sum, on the one hand, there is an aspectual opposition of «boundedness» that is typically determined by the verb and its arguments. This corresponds to Kiparsky's boundedness and it relates to object case. On the other hand, there is also an aspectual opposition of temporal boundedness that may be expressed by total case marking on durative adverbials—Depraetere's boundedness. Distinguishing these two is important, since they relate differently to case. In Finnish, the partitive object case is possible in sentences that describe situations that are bounded in the sense of Depraetere[1]. In Finnish, the partitive object case (if not NP-related) is impossible with Kiparsky's bounded VPs (Section 3.2.3).

3.1.7 *Some more terminological clarifications: telic, delimited, perfective*

Another approach discussed in this book, Tenny (1994), discusses the data and aspectual phenomena basically in terms of what is defined in Verkuyl at the level of inner aspect (Section 3.2.4). Tenny's description of delimitedness is presented in the following quotation (2).

(2)

> Delimitedness is the aspectual property that leads us into the nature of the syntax/lexical semantics interface. Delimitedness refers to the property of an event's having a distinct, definite and inherent endpoint in time. The sentence *John consumed an orange,* for example, describes a delimited event, since the consuming of the orange requires a certain amount of time, and has a definite endpoint; whereas the sentence *John slept* does not describe a delimited event, since sleeping is something that can go on for an indefinite period of time. Tenny (1994: 4).

Thus, basically, Tenny (1994) means by her term «delimitedness» an aspectual lexically encoded property that determines syntactic properties (having a direct internal argument). Delimitedness is a property of events, but it is also seen as a lexical property, since lexical items refer to events.

Tenny is a relevant source, since she has a clear standpoint about Finnish. She describes Finnish as a language where delimitedness is grammaticalized in object case. By extension, the grammaticalization of delimitedness would also be her claim about Estonian. However, if a semantic distinction is grammaticalized, it is problematic to regard it simultaneously as a lexical distinction. Therefore, this book does not regard delimitedness (boundedness) that emerges in sentences with total objects (or adjuncts) as a purely lexical property. This book adopts Tenny's method of studying delimitedness in terms of sentences, but here, a related term «boundedness» is applied.

Tenny's account of predicates that refer to events that are «delimited» is discussed in Chapter 4. It is an account of linking properties of a subset of [+ADDTO] verbs that yield Verkuyl's [+T] VPs (Section 3.2.3) and is closer to those verbs that have the feature [+B] in terms of Kiparsky (1998), discussed in Section 3.2.4.

3.1.8 *The terminology and the Estonian data*

The aspectual contribution of the lexical entries of verbs is represented in a novel way in the grammar model that will be proposed for Estonian transitive verbs. Strictly speaking, there are no transitive «telic» verbs in Estonian. In contrast to many previous accounts, where either the term «telic», «bounded», or «perfective» is used for referring to similar data, the present study applies all of them. However, these terms are considered to cover fundamentally different phenomena. «Perfective» is a broader term, including all instances of what is covered by the term «telic». Both are sentence semantic terms that describe predicates and can be associated with the term «non-homogeneous reference» in aspectual literature (cf. Kiparsky 1998). The term «perfective» is applied if the sentence has «non-divisive» reference. Crucially, a «perfective» predicate differs from a predicate that is «telic» in being «optionally cumulative» but similarly to the «telic» one, not «divisive». A predicate is not divisive if the arbitrary proper parts of the event described by the predicate are not in the

denotation of the predicate. A predicate is cumulative if the sum of the events that are in the denotation of the predicate is in the denotation of the predicate, as in the sentence ‹Mary frightened George›. This definition captures the perfective nature of Estonian sentences with «telic» verbs and partitive marked objects that are mass or plural NPs. The term «telic» is related to «strictly» non-homogeneous reference, which is understood as reference that is not cumulative or divisive. The term «perfective»—but not «telic»—can be used to describe transitive verbs. That is, features that correspond to semantic perfectivity can (but need not) be fixed in the lexical entries of transitive verbs. Instead of «telic» I use «scalar» for verbs that potentially evolve towards an endpoint and may appear in telic sentences. Features that correspond to telicity come to being via constrained unification, as explained in Chapter 8. As opposed to these two semantic terms, «perfective» and «telic», the term «bounded» pertains to syntactic features; that is, it represents the grammatically relevant semantic distinctions. According to the values of the attribute «bounded» at a syntactic representation level, the semantic interpretation of the sentence or clause is either perfective, telic, or neither. In sum, the third term, «bounded», is considered to refer to a syntactic feature, separated from its semantic relatives.

Thus, the structure of lexical entries reflects a new approach to the lexical encoding of telicity in my proposal. Without direct reference to the quantification of the arguments in the composition of telicity, the proposed representation flexibly captures the fact that some verbs that are suitable for describing telic events and are called «telic» do not always describe telic events. Contrary to earlier approaches, first, the book proposes two grammatical boundedness features that encode potential semantic telicity (or, for that matter, also perfectivity). One of the features (boundedness of type one, B1, the B features are explicated in Section 8.2) encodes change in time that can be referred to as «quality» change; this feature is called the «scale» feature. It reflects the ability of a verb to encode a difference in states of affairs that is relevant. The other feature (boundedness of type two, B2) encodes «quantity» change. This type of change in time (or some other dimension) is the ability to refer to temporal progression or any other measure that does not bring about any relevant change. This feature is called the «measure» feature. In most of the examples here the latter can be associated with temporal duration. Previous accounts have recorded some facts that point towards the linguistic relevance of these distinctions (e.g., Tenny 1994, Depraetere 1995, or Kiparsky 2001b), but they have never been able to pin it down due to the lack of coherent evidence of a system where their interaction is clearly visible. On the one hand, a language where the distinctions can be observed in terms of morphology has not been studied. On the other hand, the difference is conceptually difficult to capture. For instance, von Wright (2001: 301) discusses the logical and epistemological interdependence of time and change.

3.2 *Verb classes and aspectual composition*

3.2.1 *The question*

The next question is, if verb classes do not determine the aspect of the clause and the case properties of the core arguments, how the verb takes part in the aspectual composition.

3.2.2 *Some current discussions on aspect and verbs*

The works of Verkuyl stand out in their aspiration to model aspect as it emerges in the relations between semantics, lexicon, and syntax. Starting from his early work (Verkuyl 1972), several accounts of aspect began to view a sentence's aspectual properties as being determined by more components in a sentence than the verb alone: for instance, direct objects and their corresponding NP's quantification. Those approaches and their terminology deserve mention here due to their ambition to address aspectual composition in a comprehensive way. This ambition is necessary in order to account for languages such as Estonian, where not only verbs, but also objects clearly enter the aspectual composition.

Despite the relevance of Verkuyl's approach for providing an integrated account of aspectual phenomena, this book has not opted for his framework. A closer look reveals some challenging contrasts between the Germanic and Finnic languages. Verkuyl's two main principles of modeling aspect, the so-called Plus Principle and the device of describing aspect at two syntactic levels are not directly helpful for modeling Estonian phenomena. First, the aspect of a verb-argument complex cannot be composed on the basis of the verb's (temporal) feature and the (atemporal) quantificational properties of the argument as envisaged in Verkuyl (1993). Instead, it is the partitive and total case marking that correlates with the aspectual oppositions. However, a possible alternative to analyze the data and retain the Plus Principle, resorting to lexically determined aspect via thematic roles that relate to case (thematic glue, cf. Verkuyl 2002: 102), cause other problems. Case linked to verbal roles is problematic if case is not determined by the verb alone. Primarily, the aspectual case phenomena related to the aspectual bounding particle, case marking of adverbials or in negation, and verbally encoded perfective aspect complicate accounting for aspectual phenomena. Those phenomena should clearly divide between two syntactic levels as envisaged by Verkuyl, but they do not. Some more detailed discussion is presented in the following subsections in order to motivate the choice for a different approach to the case related data in this book.

3.2.3 *Two levels of discussing aspect*

Frequently, two levels are found useful in discussing aspectual phenomena across otherwise diverging approaches to aspectual phenomena (as in

Depraetere 1995, Smith 1991, Verkuyl 1989, 1993). It is impossible to sketch all the reasons for these distinctions that are assumed in diverging aspectual approaches. Basically, the problem is that there are, on the one hand, phenomena that are related to verbs or basic events or situations and, on the other hand, there are phenomena that involve aspect that is «added» to what is considered basic, be it morphological derivation, viewpoint on events, phenomena such as temporal boundedness, operators, etc. One of the main reasons for splitting the study of aspect in two levels is the variable behavior of verbs in terms of describing situations or events, or the possibility of describing one type of situation by means of various linguistic devices. Thus, roughly, the situations or events themselves are assumed to be describable at one linguistic level or by one set of linguistic means, for instance, simple verbs. The different views and presentations on them or factors that modify the basic properties are seen in terms of another level of description. Defining these levels and drawing a line between them diverges considerably across languages and approaches despite occasional (misleadingly) similar terminology.

Inner aspect. Lexical semantics targets the level of aspect that is frequently referred to as lexical aspect or inner aspect. Authors following Verkuyl relate the two levels of aspect in terms of their correspondence to syntactic levels; several other authors make a distinction between the levels of lexical and grammatical. The aspectual phenomena that are understood to be describable at the level of the verb and its arguments are referred to as the «inner aspect», «VP aspectual level», «VP telicity», or «VP terminativity». This level describes phenomena that are referred to as event structure, a situation, or Aktionsart. Aktionsart as a term, however, will be reserved for more specific manners of actions in this book, as in discussions within the Slavic or Estonian traditions, or for Hungarian aspect, as in Kiefer (2000). Together with subjects, this (tenseless) aspectual level of verbs with its arguments, as understood in Verkuyl (1993), is most frequently referred to as «inner aspect» in frameworks following Verkuyl.

Estonian verbs have a different aspectual contribution to «inner aspect» than the Germanic verbs as discussed in Verkuyl's works. Verbs are classified in two groups in Verkuyl's approach, according to whether they can appear in a terminative (telic) VP or not. Verbs are distinguished according to whether they have the lexical feature [+ADDTO] (e.g., as the verb *eat*) or the [-ADDTO] feature (e.g., *listen to*). In the composition of Verkuyl's inner aspect (terminativity), aspectual properties are derived compositionally from the temporal information contained in the verb and from the atemporal quantificational properties of its arguments (described in terms of the feature [±SQA]). Therefore, the inner aspectual terminativity value, represented in Verkuyl's system by the feature [±T], is not determined at the lexical items' or verbs' level, but at the VP level according to the so-called compositional Plus Principle. According to the Plus Principle, there are two outcomes. The positive compositional VP-feature

[+T] emerges if a verb with the feature [+ADDTO] combines with an argument with the feature [+SQA], a quantized NP (e.g., *eat one apple*). If at least one of these features is negative, that is, when the verb is not [+ADDTO] and/or one of the arguments is not quantized, the compositional [±T] feature is also negative, that is, the VP is durative, [-T] (e.g., *listen to the concert, to music, eat apples*).

In sum, oppositions of terminativity versus durativity are understood at the level of the VP and they are derived compositionally in Verkuyl's approach. Several accounts following Verkuyl prefer the term «telic» to Verkuyl's «terminative» and «atelic» to «durative».

Outer aspect. In Verkuyl, «outer aspect» is the higher level of factors that influence the temporal characteristics of the sentence, differently from the verb and its complements. «Outer aspect» emerges beyond the contribution of the verb and its complements in a tenseless sentence. For instance, adverbial modifiers or operators, such as the progressive or several adverbials such as *for an hour*, determine the final aspectual character of the sentence. This level is frequently referred to as «outer aspect». The following list presents the points where Estonian will be shown to be problematic in terms of VP aspectual composition and in determining the location of case phenomena at the two levels.

1. The data with [+ADDTO] verbs (e.g., *eat*) and with partitive marked quantized NPs. Contrary to expectations, [+ADDTO] and [+SQA] yield durative and not terminative VPs; see the data in Chapter 4.
2. Contrary to expectations, non-quantized (partitive marked) NPs with a [+ADDTO] verb (e.g., *eat*) also fail to yield a durative VP. The details of the discussion of the phenomenon in Estonian are presented in Chapter 4.
3. Only the [-ADDTO] verbs (e.g. *see, hear*) clearly display the behavior predicted by Verkuyl's system, since the quantification of the argument NP does not influence the inner aspectual compositional feature.
4. Trying to base an account on case phenomena that determine VP aspect instead of the quantification of the argument NPs is not easy either. An alternative account would link the case phenomena to thematic roles (cf. Verkuyl 2002: 102). However, it is still a question whether thematic roles are a suitable device to capture aspectual case. Thematic roles would be justified if the case was unambiguously a matter of verbal aspect, but this is a problematic point that is difficult to verify.
5. The fact that both telic and atelic verbs appear with partitive case marking may show that partitive case marking characterizes phenomena that belong to inner or outer aspect. The partitive object case may reflect simultaneously distinctions of atelicity (VP, inner aspectual compositional durativity) and the progressive or negation of telic verbs (the result of an outer aspectual operator), respectively.

6. The problem of assuming verbal thematic roles is also challenged by the fact that the total case may also characterize phenomena that belong to outer aspect. If VP terminativity were related to total object case via verbal thematic roles, then it would be difficult to account for the data on total objects and the aspectual particle *ära*, as in (1.11a) that are presented in Tamm (2004c). This particle can combine with [-ADDTO] verbs, which are characterized by partitive objects. Lexically atelic verbs, which, if associated with partitive object case marking via thematic role properties, could not appear with the total objects in the presence of the aspectual particle. However, they do. Then, if it is not the inner aspect, which pertains to verbs and their arguments and that determines the case, it must be a different aspectual level that determines case.
7. The case of the temporal adverbials such as *for an hour,* their status as elements of the outer aspectual level is puzzling since they receive semantic case like objects (as in (1.17)). Following Verkuyl's approach, the durative temporal adverbials are semantically operators; this makes them belong to outer aspect. In Estonian, they display morphologically common features with arguments. More specifically, total case marking that characterizes objects of telic verbs appears on the heads of the NPs of durative adverbials. If case marking were dependent on thematic roles and inner aspect only, appearing on NPs that are arguments, the durative adverbials should be regarded as atypical arguments. This is problematic syntactically and also semantically, given their status as operators that belong to outer aspect.
8. Given the thematic role hypothesis and the distinction of two levels, partitive objects that appear with a subset of lexically perfective verbs are problematic (see Subsection 6.11 for such verbs, «surprise achievements»). They describe events that are either temporally constrained to short duration or to a minimal change by their lexical specification. The status of such verbs is unclear in approaches that follow Verkuyl. Ferenc Kiefer (p.c.) points out that momentaneous verbs are problematic in Verkuyl's account. In Verkuyl's Plus Principle, NPs only fail to contribute anything to the VP aspect if the verb is atelic, [-ADDTO]. The problem here is not only the failure of a quantized NP to enter composition with verbs of which it is not possible to demonstrate that they are atelic, [-ADDTO]. The problem is the level of representing temporal aspectual matters that cannot be unambiguously classified in terms of the verbal lexical feature [ADDTO] at a par with other instances of verbs. Verkuyl admits the unclear status of Moens and Steedman (1987)'s Points and Culminations in his system. In his words, «I am not sure whether or not my [-ADDTO] would apply to Point and Culmination» (Verkuyl 1993: 63). The alternative of defining argument-related temporal relations as VP aspect and non-argument related temporal relations as a matter that belongs to the level above the VP also encounters problems.

> While morphologically distinguishable perfective verbal prefixation can perhaps be studied in terms of inner and outer aspect, it seems contradictory to regard a simple verb's meaning to encompass both lexical (VP) and non-lexical (above the VP) levels of representation.

The Estonian verbal, case and particle related phenomena challenge the idea of a clear partition of aspect at the two syntactic levels as defined in Verkuyl. In order to give an uncomplicated account of those and related problems, this book does not look at the interaction between syntax, semantics and lexicon in terms of Verkuyl's framework. I propose an LFG based approach to the data, where a simple but more refined classification of verbs is assumed: instead of one feature, I work with two. The quantification of arguments is of secondary importance, my approach relies more on the basis of notions such as perfectivity, (endpoint) telicity, scalarity, and boundedness.

3.2.4 *Boundedness and compositionality: Kiparsky*

Another reason for why Verkuyl's idea of the compositionality of VP-aspect has to be mentioned is its impact on recent studies on boundedness in Finnish aspect. For instance, the account of Kiparsky (1998) of the Finnish partitive case and aspect (more specifically, ‹(un)boundedness› [±B]) discusses the compositional nature of the Finnish VP-aspect.

Why does Kiparsky prefer this term, «boundedness»? The term «boundedness» is frequently used in sources dealing with Finnic to characterize the semantics of verbs, nouns, and sentences. Also, the term is used for descriptions of various situations, activities etc. It is considered an important component of perfectivity. Accusative and total cases in turn signal perfectivity; see more in Chapter 4 about the application of these terms in some Finnish and Estonian sources. Finnic sentences, activities, verbs and objects are traditionally characterized by identical terminology: plus or minus bounded. From this perspective, a compositional account such as Verkuyl's looks promising. Indeed, Kiparsky writes on the Finnish composition of boundedness, «[a] VP predicate is unbounded iff it has either an unbounded head or an unbounded argument» (Kiparsky 1998: 285). This is quite like Verkuyl's proposal. Kiparsky writes about VP semantics and defines boundedness via a composite semantic definition containing «diversity», «cumulativity» and «distributivity». He studies boundedness only at the verb-argument level. The general pattern of boundedness in Finnish (following Kiparsky 1998), and as my addition, the relation between boundedness and object case marking in Estonian, is revised in Table 3.1.

Table 3.1 Boundedness and its relation to object case marking in Estonian.

	[+B] object *an apple, a book*	[-B] object *water, books*
[+B] verb (telic) *buy*	total õuna, raamatu	partitive vett, raamatuid
[-B] verb (atelic) *underestimate, see*	partitive õuna, raamatut	partitive vett, raamatuid

The total case and VP-boundedness emerges only in a combination of bounded verbs and objects. If either the object's feature or the verb's feature is negative, the VP boundedness is also negative and the case of the object is partitive. Kiparsky's approach resembles Verkuyl's account in assuming a VP-aspectual level, but it is important to point out that these two approaches to composition are further considerably different. A comparison with Kiparsky's and Verkuyl's systems shows that the contribution of the verbal semantics in its interaction with NP-properties is different in the model designed for Finnish. The feature [±B] (if applied to verbs) is not equal to the [±ADDTO] feature as envisaged in Verkuyl on the basis of Germanic languages. As opposed to the [+ADDTO] feature, which characterizes basically dynamic verbs, [+B] characterizes a smaller set of verbs, that is, accomplishment and achievement verbs, excluding the [+ADDTO] process and activity verbs.

Introducing the term «boundedness» here is relevant in this book, since some types of correspondences between verbal aspect and object case can be best explained assuming a difference between the values given to the attribute of boundedness[2]. These values will be further discussed in Chapter 8. Despite the similarities between Finnish and Estonian, lexical aspectually, there are three main differences between Finnish and Estonian that motivate a different approach in Chapter 8.

1. The Estonian verb classes diverge from the Finnish ones in terms of object case.
2. Estonian has a large group of lexicalized particle verbs as opposed to Finnish.
3. Estonian has a particle that is a grammatical aspectual marker.

Apart from the differences, in Finnish and in Estonian, the object NPs' morphological case and not verbal morphology is clearly related to aspectual phenomena, and aspect is mainly described via the notion of «boundedness» that reflects the interaction of many grammatical modules. This is the strongest point of Kiparsky's approach to Finnish case, retained in this book. The claim of this book is that the total case marking of objects and adjuncts is related to grammatical boundedness. Chapter 8 models boundedness and aspect at two dimensions or tiers. In some sense, one of these dimensions of aspectual boundedness bears resemblance to what is meant under this term by Kiparsky, the other dimension bears resemblance to what the term «boundedness» covers in Depraetere (1995).

Endnotes

[1] E.g., see Kiparsky (1998), (2001a).

[2] This distinction bears some resemblance to the distinction discussed by de Groot (1984) about the applicability of the terms «complete» and «completed» in analyzing the aspectual nature of Hungarian verbs.

CHAPTER 4

PREVIOUS EVIDENCE OF AN ASPECTUAL ORGANIZATION OF LEXICAL SEMANTICS

4.1 *Introduction*

Chapter 4 of the book presents the earlier approaches to Estonian aspect and lexicon that give evidence of an aspectual organization of lexical semantic verb classes. The purpose of discussing those sources is the following.

1. To extract as much data as possible from earlier decriptions.
2. To show the multiple approaches to the relation between aspect and verbal lexical entries. The opposite views stem from the lack of consensus on what are considered the characteristics of an item of the lexicon, on the one hand, and the lack of consensus on what is considered aspect, on the other hand. Therefore, linking these two notions has been difficult.
3. To introduce a wider coverage of data on the topic, and to introduce the sources for the non-Estonian reader.
4. To identify clearly the covered, but also the missing and less defined parts of Estonian works on lexical aspect and items of the lexicon in order to proceed.

The relevant insights gained from earlier works are presented in the following points.

1. Object case partly depends on verbal lexical semantics.
2. Aspect is not considered to have developed into a grammatical category.
3. These conclusions, however, are puzzling since they are not reflected in most writings that discuss these phenomena, puzzling for the following reasons:
   a. The object case and particle phenomena are described mainly in terms of aspect (perfectivity).
   b. Verbs are described as aspect verbs, or in terms of perfective/imperfective, telic/atelic etc.
   c. Particles or sentences are described as perfective.

This Chapter is organized as follows. Section 4.2 presents the views on aspect and boundedness. Section 4.3 reviews the principles for earlier verb classifications and verb classes. Section 4.4 is a conclusion.

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4.2 *Approaches to aspect and boundedness in Estonian sources*

Many previous sources agree that the category of aspect is missing in Estonian. However, object case alternation phenomena are frequently described in terms of aspectual terminology. The exact aspectual phenomenon that lies behind the alternative object cases is described differently across sources. This Section introduces these earlier points of view on aspect in Estonian. The most frequently used terminology for discussing the non-NP related case assignment factors of the Estonian object case includes boundedness, perfectivity, resultativity, and terminativity and their opposites, non-boundedness, imperfectivity, irresultativity, durativity or coursiveness. This terminology and its relation to the phenomena as discussed in earlier Estonian sources is the subject matter of the following subsections. The aim of this subsection is also to introduce the facts about aspect, Aktionsart, object case alternation, verbal particles, and lexical semantic verb classes as they are presented in earlier sources and as they are necessary for further discussion.

4.2.1 *Discussions around the category of aspect in Estonian*

Rätsep (1957), contrasting Estonian with Russian, establishes the lack of the morphological category of aspect in Estonian. The following are Rätsep's words (1), provided with my translation.

(1)

> The morphological category of aspect is missing in the Estonian language. The means used for expressing the completion or incompletion cannot be united into one grammatical category with one grammatical meaning. Those meanings are either just subsidiary shades of meanings of other meanings, or they [the meanings of (in)completion] are conveyed by means of purely lexical means (Rätsep 1957: 78).

Rätsep's article concentrates on pointing out that the ways of expressing aspect in Estonian are not comparable with the grammatical level of the Russian morphological verbal aspect. His main argument is that, unlike Russian, Estonian verbs do not have regular aspectual morphology. There are many ways to express aspect in Estonian, but they do not qualify as the grammatical category of aspect. He gives a parallel example from another grammatical area, the grammatical category of gender (2).

(2)

> The lack of the grammatical gender category does not prevent us from distinguishing the biological male/masculine and female/feminine gender by lexical and derivative means, cf. *singer* (male or neutral) (sing+*ja*) - *singer* (feminine, female) (sing+*janna*) …
>
> The potentiality, possibility of action for which the contemporary standard [Estonian] language has no morphological form, can be also expressed by various lexical means (Rätsep 1957: 78).

Rätsep points out that the existence of three past tenses (the simple past, the present perfect and past perfect) is a compensating grammatical mechanism that bears relation to the fact that the morphological category of aspect has not developed in Estonian. In this writing, Rätsep analyses the perfectivity or «completedness» («*lõpetatus*») oppositions as a subsidiary meaning. Rätsep argues in (3) that the object cases primarily reflect the opposition of totality and partiality[1].

(3)

> The subsidiary meanings of completedness/finished nature and the not completed/finished nature contained also in our object category. Here, these meanings are a subsidiary phenomenon to the main partial or total property of the object (Rätsep 1957: 76).

The object case oppositions in (4)-(5) illustrate what Rätsep had in mind discussing the basic and subsidiary phenomena. The parallels between the object case, and the completion or finishing of the action are directly derivable from the properties of the object referent in finishing the work in (4a) and (4b) and in sewing the dress in (5a) and (5b).

(4)

a.	*Kirjanik*	*lõpeta-s*	*oma*	*teos-t.*
	writer[NOM]	finish-PST.3S	own	work-PTV
	‹A writer was finishing his work.›			
b.	*Kirjanik*	*lõpeta-s*	*oma*	*teose.*
	writer[NOM]	finish-PST.3S	own	work.TOT
	‹A writer finished his work.›			

When the object referent does not exist yet, when only parts of it exist, the action is not finished either and the partitive is used (4a), (5a). When the object referent exists as the result of the action, the action is finished and the total object case is used (4b), (5b).

(5)

a.	*Ema*	*õmble-b*	*ta-lle*	*kleiti.*
	mother[NOM]	sew-3S	s/he-ALL	dress.PTV
	‹Mother is sewing a dress for her.›			
b.	*Ema*	*õmble-b*	*ta-lle*	*kleidi.*
	mother[NOM]	sew-3S	s/he-ALL	dress.TOT
	‹Mother will sew a dress for her.›			

In these examples, the aspectual meaning is considered a subsidiary meaning, a meaning that is derived from the total and partial properties of the object referent as Rätsep (1957) sees it.

Kont (1963: 187), however, notes that the object case is related to the affectedness of the object and the progress of the event. He writes that on the basis of the forms of the nominal object in the Baltic-Finnic languages, it is possible to distinguish whether part of the object is subsumed to the action of the verb and the action is temporally unfinished/uncompleted and, from the viewpoint of a result, unaccomplished, unachieved; or the whole object is subsumed in the action and the action is temporally completed or completable and from the viewpoint of a result achieved or achievable.

Rätsep discusses «prefixal adverbs» (*derivatsioonilisi tähendusi kandvad prefiksilised adverbid*, ‹prefixal adverbs carrying derivational meanings›) that «emphasize the perfectivity of the activity» and their contribution to aspect. Discussing sentences (6a) and (6b) with and without the prefixal adverb, he writes: «The prefixal adverbs do not refer to a distinct completed/finished nature, but rather emphasize the completed/finished nature of the action as already expressed by the total object» (Rätsep 1957: 76). The prefixal adverbs are seen to emphasize the perfectivity and the completed action that is expressed already by the total object as in (6a). The sentence in (6a) is seen to have the same meaning without the adverb, as in (6b).

(6)

a. *Ma* *teg-i-n* *selle* *töö* *ära.*
I[NOM] do-PST-1S this.TOT work.TOT ära/PRT
‹I did the work.›

b. *Ma* *teg-i-n* *selle* *töö.*
I[NOM] do-PST-1S this.TOT work.TOT
‹I did the work.›

Perfectivity is the secondary meaning component next to the meaning component of «direction of the activity» (7a) or the «manner of activity» (7b) as described by Rätsep (1957: 76-77).

(7)

a. *Laps* *viska-s* *raamatu* *maha.*
child[NOM] throw-PST.3S book.TOT ground.ILL/PRT
‹The child threw a book on the ground.›

b. *Uks* *teh-ti* *lahti.*
door[NOM] make-IPS.PST open
‹The door was opened.›

Finally, Rätsep discusses two ways and two types of verbs that lexically express aspect. There is a group of verbs that are seen to lexically contain temporal boundaries for the beginning or end of the action (*lõppema* ‹end›, *surema* ‹die›, *närtsima* ‹wither›) or no temporal boundaries (*sööma* ‹eat›, *jooma*

‹drink›, *naerma* ‹laugh›, *laulma* ‹sing›). Other verbs induce temporal initial or final boundaries in verbal complexes (e.g., *lõi rohetama* ‹began to be green›).

4.2.2 *Lexical aspect, terminative, durative: Pihlak (1982, 1985a, 1985b)*

Pihlak studies aspect as a phenomenon of lexical constructions and several other aspectual issues. In contrast to Rätsep (1957), Pihlak (1982, 1985a) argues that there is proof of the existence of the category of aspect in Estonian. However, the range of phenomena he concentrates on is different from that of Rätsep. It is mainly the verbs and verb constructions (complex and periphrastic verbs) that Pihlak compares with Russian verbs and not the productive verbal aspectual morphology that Rätsep was searching for and missing in Estonian. Studying the Estonian complex and periphrastic verbs, that is, complexes consisting of a verb or an adverb-like element and a light verb, Pihlak (1985a) claims that Estonian verbs reveal aspectually similarities with Russian. Pihlak (1982), studying the relation between the Russian aspect and Estonian tense, turns the reader's attention to several grammatical aspectual phenomena. For instance, the periphrastic progressive *mas*-infinitive construction expresses aspectual imminence, the meaning of imminent future in the present or past, «*vahetu tulevik olevikus/minevikus*» immediate future in the present/past (Pihlak 1982: 99), as in (8).

(8)

Pomm	*on/ol-i*	*lõhke-mas.*
bomb[NOM]	be.3S/be-PST.3S	explode-M_INE

‹The bomb is/was exploding.›

‹The bomb is/was going to explode.› ‹The bomb is/was almost/on the verge/point of exploding.›

Pihlak considers examples of this kind as a proof of the existence of the category of aspect in Estonian. Pihlak (1985b) describes the Estonian aspectual data in terms of terminativity and durativity. Kont (1963) discusses the phenomena in terms of terminativity and coursivity or in terms of resultativity, and at times, perfectivity (Kont 1963: 53). Metslang (1994) and Tamm (2003a, 2011a) discuss more issues of the Estonian progressive.

4.2.3 *Aspect, Aktionsart, boundedness: the Grammar of Estonian Standard Language* (Erelt et al. 1993)

Interpreting previous sources in order to build up a model of the Estonian lexical aspectual system is not always straightforward. If the goal is to find out the role of the lexicon—not all models have a special role for the lexicon—then the goal is to contrast the aspectual part contributed by the lexicon as opposed to the part that is better attributed to sentence semantics, pragmatics, the quantification of the arguments, or the syntax of case. This chapter will review previous sources from the viewpoint of

what could be considered strictly lexical. Therefore, the review will give details about the relevant sources but focus on the material assuming that the lexicon is a relevant level of linguistic description. Assuming a lexicon is in any case useful in order to compile dictionaries or computationally manageable language resources that interface with prosody, syntax, etc.

As far as aspect and Aktionsart are concerned, *the Grammar of Estonian Standard Language* (Erelt *et al.* 1993, henceforth *EKG II*) discusses aspect, Aktionsart and object case. Aspect and its relation to object case is mainly discussed in terms of boundedness and this topic will be presented after an introduction of aspectual terms as seen in *EKG II*.

Aspectual phenomena are divided between aspect and Aktionsart in *EKG II*. *EKG II* (1993: 22-24) defines aspect as a relationship between the development of the situation and the viewpoint expressed in the sentence. Aktionsart (*tegevuslaad*) implies the typical development and temporal structuring of the activity. *EKG II* (1993: 22-23) defines the *dynamic/static quality* and *durative/momentary* as basic categories for Aktionsarts. As more restricted categories, the punctual, iterative, continuative, semelfactive, and progressive Aktionsarts are described. Some Aktionsarts are associated with certain morphemes, for instance, the semelfactive Aktionsart is realized by the morphemes *-ata-, -ahta-, -a-*, the iterative and frequentative ones by the morphemes *-le-, -skle-, -dle-, -tle-, -ke/gi-, -u-, -i-*; other morphemes are associated with the continuous Aktionsart, for instance, *-ne-, -tse-, -uta-, -nda-, -rda-, -lda-, -ise* (cf. also Sulkala 1996 on the relation between verbal morphology and Aktionsart). Kasik (2004: 54-63) discusses several Aktionsart issues related to valency-changing operations in deverbal derivation.

As far as boundedness and object case are concerned, *EKG II's* section on objects and object cases includes a considerable amount of discussion on aspect. Discussing this source, I present more details than those strictly concerning aspect as defined in *EKG II* (*i.e.*, the relationship between the development of the situation and the viewpoint) as being about the two opposite types of object case if these details are relevant for understanding the relation between aspect and object case. I add some corresponding ungrammatical examples and the possible object case variation data for *EKG II*'s claims for the sake of clarity. In *EKG II*, the aspectual properties of the verb are considered the primary but not the only determiner of the object case (*EKG II* 1993: 49). The source describes the object case conditions and aspectual interpretations of sentences. The aspectual properties of verbs are defined in terms of *boundability*. Boundability is also a property of activities or situations that the verbs stand for, and its value is determined on the basis of the following factors:

1. whether the activity expressed by the verb has an inherent boundary (a result, a temporary boundary), so that the action or activity can, although need not, terminate with reaching that boundary, or
2. the action or activity does not have any such (possible) boundary.

The first type of action or activity is «boundary-enabling» or «boundable», the other type of action lacks the possibility of a boundary, being called a «non-boundable» action. The object case alternation occurs in affirmative sentences with verbs that denote an action that enables the realization of a boundary, as in *EKG II* 1993, 51). Thus the description connects verbs with situations they describe, and the situations are considered to be best describable in terms of their boundability. Negative sentences occur usually with «partial objects».

The form of the object is further determined by the following factors (*EKG II* 1993: 51).

1. the «boundedness of the action» (resultativity or perfectivity) or the «unboundedness of the action» (the action is vague about its result or finishedness/endedness/completedness)
2. the «quantitative boundedness or unboundedness of the object matter» (*objektiese*)
3. the presence of certain devices of attaching the boundary to the activity, «perfective affixal adverbs», or «lative stative adverbials» (*latiivne seisundimäärus*), «final or purpose adverbials» (*otstarbemäärus*), or «lative locative adverbials».

Thus, a sentence expressing a non-boundable action can have only the «PO» (partial object, object in the form of an adjective or a noun in partitive case). See the contrast in examples (9) and (10).

(9)

Ma *alahinda-si-n* *Peetri-t.*
I[NOM] underestimate-PST-1S P-PTV
‹I underestimated Peter.›
(*EKG II* 1993: 49)

Thus, the total case, the morphological genitive, is ungrammatical with verbs of non-boundable action (10).

(10)

#Ma *alahinda-si-n* *Peetri.*
I[NOM] underestimate-PST-1S P.TOT
Intended to mean: ‹I underestimated Peter.›

The fact that the typically partitive verbs can be used with the total object is recorded in Raun and Saareste (1965). They discuss a use of the typically partitive verb *armastama* ‹love› with the total object («genitive complement») such as in the sentence *ma armastan selle inimese* ‹I love this. TOT person.TOT› as follows: «does not mean anything or may be vaguely associated with killing somebody by love» (Raun and Saares-te 1965: 33). These authors note that necessarily the predicate is reanalyzed as telic in order to be able to give an interpretation to the sentence with the total object.

A sentence expressing a boundable action can have both, the TO (total object, object in the form of a noun, or an adjective in the genitive or nominative case) and the PO (partitive object, object in the form of a noun, or an adjective in the partitive case). See examples (11a) and (11b).

(11)

a. *Ma* *ehita-n* *suvila-t.*
I[NOM] build-1S summer.cottage-PTV
‹I am building a summer cottage.›

b. *Ma* *ehita-n* *suvila.*
I[NOM] build-1S summer.cottage.TOT
‹I'll build a summer cottage.›
(*EKG II* 1993: 49)

The boundary can be «attached to an activity» (*EKG II* 1993: 51), or an activity can be bounded by «perfective affixal adverbs», such as *ära* ‹off, up, away› (12a), *läbi* ‹through›, *minema* ‹away›, *maha* ‹down› (12b), etc. Partial objects are problematic with these elements that are referred to as «boundaries» presented in (12c) from *EKG II*.

(12)

a. *Mari* *vii-s* *raamatu* *ära.*
M[NOM] bring-PST.3S book.TOT away/PRT
‹Mary brought the book away.›
(*EKG II* 1993: 51)

b. *Tuul* *ol-i* *vana* *puu*
wind[NOM] be-PST.3S old.TOT tree.TOT
maha *murd-nud.*
down/PRT break-ACT.PST.PTCP
‹Wind had blown down the old tree.›
(*EKG II* 1993: 51)

c. *%Tuul* *ol-i* *vana* *puu-d*
wind[NOM] be-PST3S old.PTV tree-PTV
maha *murd-nud.*
down/PRT break-ACT.PST.PTCP
‹Wind had been blowing down the old tree.›

The statement from *EKG II*—that partial objects are problematic with these elements that are referred to as boundaries—could be revised. I classify the use of the partitive object with the boundaries infelicitous but not

ungrammatical for many speakers. Also, other sources have recorded the co-occurrence of particles and partitive objects. The fact that the use of the partitive objects with the particle is not a recent trend in Estonian is confirmed by the recording of sentences with the particle *ära* (see Chapter 5 for details on this particle) in an early generative Estonian grammar by Harms. Harms (1962: 131) discusses under «Aspectual Partitive Object» examples with the particle *ära* and the partitive object such as in (13).

(13)

%Ma	*võta-n*	*raamatu-t*	*ära.*
I[NOM]	take-1S	book-PTV	away/PRT

‹I am taking the book away.›
(Harms 1962: 131)

This book calls what is referred to in that source as «perfective affixal adverbs» as an «aspectual particle» (generally, and if the relation to the verb is loose) or an aspectual verbal particle (if the particle is the lexical part of the verb). In the aspectual and verb semantic context of the book, this phenomenon is frequently called simply «particle», since other types of particles (several discourse particles) are not discussed here. Different sources have called the linguistic expressions in various connections «adverbs» (*adverb*, Rätsep 1978: 27), «perfective adverbs» (*perfektiivsusadverb,* Rätsep 1978: 32), verb complements contributing to the resultative meaning (*resultatiivset tähendust lisavad laiendid*, Rätsep 1978: 222), «affixal adverbs expressing perfectivity, adverbs that provide a possible boundary» (*perfektiivsust väljendavad afiksaaladverbid; piirivõimalust loovat või otseselt piiritlevat funktsiooni täitvad määrused*, *EKG II* 1993, 51). Nurk writes, «affixal adverbs expressing perfectivity denote delimitation or at least the possibility of delimitation … the most widely spread adverb of perfectivity is *ära* ‹away, off, out› etc, which forms numerous regular phrasal verbs including those which fulfil only the task of delimitation of the activity...the delimitive aspect can most unambiguouslybe indicated by the adverb *ära*» (Nurk 1996: 64). Other terms used are auxiliary adverbs (*abimäärsõna*) as in Erelt et al. (1997: 151), affixal adverbs (*afiksaaladverb*), as in Rüütmaa (1998: 7) and Erelt et al. (1995: 33), verbal prefixes (*igekötő*) as in Lavotha (1960: 86), Pusztay (1994: 119-124), and Bereczki (2000: 83), *verbiprefiks,* as in Kreinin and Török (1999: 4), preverbs, as in Ackerman and Moore (1999, 2001), *Präverb,* as in Raun (1952: 243), (verbal) particles, as in Harms (1962: 110), or Metslang (2001: 1), *Partikel*, as in Hasselblatt (1990: 48), pseudo-adverbials (*pseudoadverbiaal),* as in Rajandi and Metslang (1979: 36), aspectual adverb (*aspektiadverb),* as in Hint (1995: 127), subsidiary words, ‹by›-words (*kõrvalsõna* ‹adverb›), as in Kure (1950: 57, 215), prefixal adverbs (*prefiksaaladverb),* as in Kure (1950: 215), *prefiksilise iseloomuga adverbiaal* ‹adverbial with the character of a prefix›, as in Kont (1963: 91). Kont (1963: 96) remarks that from among the Baltic Finnic

languages, Estonian is the richest in terms of modifiers or complements (*laiendid*) terminating the activity of the verb.

EKG II writes that a similar function of «inner bounding» is filled by «lative situation adverbials» (*latiivne seisundimäärus,* (14a)), «purpose adverbial» (*ots-tarbemäärus,* 14b), or «lative locative adverbials» (14c), as in *EKG II* (1993: 51).

(14)

a.	*Õmbleja*	*hammusta-s*	*niidi*	*katki/puruks.*
	seamstress[NOM]	bite-PST.3S	thread.TOT	broken/in.pieces
	‹The seamstress broke the thread by biting.›			
b.	*Ta*	*saat-is*	*poisi*	*pese-ma.*
	he[NOM]	send-PST.3S	boy.TOT	wash-M_ILL
	‹He sent the boy to wash.›			
c.	*Poiss*	*aita-s*	*vanakese*	*tuppa.*
	boy[NOM]	help-PST.3S	old.person.TOT	room.ILL
	‹The boy helped the old person into the room.›			
	(*EKG II* 1993: 51)			

The nominative or genitive object is used when both the action and object matter are bounded (*EKG II* 1993: 51). What counts as bounded are singular count nouns, quantifier-headed phrases, *pluralia tantum,* and number phrases, and what are called conventionally delimited mass nouns, that is, mass nouns that are understood to refer to a quantity of a material or liquid. Singular count nouns are bounded, cf. (15a). *Pluralia tantum* as in (15b) are considered an example of bounded nouns. Conventionally delimited mass nouns are bounded, as in (15c).

(15)

a.	*Ta*	*luge-s*	*raamatu*	*läbi.*
	s/he[NOM]	read-PST.3S	book.TOT	through/PRT
	‹S/he read the book through.›			
b.	*Poiss*	*ost-is*	*malendi-d.*	
	boy[NOM]	buy-PST.3S	chess.piece-TOT.PL	
	‹A/The boy bought a chess set.›			
c.	*Poiss*	*sõ-i*	*supi*	*ära.*
	boy[NOM]	eat-PST.3S	soup.TOT	up/PRT
	‹A/The boy ate the soup up.›			

Number phrases count as bounded; the numeral (except «one», which is case marked with the morphological genitive) is marked with the nominative and the nouns and adjectives with the partitive case, cf. (16).

(16)

Tõ-i-n	*su-lle*	*kaks*	*saia.*
bring-PST-1S	you-ALL	two[NOM]	bread.PTV

‹I brought you two loaves of bread.›
(*EKG II* 1993: 51)

Partial object, that is, an object marked with the partitive, is used if the action, the object matter, or both are unbounded (*EKG II* 1993: 52). If the object matter is «quantitatively bounded», the sentence with the partitive object expresses the unboundedness of the action. It does not follow from the use of the partitive that the action has lead to any result or it is finished, neither does it follow that it has not lead to any result, nor that it is not finished, as in (17) (*EKG II* 1993: 52).

(17)

Poiss	*joonista-s*	*päikes-t.*
boy[NOM]	draw-PST.3S	sun-PTV

‹A/The boy drew the/a sun, a/the boy was drawing the/a sun.›
(*EKG II* 1993: 52)

If the action is clearly bounded, the sentence with a PO denotes the non-boundednes of the object matter. In this case, the object can only be a plural count noun («bare plural») as in (18a) or a mass noun as in (18b).

(18)

a.

Ta	*leid-is*	*pööningu-lt*	*vanu*	*kirj-u.*
s/he[NOM]	find-PST.3S	attic-ABL	old.PTV.PL	letter-PTV.PL

‹s/he found old letters in the attic.›
(*EKG II* 1993: 52)

b.

Ta	*vii-s*	*vanaema-le*	*sünnipäeva-ks*	*me-tt.*
s/he[NOM]	bring-PST.3S	grandmother-ALL	birthday-TRA	honey-PTV

‹S/he brought honey to grandmother for her birthday.›
(*EKG II* 1993: 52)

An example with the partitive object where the object matter and the action are both unbounded is the following sentence (19) in *EKG II*. The resultative phrases are not felt to contribute to the boundedness of the action.

(19)

Ema	*rulli-s*	*tainas-t*	*õhukese-ks,*
mother[NOM]	roll-PST.3S	batter-PTV	thin-TRA
lapse-d	*hõõru-si-d*	*mun-e*	*vahu-le.*
child-NOM.PL	rub-PST-3.PL	egg-PTV.PL	foam-ALL

‹Mother was making/rolling out the dough, children were beating eggs.›
(*EKG II* 1993: 52)

EKG II (1993: 52) discusses also several cases where the object case can be either total or partitive. I divide the cases in three, but I do not discuss these cases further here:

- the situation (*tegevus*, ‹action›) is classified differently with regard to its boundedness;
- the situation (action) is classified differently as to its boundedness with regard to the result or ambiguity in the negative and affirmative content of the sentence;
- there is free variation according to the information conveyed by the sentence.

A summary of EKG II's account on aspect and object case. *EKG II* discusses object case in terms of boundedness and perfectivity. The relation between boundedness and perfectivity is not clearly defined, and deserves to be clarified later, but there are reasons to assume that (at least) sentential boundedness is assumed to be the relevant component that determines perfectivity (cf. also subsection 4.2.6, Sulkala 1996: 210). Verbs can express non-boundable activity or boundable activity; and sentences containing verbs expressing boundable activity can form perfective, that is, bounded sentences. Objects can be non-bounded or bounded. The composition of boundedness of the sentence and the genitive or nominative object case assignment can be summarized on the basis of *EKG II* as follows in Table 4.1.

Table 4.1 - Verbs, objects, boundedness, and object case

Combination	Effect
(i) verb of boundable activity + bounded object	bounded, g-n-obj
(ii) verb of boundable activity + non-bounded object	bounded, p-obj
(iii) verb of non-boundable activity + bounded object	non-bounded, p-obj
(iv) verb of non-boundable activity + non-bounded object	non-bounded, p-obj
(v) verb + particle/complement + object	bounded, (g-n-obj)

According to generalizations extracted from the *EKG II*, the necessary precondition for the boundedness of the sentence is the boundability of the activity that the verb denotes (the exact verb classes are discussed below in Section 4.3). Therefore, only verbs expressing boundable activities can yield bounded sentences and genitive or nominative objects. The first two lines of the summarizing schema, (i) and (ii), demonstrate that the boundedness of the object noun does not have any impact on the boundedness of the sentence. If boundedness is roughly equal to [+T] in Verkuyl's system, then these data run counter to how Verkuyl's Plus Principle discussed in Section 3.2.3 would compose the aspectual value of the VP in (ii). Non-quantized, non-bounded objects appear in bounded, [+T] VPs. However, the boundedness of the object influences the object case: bounded objects are in genitive or nominative (i); non-bounded objects are in partitive (ii). Verbs denoting non-boundable activities do not yield

boundedness regardless of the object noun's boundedness as the line (iii) and (iv) demonstrate. The last line (v) of the summary above shows that some verbs can combine with verbal particles and special bounding complements so that boundable verbal complexes are formed. Consequently, these verbal complexes are able to yield bounded sentences with genitive or nominative object case.

The phenomena that are described here in terms of boundedness, object case, and verbal particles (bounding and perfective adverbials) have been discussed in different terms, especially, in terms of resultativity, in earlier Estonian sources. In the following subsections, the matters of aspect and object case are presented as they are discussed before *EKG II*.

4.2.4 *Resultativity: Tauli (1968, 1983)*

Tauli (1968, 1983) does not specifically refer to the term «aspect» in his work on object case. Instead, he refers to the oppositions that have an impact on object case in terms of «resultativity» (for verbs and for sentences) and «wholeness» (for object nouns) in his description of the factors that determine object case in Estonian. Verbs are divided into resultative or irresultative according to what they express in sentences: resultative or irresultative. Quoting Tauli's words: «Ot [i.e., total object, the object in genitive or nominative case] occurs at the same time as one expresses the resultativeness of the action (result or aim) and the referent expressed by the lexeme of O is conceived as a whole. In other cases, Op [object in partitive case] occurs» (Tauli 1983: 45). Since verbs are called resultative or irresultative according to their possibilities of expressing a result, but this possibility is either realized or not, the obvious mismatches in the verb-sentence resultativity lead Tauli to propose a separate verb class for the «mismatching» verbs. Tauli (1968: 217), thus, distinguishes three verbal classes that differ in resultativity and, consequently, also in their behavior in terms of object case. Tauli's classes will be discussed in further detail in Section 4.3.2; here I present his principles for a division into classes.

Class 1. Resultative verbs can express resultativity without any adverbial; their object can be in the genitive and nominative case or in the partitive case.

Class 2. Irresultative verbs do not express resultativity; their object is always in the partitive.

Class 3. A third set of verbs is irresultative, but in combination with lative, translative or other adverbials they can express resultativity and their object can be in genitive or nominative. Their object can be in genitive or nominative only in combination with an adverbial, otherwise, the object is in the partitive.

Also, Tauli observes the following three facts about object case and what are called adverbial combinations:

1. The mere presence of the special type of adverbial does not automatically trigger total objects. Tauli lists some combinations of

adverbials and verbs, the object of which is always partitive: *ette heitma* ‹reproach›, *taga nutma* ‹mourn›, *pealt vaatama* ‹watch›, *imeks panema* ‹wonder, be surprised›, *silmas pidama* ‹mean, consider›, *kellekski pidama* ‹(mistakenly) regard as someone› (Tauli 1968: 218).

2. Tauli (1968: 218) establishes that in all types of verbs that occur in sentences with a total object, the verb-object complex usually combines with the special adverbial regardless of the original resultativity or irresultativity of the verb in question.
3. On the other hand, even in combination with an adverbial, the object can still occur in the partitive, «if resultativity or totality [i.e., that the object referent is, in Tauli's words, ‹encompassed totally›] is not being expressed» (Tauli 1968: 218).

In sum, the object NP-properties aside, Tauli considers the expressed resultativity of the sentence as the term that can best describe what underlies the object case alternation in Estonian. The verbs resultativity properties can be changed. This can be achieved by means of special adverbials, verbs' or adverbial-verb complexes› resultativity properties, according to the resultativity properties of the action described in the sentence. What exactly qualifies as a result that can lead to a total object case and what resultativity is a category of needs to be clarified further.

4.2.5 *Resultativity, perfectivity: Rätsep (1978)*

The review of Rätsep's extensive work on the Estonian lexicon focuses here around the following questions: his terminology, the role of object case in his verb classification, his views on the elements that contribute to resultativity and their relation to object case. As opposed to Tauli's two terms («wholeness» and «resultativity»), Rätsep (1978) basically uses three terms for explaining his choice between the object cases, adding the aspectual term of perfectivity to the list of concepts used by Tauli:

1. Resultativity.
2. Totality.
3. Perfectivity.

Occasionally, the resultative verb data are described in terms of the opposition between «coursive» and «terminative». Verbs (exact classes are presented below in Section 4.3.2) are described in terms of resultativity. Rätsep writes (in my translation): «Depending on the character of the action expressed by the verb, we speak of three-case object verbs as of resultative or terminative verbs and of partitive object verbs as irresultative or coursive verbs» (Rätsep 1978: 221). Differently from the boundedness-based approach of *EKG II* and similarly to Tauli (1968, 1980, 1983), Rätsep distinguishes a third verb class as a dual, «ambiresultative» class. Characterizing the resultativity properties of one of the verbs from this class in Rätsep's words, «Verbs of the type *veeretama* ‹(make something) roll› are irresultative in their lexical meaning…But their meaning contains an element of resultativity, since when those verbs combine according to their

syntactic pattern with a resultative complement, the content of the sentence becomes resultative» (Rätsep 1978: 222). Also, there are verbs that occur with genitive and nominative objects only if they are complemented by a resultative phrase, which can be omitted if the result or bound is inferable from the context. Rätsep also notices that some verbs (*viima* ‹bring, take, move›, *valama* ‹pour›) require an explicit bound in the same clause or in the preceding context in addition to the nominative/genitive object.

Rätsep (1978) differs from Tauli (1968) and *EKG II* on three main points concerning the bounds or resultative elements, that is, the elements that frequently co-occur with the N+ngp, that is, total and partitive object types. The N+ngp is a phrase that can be marked with the morphological nominative, genitive, or partitive. First, he gives a detailed list and description of these bounds or resultative elements including word category, morphological case, postpositions, etc. Second, he divides the resultative elements in two with regard to their lexical relation to the verb. Third, he defines the semantic content of the elements under discussion. Rätsep (1978: 222), thus, is specific about the form of resultative elements. These elements are seen to be similar to the adverbial parts of regular complex or compound verbs, such as *sisse/välja/alla* ‹in/out/down› in *sisse/välja/alla tulema* ‹come in/out/down›, since both are regarded to be complements of the verb («verbi seotud laiendid»). Here follows Rätsep's list of the forms of these elements as he formulates them: a noun in illative (the case expressing the content covered approximately by the English prepositions *into, in, to*); in elative (from, of, out of); in allative (for, to, onto, on); in ablative (from); in translative (into, in a certain state); an adjective in translative (into, in/to a certain state); a noun in terminative (up to, until, till); a noun with the postposition *eest* (for, from in front); *jaoks* (for some purpose or for somebody); *järele* (to - after); *kallale* (to affect, to something or someone, as of attacking); a noun with the postposition *käest* (from (hand)); a noun with the postposition *peale* (onto); a noun with the postposition *sisse* (into); a noun with the postposition *taha* (behind); a noun with the postposition *tarvis* (for (the purpose of)); a noun with the postposition *vastu* (against, towards); a noun with the substitution class of extralocal, intralocal or translocal directional; with an intralocal modal (e.g. adverb(ial)s such as *laiali* ‹apart›); with a perfective adverb.

Second, while Tauli (1968) is rather inarticulate about the ways these special adverbs (such as in *sisse/välja/alla tulema* ‹come in/out/down›) combine with verbs in resultative sentences, Rätsep is specific in this respect. A later work by Tauli (1972: 118, 126-128) can be consulted for more detailed issues on compound verbs in Estonian. Hasselblatt (1990: 39), who uses a somewhat different terminology, demonstrates the use of several lexically restricted or opaque combinations of verbs and particles. Rätsep (1978) divides the elements that contribute to the resultativity of the lexeme (his verb entry with all arguments and typical adverbials included) into two:

1. (resultative) complements (*laiendid*) of the verb
2. the non-verbal parts of unique complex verbs (*ainukordsed ühendverbid*), as in Rätsep (1978: 32).

The latter belong to «the verbal center» and the former do not belong to the verbal center; they are complements. Figure 4.1 presents Rätsep's partition of the elements contributing to resultative content of the sentence, that is, the elements that frequently co-occur with the N+ngp object types, as they are discussed up to now.

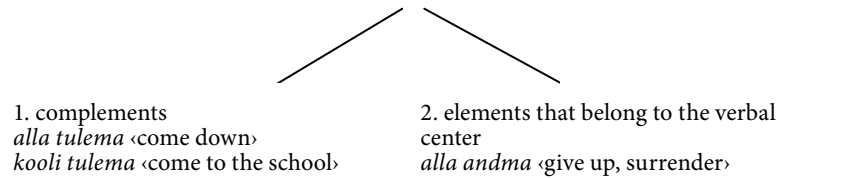

Figure 4.1. Rätsep's partition of the elements (elements contributing to the resultative content of the sentence) that frequently co-occur with the N+ngp object types.

Whether the element is a complement is tested by means of forming special questions in Rätsep (1978). If one can ask a special question about the element, then it is a complement. If a special question cannot be asked about the element (e.g., as in: I gave up the idea of finishing this sentence. #Where did you give this idea?), then the element belongs to the so-called verbal center. Thus, on the other hand, the second group of syntactically observable elements that contribute to the resultative content of the sentence are not complements but elements that stand in a different relation to the verb, in Rätsep's formulation, they «belong to the verbal center» (Rätsep 1978: 28). Belonging to the verbal center means to be part of a unique complex verb (*ainukordne ühendverb*), and examples of unique compounds are *maha kirjutama* ‹copy›, *peale käima* ‹insist›, or *peale tungima* ‹attack.› Thus, these are only non-compositional, opaque compounds. The distinction is, therefore, assumed to be semantic, but also syntactic. Rätsep (1978: 28) says opaque compounds «form a syntactic unit on which the complements depend».

Third, regarding the semantic contribution of these elements, more specifically, that of resultative complements, Rätsep is again more specific than Tauli. The resultative complements and similar phrases are seen to contribute to what Rätsep calls the *resultative content*. In fact, the resultative content means the possibilities of the lexeme, that is, whether the lexeme contains the complement type N+ngp, and the concrete semantics of the form understood in terms of perfectivity. Clarifying Rätsep's idea about the exact relation between *resultative content* and object case, I refer the reader to the quotation (20) about the complement N+ngp. The complement N+ngp described in (20) has an atypical form in Rätsep's system. The quotation presents how Rätsep envisages the relation between the factors determining the case assignment to this complement.

(20)

> N+ngp: Substantive in nominative or genitive or partitive singular; or nominative or partitive plural. This form class is an exception among other form classes, since many case forms are listed in this form class. The cases are not realized on the basis of substitution as in the case of substitution classes but, instead, partly on the basis of the so-called complementary distribution, that is, the case forms are complementary with regard to each other. Here, the choice of the form class does not depend on the semantics of the verb as a lexeme, as is the case with bound complements [‹seotud laiendid›], but, instead, the choice from between the elements of the form class is determined by the verb's grammatical form (e.g., the presence of negation, imperative, etc.) or the semantics of the form (e.g., the presence of the feature /±perfective//±total/). Therefore, the meaning of the verb as a lexeme determines only the existence of the complex N+ngp, and not the choice of the concrete case. In a traditional grammar, this complex is called the ‹three case object›. (Rätsep 1978: 40)

Thus, now I can list the factors that have a relation to case assignment matters in Rätsep:

1. The presence of a certain type of complement, N+ngp, in the lexeme. That is, the verb representation in the form of a syntactic pattern determines the possibility or impossibility of a case alternation; the lexeme in the given complement type does not determine the exact realization of the case of the complement.
2. Semantics of that specific form, described in features that directly determine case, such as /±perfective/.
3. Object noun semantics in terms of case determining features /±total/.
4. The presence of several other grammatical categories that determine case (and that fall out of my study, since they are not aspect or lexicon related).

In addition to object case, Rätsep's patterns also register the possible and obligatory partitive subjects. However, the exact conditions of the alternation of (what is considered by me) the subject is not provided, therefore, here, the discussion of Rätsep's work is confined to transitive verbs only.

As a summary of Rätsep's view on object case, it can be concluded here that whereas transitive verb lexemes can have the property of resultativity that determines the lexical possibility of case alternation, perfectivity and totality features are ultimately seen to actually realize these possibilities in a sentence with a resultative lexeme. A resultative lexeme is a lexicon entry that contains a complement type of the form of N+ngp. Rätsep's and Tauli's approaches regard the term resultativity to be applicable to phenomena that occur in the description of lexemes and sentences.

4.2.6 *Telicity, boundedness, case, and measure phrases: Sulkala (1996)*

Discussing Sulkala (1996) is important since this source contains many additional observations about Estonian aspect and represents a unique at-

tempt to give a concise account about the whole phenomenon of aspect in Estonian. Aspect is approached from a Finnish-Estonian viewpoint. Sulkala (1996) gives, up to now, the most comprehensive English overview of a wider array of Estonian aspectual and Aktionsart phenomena and this writing is frequently taken as a reference point to Estonian aspect and aspectual terminology. The accessibility of this study means it is only necessary to bring out the main points and highlight some discussions that are less, or differently, presented in earlier sources. From the point of view of this book, the following topics are of interest: Sulkala's observations about case marking properties of the measure phrases, the progressive, and the relation between aspect and subject case. She reviews the terminology of aspect, Aktionsart, boundedness, and telicity, and discusses the lexical contribution to aspect, aspectual shifts, and provides many Estonian examples.

General views on aspect in Estonian. Sulkala compares Estonian and Finnish, finding that aspect is a property of the whole sentence in both languages. Sulkala's (1996: 168) general view is that aspect operates at the level of sentence semantics in the Finno-Ugric languages, and the aspect of the verb is to be looked for in the surrounding nouns. Sulkala agrees with Kangasmaa-Minn (1985: 83) who states that no such system of aspect markers exists in the Finno-Ugric languages as in the Slavic and southern European languages, where aspect is expressed by derivational and morphological means. She recognizes with Kangasmaa-Minn (1985: 434) that the role of the transitive verb's object in determining the aspect was the first important insight in discussing Finnish aspect. Sulkala presents her material, on the one hand, in terms of aspect (perfectivity and imperfectivity) and, on the other hand, in terms of Aktionsarts. Separate Aktionsarts are seen to be associated either with the perfective or the imperfective aspect. The durative, habitual, continuative, progressive, and iterative are Aktionsarts that are associated with imperfective aspect and punctual, semelfactive, and terminative are the Aktionsarts that are associated with the perfective aspect.

Subject case. Further, Sulkala discusses aspectual oppositions as they emerge in oppositions of subject case marking, «[a]spect may sometimes also be marked with the case variation of the subject» (1996: 170). Here, the partitive subject occurs in a sentence that can be interpreted imperfectively (21a) and the nominative subject occurs in a sentence that can be interpreted perfectively (21b).

(21)

a. *Külalis-i* *saabu-s.*
guest-PTV.PL arrive-PST.3S
‹Guests arrived.›

b. *Külalise-d* *saabu-si-d.*
guest-NOM.PL arrive-PST-3PL
‹(The) guests arrived.›

However, it must be pointed out that Sulkala does not claim that in the subject case alternation the nominative would be the marker of the perfective aspect or the partitive case the marker of the imperfective aspect. Rather, her study targets some aspect-related concepts and searches for ways of expressing them in Estonian.

Measure phrases. Estonian displays nominative/genitive vs. partitive case alternation of measure phrases. Sulkala (1996: 170) points out the aspectual opposition between a partitive-marked measure adverbial and a nominative-marked measure adverbial. The former (22a) occurs in an aspectually imperfective, non-bounded sentence with an intransitive, durative verb; the latter (22b) occurs in an aspectually perfective, bounded sentence.

(22)

a.	*Jooks-i-n*	*kah-t*	*kilomeetri-t.*
	run-PST-1S	two-PTV	kilometer-PTV
	‹I was running two kilometers.›		
b.	*Jooks-i-n*	*kaks*	*kilomeetri-t.*
	run-PST-1S	two[NOM]	kilometer-PTV
	‹I ran two kilometers.›		

The opposition between a partitive-marked measure adverbial and a nominative-marked measure adverbial corresponds to an opposition of perfectivity and boundedness.

Telicity and boundedness. Sulkala reflects on the tradition of how the opposition «bounded-unbounded» is most frequently found to be the proper term for what lies behind the Finnish accusative/partitive alternation. Boundedness and perfectivity are seen to be tightly connected and interchangeable terms in many sources; therefore, Sulkala tries to articulate the relation between boundedness and perfectivity. In Sulkala's words, «boundedness is considered the most characteristic feature of the perfective aspect» (Sulkala 1996: 210). The exact relation between these terms is not further defined. The «telic/atelic» terminological pair is an alternative for discussing the Finnish object case alternation. As Sulkala points out, «[t]he nominative~genitive/partitive opposition of the perfective and imperfective aspect is generally also used to indicate telic and atelic forms» (Sulkala 1996: 172-173). Here it must be clarified that this is not the interpretation Sulkala gives to the term telicity. She uses «telicity» as it was introduced to the discussion of Estonian data by Metslang (1994), thus, more in line with the definition of Dahl (1981). In Metslang (1994), the telicity and atelicity of situations are regarded as different with regard to their internal structure. As can be understood from Metslang (1994), a situation that has a built-in terminal endpoint or that can reach such an endpoint is called telic. A situation that has no such terminal point or possibility to reach one is called atelic. As a further distinction within telicity, Dahl (1981: 81-82) calls telicity where the endpoint

is or is claimed to have *actually* reached the P property of telicity and the telicity where the endpoint *can be* reached the T property (as described and illustrated by sentence (23) from Sulkala 1996: 173).

(23)

Mees *ehita-b* *suvila/suvila-t.*
man[NOM] build-3S summer.cottage.TOT/summer.cottage-PTV
‹The man will build/is building a cottage.›

Thus, the previous example in (23) is considered an example of a description of situation telicity as it is understood in the Estonian tradition since Metslang (1994). The left side of the slash (the noun is marked with the genitive) is an example of a description of a telic situation where the endpoint is or is claimed to be *actually* reached. The right side of the slash (the noun is marked with the partitive case) is an example of a description of a telic situation where the endpoint *can be* reached. Example (24) from Sulkala (1996: 173) with the partitive object is a description of an atelic situation.

(24)

Ema *hellita-b* *poega.*
mother[NOM] pamper-3S son.PTV
‹The mother pampers the son.›

However, Sulkala gives room to other views on telicity suggesting that this term has various contents in the Finnic tradition. She refers to Kangasmaa-Minn (1985: 440), who sees telicity to be dependent on the verb semantics: «Telicity and atelicity depend on the semantics of the governing verb» (Sulkala 1996: 173), but here it remains unclear what the term applies to.

Sulkala names boundedness as the most important notion in the analysis of aspect in Finnish, concluding this on the basis of Leino (1991: 172-178), and Heinämäki (1984: 173; 1994: 208). Heinämäki is quoted for Finnish, «the nominative/genitive object only entails the existence of a bound and not any particular result… [It] signals that the situation is bounded, but does not indicate what the bound is» (Heinämäki 1984: 173; 1994: 212-217), and Sulkala goes on to cite Heinamäki «The bound can therefore be given explicitly, as in the form of an adverbial phrase or an adverb, in the previous context or in the conventional situation. When the bound is not the normal telic end point, it has to be expressed explicitly» (Sulkala 1996: 174). Sulkala shows, by giving an overview of several types and classifications of bounds discussed in Finnish literature, that the notion of bound and boundedness appears in many forms and varieties and does not always correspond to result. Sulkala's work is an interesting starting point in clarifying the exact division of labor between the terms boundedness, telicity and perfectivity,

and clarifying the relation of these terms to Estonian. The discussion on measure phrases and shifts (Section 4.3.4) below gives more insight into how Sulkala understands these terms and their ways of interaction.

The progressive and the object cases. On the basis of the impossibility of Estonian genitive or nominative objects in sentences containing the progressive *-mas*-construction (the *m*-infinitive inessive), Sulkala points out, «[a]n m-infinitive inessive can in certain contexts also express the perfective aspect in Finnish, but not in Estonian» (Sulkala 1996: 184). Example (25) illustrates that although in Finnish accusative objects can occur with the progressive construction, in Standard Estonian it is not possible.

(25)

**Ole-n*	*pileti*	*ost-mas.*
be-1S	ticket.TOT	buy-M_INE

Meaning ‹I am buying a ticket.›

In sum, this source contains much interesting data and tries to describe the Estonian aspectual phenomena in terms of aspect ((im)perfectivity), Aktionsart, telicity, and boundedness, including lexical semantics, on the one hand, and object and measure phrase case marking, on the other.

4.2.7 *Estonian tense and aspect: Metslang (1994)*

Metslang (1994) is a recent book that discusses a wide variety of Estonian aspectual matters and, therefore, is the most valuable source for further studies in this field. The book consists of several articles (written in Estonian, German and Finnish and basically in Reichenbach's tradition) about aspect and tense in Estonian. Also, as is most important from the viewpoint of my book, her writings contain a study on the Estonian periphrastic progressive and information about verbs. This source confirms the existence of aspectual verb classes. Metslang's (1994: 18) view is that despite the fact that aspect in Finnish and Estonian is a semantic category without regular grammatical expression, there are grammatical means that express aspect. The grammatical means include the nominative and genitive vs. partitive forms of the object and measure adverbials, and the inessive of the *m*-infinitive (the periphrastic progressive). Aspect is also expressed partly by certain lexical-grammatical means (verbal particles) and partly by the semantics of the verb. It is clear from Metslang's work that the grammatical aspectual markers do not combine unselectively with all verbs and that is one reason for why she does not regard these markers as proof of the grammaticalization of aspect in Estonian. Metslang's study on perfectivity and imperfectivity is placed into the wider context of narrative. This work is a landmark in the study of Estonian tense and aspect. However, from the perspective of this book, her work on Estonian particle *ära* is more relevant, reviewed in terms of what is considered the situation with the Estonian aspect, see Section 4.2.8.

4.2.8 *Aspect is expressed by grammatical markers such as the verbal particle*

The estimated number of verbal particles is 52 in Estonian (Bereczki 2000: 82). There are several matters that were broached in Rätsep (1978) and despite several attempts were never sufficiently treated. Rätsep discussed object case matters in terms of totality, resultativity and perfectivity. However, the exact nature and contribution of what have been called perfective adverbials, their exact status with regard to the verbal center and the verb, and their relation to the determination of object case—especially contrasted with other, exclusively resultative elements—has remained sketchy. Hasselblatt (1990) treats them from the viewpoint of being German loans and therefore deals less with freely combining combinations that clearly are not classifiable as loans. Metslang's work refines Rätsep's work on the semantic content of the perfective particles.

Metslang (2001) regards the particle *ära* as a grammatical marker of perfectivity. In principle, her work does not completely contradict Rätsep (1957) in the sense that Metslang (2001) also rejects the idea of the complete grammaticalization of the category of aspect in Estonian. Also, both works prove their argument by showing that aspectual verbal morphology that would encompass all verbs in all of their paradigms is missing from the Estonian language. However, differently from Rätsep, Metslang draws the attention to the developments that are going on in the direction of grammatical verbal aspect, and she establishes that a candidate for a grammaticalized verbal aspect marker has the form of the verbal particle *ära*. The following quotation under (26) from Metslang summarizes her view on aspect in Estonian.

(26)

> Like in other Baltic-Finnic languages, aspect in Estonian has not developed into a consistent grammatical category. Still, it operates in a peripheral way, expressed by resultative or progressive constructions, by so-called boundaries, that is, particles more or less tightly connected with the verb, and by alternative case markings of direct objects (Metslang and Tommola 1995: 300-301). The last-mentioned device is an old feature common to the Baltic-Finnic and the Baltic area (see e.g. Kont 1963, Klaas 1996, 40-43). Under certain conditions, so-called partial objects (PO, marked by partitive case) carry imperfective meaning whereas total objects (TO, marked by genitive or nominative) are interpreted as perfective ... However, testing the questionnaires on aspectual typology (e.g. the TAM questionnaire used in Dahl 1985) on the Estonian language, it appears that a typical imperfective-perfective opposition in meaning is expressed in the opposition of the forms of partial and total objects… However, in Estonian, perfectivity can also be explicitly expressed by boundaries, viz. the verbal particles *ära* ‹off, away›, and *valmis* ‹ready› (Metslang 2001: 443-444).

Thus, as pointed out in Metslang, in Estonian, aspect emerges grammatically in the following ways:

1. alternative case markings on direct objects correspond to imperfective/perfective oppositions
2. some boundaries or particles express perfectivity

3. periphrastic progressive constructions express progressive
4. resultative constructions express perfectivity (‹resultative constructions› is used to refer to certain light verb combinations (e.g., *sai tehtud* ‹got done›).

The topic of boundaries and object case will be discussed in more detail in the following subsections.

4.2.9 *Conclusion on aspect*

In sum, the following can be concluded about aspect.

Aspect is defined through different terminology and is predominantly seen to be a sentence semantic category. There are some authors who study lexical aspect. Lexical semantic resultativity or boundability properties are regarded as a basis of object case assignment.

There is a discussion about whether the category of grammatical aspect exists in Estonian. There is a consensus that aspect can be expressed by grammatical means but is not completely grammaticalized.

Phenomena seen as aspect are related to the lexical semantics of verbs, case alternation of objects and measure phrases, boundaries and some constructions.

Boundedness, perfectivity and resultativity are the most frequently used, competing terms in discussing aspect and object case, but they also describe different concepts and relate differently to facts about object case.

The following subsection reviews previous verb classifications and the object case specifics.

4.3 *Verb classifications*

This subsection concentrates on earlier verb classifications in Estonian. Three main sources deal with verb classifications, the status of particles, and the relation between aspect, lexical semantics, and object case. One of these classifications that I discuss is boundedness-based; the other two can be dubbed as resultativity-based according to the terminology used in delimiting the classes. Several Estonian verb classifications group transitive verbs according to the object case and in terms of aspectual notions. Verb classifications are typically based on the verbs' ability to occur in sentences with the morphological genitive and nominative case marking (total object cases) as opposed to the partitive case marking of their objects. However, there is considerable disagreement on the nature of the aspectual notions that are regarded to underlie the classifications and, therefore, the exact verbal classes. There are basically three classifications:

1. A two-way, «boundedness» based classification (*EKG II*, Mihkla et al. 1974).
2. A three-way, «resultativity» based classification (Tauli 1968, 1983; Rätsep 1978).

3. A classification that takes the role of combinability with the particle *ära* ‹up, away› into consideration (Metslang 2001). Five transitive verb classes are distinguished; those classes differ in their relation to combinability with verbal particle *ära* and the effect of this verbal particle to the aspectual nature of the sentence.

These three approaches are discussed in the following subsections in turn.

4.3.1 *The two-way classification into aspect and partitive verbs (EKG II)*

The approach in *EKG II* proposes a two-way partition of verbs into «partitive» and «aspect» verb classes (*EKG II* 1993: 49). The basis for the classification is defined through the notion of (non)boundability of the activity denoted by the verbs (Est. *piiritle(ma)tus* (*EKG II* 1993: 49). In the formulation of *EKG II*, «verbs that express non-boundable activity and require only the partial object [i.e., the object that is case-marked with the morphological partitive case] are called Partitive verbs» (*EKG II* 1993: 49). Here an example from *EKG II* is repeated (27).

(27)

Ma	*alahinda-si-n*	*Peetri-t.*
I[NOM]	underestimate-PST-1S	P-PTV

‹I underestimated Peter.›

(*EKG II* 1993: 49)

The *EKG II* defines «aspect» verbs as follows: «Verbs that can express boundable action and allow the partial as well as total object [i.e., the object is case-marked with the morphological genitive/nominative] are Aspect verbs» (*EKG II* 1993: 50). Here an example from *EKG II* is repeated (28).

(28)

Ma	*ehita-n*	*suvila.*
I[NOM]	build-1S	summer.cottage.TOT

‹I'll build a summer cottage.›

(*EKG II* 1993: 49)

The lists in (29)-(33) present the classification of partitive verbs in *EKG II*. Verbs expressing mental and emotional perception and their expression are in (29); verbs expressing movement and touch in (30); verbs associated with normal and experiencer sentences the content of which is existential are in (31); verbs expressing the course, evaluation etc. of an activity are in (32). The list in (33) contains several other verbs with no specific common features.

1. Verbs expressing mental and emotional perception and their expression.

(29)

aimama ‹suspect, guess›, *alahindama* ‹underestimate›, *armastama* ‹love›, *austama* ‹honor›, *arutlema* ‹discuss›, *eeldama* ‹presuppose›, *haistma* ‹(feel the) smell›, *himustama* ‹desire, have lust›, *häbenema* ‹be ashamed›, *ihaldama* ‹desire›, *imetlema* ‹admire›, *jälestama* ‹loathe›, *jälgima* ‹watch, follow›, *kahetsema* ‹regret›, *kannatama* ‹suffer›, *kartma* ‹fear, be afraid of›, *kogema* ‹experience›, *kujutama* ‹imagine, shape, depict›, *kuulama* ‹listen›, *kuulma* ‹hear›, *käsitama* ‹regard, approach to something as something›, *käsitlema* ‹regard, study›, *laitma* ‹reprehend›, *leinama* ‹mourn, lament›, *maitsma* ‹taste, also have a taste of sth›, *meenutama* ‹try to remember›, *mõtlema* ‹think›, *mäletama* ‹remember›, *märkama* ‹notice›, *nuusutama* ‹sniff, smell›, *nautima* ‹enjoy›, *nägema* ‹see›, *oskama* ‹be able to›, *pilkama* ‹mock, banter, deride›, *sihtima* ‹target›, *solvama* ‹offend›, *soovima* ‹wish›, *tahtma* ‹want›, *tajuma* ‹sense›, *teadma* ‹know›, *tundma* ‹feel›, *tänama* ‹thank›, *usaldama* ‹trust›, *uskuma* ‹believe›, *uurima* ‹study, watch›, *vaatama* ‹look›, *vajama* ‹need›, *vihkama* ‹hate›, *ülistama* ‹glorify, exalt›, *ette heitma* ‹reproach›, *ette kujutama* ‹imagine›, *imeks panema* ‹be surprised›, *järele aimama* ‹mock, play›, *pealt kuulama* ‹eavesdrop›, *pealt kuulma* ‹hear by accident›, *pealt nägema* ‹see by accident›, *pealt vaatama* ‹watch as something is going on›, *silmas pidama* ‹mean something concrete›, *taga nutma* ‹mourn, cry for something or someone›, *tähele panema* ‹notice, perceive›, *üle hindama* ‹overestimate.›

2. Verbs expressing movement and touch.

(30)

embama ‹hug›, *hammustama* ‹bite›, *kallistama* ‹hug›, *keerutama* ‹twist›, *kehitama* ‹shrug›, *kibrutama* ‹frown›, *kraapima* ‹scrape›, *kratsima* ‹scrape, scratch›, *laksutama* ‹click›, *lappama* ‹turn pages, flip›, *lehvitama* ‹wave›, *liigutama* ‹move, make a move›, *limpsima* ‹lick›, *liputama* ‹wave quickly, wag›, *lööma* ‹hit, strike›, *müksama* ‹nudge›, *noogutama* ‹nod›, *nõelama* ‹sting›, *näpistama* ‹pinch›, *peksma* ‹beat›, *piitsutama* ‹whip›, *pilgutama* ‹wink›, *puudutama* ‹touch›, *riivama* ‹touch lightly›, *silitama* ‹stroke›, *suudlema* ‹kiss›, *sügama* ‹scratch›, *taguma* ‹bang, beat›, *vangutama* ‹wag, waggle, shake (of someone's head)›, *veeretama* ‹(make) roll›, *õõtsutama* ‹(make) sway, rock, roll.›

3. Verbs associated with normal and experiencer sentences the content of which is existential.

(31)

ahistama ‹harrass›, *asustama* ‹inhabit›, *ehtima* ‹decorate›, *hoidma* ‹keep›, *huvitama* ‹interest›, *iseloomustama* ‹characterize›, *kartma* ‹fear› (also in (29)), *kaunistama* ‹decorate›, *läbima* ‹go through›, *ootama* ‹wait›, *piirama* ‹border, delimit (as obstacle)›, *raamima* ‹frame›, *tabama* ‹hit the target›, *valdama* ‹overwhelm›, *valitsema* ‹rule›, *varjutama* ‹cast shadows on›, *ähvardama* ‹threaten›, *ääristama* ‹border as decoration›, *üllatama* ‹surprise.›

4. Verbs expressing the course, evaluation etc. of an activity.

(32)

aitama ‹help›, *alustama* ‹start, begin›, *harrastama* ‹go in for something›, *jätkama* ‹follow, continue›, *katkestama* ‹interrupt›, *kavatsema* ‹plan›, *nõudma* ‹require›, *püüdma* ‹try, catch›, *takistama* ‹obstruct›, *taotlema* ‹apply›, *väärima* ‹be worth(y)›, *üritama* ‹attempt.›

5. Several other verbs with no specific common features**.** These verbs express continuous controllable actions and their objects are directional objects.

(33)

helistama ‹phone, ring, call›, *hoidma* ‹keep›, *juhtima* ‹drive, lead›, *kahjustama* ‹damage›, *karistama* ‹punish›, *kasutama* ‹use›, *kohtama* ‹meet›, *näitama* ‹show›, *parandama* ‹improve›, *premeerima* ‹award, stimulate›, *ründama* ‹attack›, *segama* ‹disturb›, *soosima* ‹favor›, *tarvitama* ‹use (regularly)›, *teenima* ‹serve›, *toetama* ‹support›, *trahvima* ‹fine›, *tähendama* ‹mean›, *õnnitlema* ‹congratulate›, *taga ajama* ‹chase›, *ülal pidama* ‹keep, support, maintain.›

Partitive verbs can consist of a simplex verb, or a verb and a particle, an adverb, or a case-marked noun. The particle does not influence object case: object case is partitive in simplex and particle verbs of this verb class. *EKG II* includes the following verbs as examples of aspect verbs (34).

(34)

avastama ‹discover›, *jätma* ‹leave›, *looma* ‹create›, *parandama* ‹repair›, *saavutama* ‹achieve, attain›, *kujundama* ‹shape, design, form›, *tekitama* ‹create, bring to being›, *äratama* ‹wake›, *sooritama* ‹make (exam, etc.)›, *koostama* ‹compile›, *leotama* ‹soak, drench, in order to turn something soft or clean›, *moodustama* ‹form, create›, *keetma* ‹boil›, *võtma* ‹take›, *saama* ‹get, become›, *haarama* ‹grab›, *voltima* ‹fold›, *laenama* ‹borrow, loan›, *tooma* ‹bring here, fetch›, *viima* ‹bring there, take›, *kutsuma* ‹call, invite›, *teatama* ‹announce›, *varuma* ‹gather and save in reserve.›

Aspect verbs can have genitive, nominative or partitive case on the basis of the information in *EKG II.* Aspect verbs can occur with or without a particle, but the presence or absence of the particle does not influence the object case of aspect verbs. This approach to the verb classes is similar to the approach in Mihkla et al. (1974).

4.3.2 *The three-way classification: Tauli (1968) and Rätsep (1978)*

Tauli (1968, 1983) and Rätsep (1978) propose a three-way verb classification. Both Rätsep and Tauli use the term «resultativity» in their description of verb classes. All transitive verbs are capable of having partitive objects. The «resultative» verbs have an additional capability, that of assigning nominative/genitive. A comparison with the *EKG II* classification brings out the differences between the two approaches. What are termed in the *EKG II* classification as aspect verbs are in Rätsep's class 1 and in Tauli's

class A, presented and described in (35), the class B and 2 are presented and described in (36), the class C and 3 is presented and described in (37).

1. Resultative. These are the verbs that can occur with partitive and with total objects without any particles or adverbials. Tauli's «A» verbs follow in (35a), Rätsep's example list of his class 1 verbs reads as in (35b).

(35)

a. *tegema* ‹make›, *viima* ‹bring›, *rikkuma* ‹ruin, spoil.›

b. *alistama* ‹subjugate›, *ehitama* ‹build›, *istutama* ‹plant›, *kirjutama* ‹write›, *minetama* ‹forfeit, lose›, *omandama* ‹acquire›, *rajama* ‹create, establish›, *trükkima* ‹print›, *vigastama* ‹harm, injure›, *äratama* ‹rouse, (make) wake up.›

2. Partitive. Some of the *EKG II*'s partitive verbs are in Rätsep's class 2 and in Tauli's class B. These verbs are not resultative and their object is always partitive. Class B in Tauli contains the items in (36a); Rätsep calls his class 2 «partitive object verbs», his examples include the items in (36b).

(36)

a. *puudutama* ‹touch›, *võrdlema* ‹compare›, *abistama* ‹help›, *alahindama* ‹underestimate› (also in (29)), *armastama* ‹love›, *huvitama* ‹interest›, *jälgima* ‹watch›, *kahtlustama* ‹suspect›, *külastama* ‹visit›, *solvama* ‹offend.›

b. *alustama* ‹start, begin›, *harrastama* ‹go in for, have as hobby, practice›, *jätkama* ‹continue›, *liputama* ‹wag, whisk›, *nautima* ‹enjoy›, *pooldama* ‹be on the side of, support›, *sallima* ‹tolerate, stand›, *õigustama* ‹justify›, *üritama* ‹attempt› etc.

3. Ambiresultative. A complementary set of *EKG II*'s partitive verbs is in Rätsep's class 3 and in Tauli's class C. These are the verbs that do not exclude genitive assignment but lack some element necessary for assigning total. Class C of Tauli includes the items in (37a); Class 3 of Rätsep contains the items in (37b).

(37)

a. *lugema* ‹read›, *lööma* ‹hit, strike›, *lükkama* ‹push›, *meelitama* ‹entice, lure›, *kiitma* ‹praise›, *kiskuma* drag, touch›, *kohendama* ‹arrange, put properly›, *liigutama* ‹move›, *naerma* ‹laugh at›, *nihutama* ‹shift›, *nägema* ‹see›, *pigistama* ‹squeeze›, *provotseerima* ‹provoke›, *rebima* ‹tear›, *rõhuma* ‹suppress, press›, *sirutama* ‹stretch›, *suruma* ‹press›, *usaldama* ‹trust.›

b. *ahvatlema* ‹entice›, *arstima* ‹cure›, *ehmatama* ‹frighten›, *hõõruma* ‹rub›, *ihuma* ‹whet, hone, sharpen›, *juhtima* ‹lead›, *kallama* ‹pour›, *loopima* ‹toss, fling›, *mudima* ‹knead, crumple›, *nihutama* ‹shift›, *pumpama* ‹pump›, *raputama* ‹shake›, *sikutama* ‹tug at, lug, pull›, *tõmbama* ‹pull, draw›, *vedama* ‹drag, draw, carry›, *õrritama* ‹tease›, *ässitama* ‹instigate, incite, abet› etc.

Thus, a third class (2, B) is distinguished by Rätsep and Tauli; that is, the class of «partitive -aspect», «ambiresultative» verbs. As this group of verbs is not discussed as a separate class in *EKG II*, some more characterization is needed. Rätsep provides the ambiresultative verb class with

two parallel lexical representations: one entry with a three case complement (N+ngp, see example (20) in Section 4.2.5 for the definition of this complement type) and the other entry with a partitive object (N+part.). An example of Rätsep's dual pattern can be found in the treatment of the verb *veeretama,* ‹roll› (38) under the pattern 198.4.1. (Rätsep 1978: 222).

(38)

a. N1+nom. V N2+ngp (De) (Dt1) {Dt2 v Di}
b. N1+nom. V N2+part ((De) (Dt1) {Dt2 v Di})

The first item of the pattern corresponds typically to sentences such as (35a). The second item corresponds to sentences such as (39b) from Rätsep (1978: 221), illustrated below.

(39)

a. *Mehe-d* *veereta-si-d* *vaadi* *õue.*
man-NOM.PL roll-PST-3PL barrel.TOT yard.ILL
‹The men rolled a/the barrel into the yard.›
b. *Mehe-d* *veereta-si-d* *vaati.*
man-NOM.PL roll-PST-3PL barrel.PTV
‹The men rolled/were rolling a/the barrel.›

In order to enable easier access for further work, I provide the numbers of the patterns that contain the different patterns.

1. Partitive verbs can be found in Rätsep's 179 patterns, the numbers follow for further reference in (40).

(40)

2.1.61.- 2.1.96., 2.2.144., 21.0.-21.5, 21.8.-21.10., 21.11.- 21.91., 210.0., 210.1., 211., 211.1., 212., 213.0., 213.1., 214.0., 214.1., 214.2., 214.3., 215., 215.1., 215.2., 216.0., 216.1., 217., 218.0., 218.1., 218.2., 218.3., 219., 22.0., 22.1., 220., 221.0., 221.1., 221.2., 222.0., 222.1., 223., 224., 225., 226., 227., 228., 229., 230., 230.1., 231.0., 231.1., 232., 232.1., 233., 236., 30.1., 31., 146.0.1., 152.0.1., 207.- 209.

Some notes are due. The listed patterns should not be seen as the patterns of «partitive verbs», however, but as patterns that contain an obligatory partitive argument in Rätsep. Not all patterns that may have partitive in their frame are included. The next list contains those verbs that can have a total object—but these can have a partitive object as well. Subject-like and measure adverbial-like partitive phrases, for instance, are excluded, and so are complements of prepositions and postpositions, and number phrases. I have included the patterns that are parallel patterns in the list, since they appear regularly with the verbs that contain a partitive argument. These lists are compiled partly manually; therefore, the type of mistake that may appear is not structural.

2. I found resultative and ambiresultative verbs in 203 patterns, the numbers follow for further reference in (41).

(41)

143., 146.0., 146.0.1., 146.1., 146.1.1., 146.2., 146.3., 147., 148., 149., 150.0., 150.1., 151.0., 151.1., 151.2., 151.3., 152.0., 152.0.1., 152.1., 152.2., 152.2.1., 152.3., 152.4., 152.5., 152.6., 152.7., 152.8., 153.0., 153.1., 153.10., 153.11., 153.12., 153.13., 153.14., 153.2., 153.3., 153.4., 153.5., 153.6., 153.7., 153.8., 153.9., 153.9.1., 154., 155.0., 155.1., 156.0., 156.1., 156.2., 156.3., 156.4., 156.4.1., 156.5., 157.0., 157.1., 158., 159.0., 159.0.1., 159.1., 159.10., 159.11., 159.11.1., 159.12., 159.13., 159.13.1., 159.2., 159.3., 159.4., 159.5., 159.6., 159.7, 159.8., 159.9., 160.0., 160.1., 160.2, 160.3., 161.0., 161.0.1., 161.1., 161.2., 161.3, 161.4., 161.3.1, 161.4.1., 161.5., 161.5.1., 161.6., 161.6.1., 161.7., 162., 163., 163.1., 164., 164.1., 165.0., 165.1., 165.2., 165.3., 165.4., 166.0., 166.1., 166.2., 167., 168., 169.0., 169.1., 170., 171., 172., 172.1, 172.2., 173., 174., 175.0., 175.0.1., 175.1., 175.2., 176., 176.1., 176.1.1., 176.2., 176.2.1., 177., 177.0.1., 178., 179., 180.0., 180.1., 180.2., 180.3., 180.3.1., 180.4., 181.0., 181.1, 181.2., 181.3., 181.4., 181.5., 182., 183.0., 183.0.1., 183.1., 184., 185.0., 185.1., 185.1.1., 186., 187., 188., 188.0.1., 189.0., 189.0.1., 190., 191.0., 191.0.1., 192., 193., 194.0., 194.1., 195., 196.0., 196.1., 196.2., 196.2.1., 197.0., 197.0.1., 197.1., 198.0., 198.0.1., 198.1., 198.10., 198.11., 198.2., 198.2.1., 198.3., 198.4., 198.4.1., 198.5., 198.5.1., 198.6.1., 198.7., 198.8., 198.8.1., 198.9., 199., 200., 201.0., 201.1., 202., 203.0., 203.0.1., 203.1., 204.0., 204.1., 204.1.0., 205., 206., 267., 268., 269., 270., 271.

4.3.3 *Verbal particles are sensitive to verb classification*

Estonian has verbal particles that have aspectually different functions. In Tamm (2004c), I discuss the perfective verbal aspectual particles in further detail and divide them into completive and bounding types. There I will make the point that the combinations of verbs and completive particle (CP) are restricted and the combinations of the bounding particle (BP) are free. Therefore, I also review here the sources that write about verb class-particle relations. The common observation is that the particle and the total object case co-occur.

Metslang's view on verb classes and particles. For the purposes of my study, it is important to introduce Metslang's work (Metslang 2001) as the pioneer (after an earlier, fairly short, article of Rätsep (1969) on complex verbs) in studying the Estonian classes of verbs that combine with a verbal particle, combinations of verbs and particles, and relations between the particles and object case. This subsection can be regarded as a brief explication of Metslang's work in order to construct a more complete picture of the phenomenon. Metslang studies the development of the Estonian most general verbal particle, the verbal particle *ära*. According to the statistical data of Nagy (2003) on the frequency of the occurrence of the Estonian verbal particles (in her Hungarian terminology, *igekötő*, verbal prefix), the particle *läbi* is considerably more frequent than the particle *ära*. This runs counter to the data of Hasselblatt (1990), whose findings show that the particle *ära* is the most frequent. However, Nagy considers only token frequency. For many native speakers, still *ära* is the prototypical verbal

particle in Estonian. Even if it were statistically less frequent than *läbi*, semantically, it is most bleached among the Estonian verbal particle. *Läbi* ‹through› occurs mostly in lexically restricted combinations, but *ära* combines with verbs more freely (Tamm 2004c). Metslang (2001: 4) describes the directional-deictic, perfective-deictic, and purely perfective aspectual meanings as steps in the grammaticalization process of the verbal particle. The verbal particle *ära* is seen as a perfective particle, a particle that emphasizes or adds the perfective meaning to the sentence where it occurs. Metslang characterizes *ära* as in the following quotation (42).

(42)

> A particularly frequent verbal particle is *ära*, which occurs, in the directional meaning (*ära minema* ‹to go away›) but especially as an aspectual exponent (*ära parandama* ‹to repair›). In addition to the established phrasal verbs *ära* also occurs as an adherent perfectivity particle, offering competition to the Finno-Ugric way of expressing aspect by means of alternation of case forms of the object. In addition, *ära* contributes to the information and rhythm structure of the sentence (Metslang 2001: 477).

Thus, next to the aspectual meaning, the particle *ära* expresses other functions, such as participating in the regulation of the information structure of a sentence. The division of functions between the object case and the particle is the following as described by Metslang: the particle and total object case are parallel, competing ways of marking perfectivity. Therefore, double perfectivity marking can occur as seen in Metslang, but there can also be no perfectivity marking, as in intransitive sentences without a particle. Metslang uses the morphological object case as a clear criterion for establishing the effect of the particle on the perfectivity of sentence, not vice versa; thus, it is the object case that she sees as litmus for perfectivity. As Metslang writes: «To examine the aspectual and other functions of the most regular verbal particle *ära*, we observed the use of this particle in the transitive sentences where the form of the object indicates the aspect of the sentence» (Metslang 2001: 446).

Metslang studies transitive sentence pairs with and without a verbal particle, the patterns verb+object and verb+object+particle (or a lative complement). The partitive object and imperfectivity often occur in sentences where a verb appears without the particle *ära* (in the pattern verb+object). On the other hand, the total object and perfectivity tend to appear when the same verb occurs *with* the particle *ära* (in the pattern verb+object+particle). Metslang gives five combination types. Metslang's comprehensive classification turns out to reflect other, more complex principles than verb classification only. The criteria of Metslang's classification of the verb-particle combinations are the optional status of the particle and the information structural effects. In the first place, the perfective particle is studied in terms of how obligatory and irreplaceable it is for the emergence of the perfective aspect (total object). In the second place, the exact role of the particle is described in terms of information structuring. In the following points I summarize some particular points about the account.

Table 4.2 presents a summary of Metslang's types; the number column contains reference to Metslang's combination type. I studied the source for the following information.

1. **The variety of the aspectual functions of the particle is described as follows:**

a. Perfectivizing (group one verbs, also clear completion is mentioned with group 1, examples are, though, about group 2);

b. emphasizing and doubling the perfective meaning (group 2);

c. bounding the situation (in subgroup 3b: bounding the situation in verbs that do not occur without an explicit marker of bound);

d. purely perfectivizing (group 4).

Discussing the role of particles is not confined to aspect only, as in É. Kiss (1995, 2004), or Metslang (2001), but relates to the information structure of sentences. The wide variety of aspectual-Aktionsart particles distinguishes Estonian syntax from Finnish, cf. Ehala (2001) and Vilkuna (1995) for a short introduction to the basic properties of the Estonian and Finnish word order, respectively.

2. **The status of verb-particle combinations.** There are combination types that contain verb-particle pairs where the partitive-object counterpart without any particle is missing, which also confirms that Metslang does not view the particle as something that necessarily adds anything aspectual to a simplex verb, but it behaves as a part of a verb.

3. **Verb classification and combinatory properties.** Even if Metslang sets out to classify verbs («the transitive verbs divide according to their relationship to the particle *ära* into five groups» (Metslang 2001: 4), the exact lexical semantic properties of the verbs that are grouped together in the different classes are difficult to track. Even if Metslang gives an aspectual description of the simplex verbs, she does not base her classification on the aspectual verb classes either, since the verb classes in the verb-particle combination types are partly overlapping across the combination types. However, the circumstances of the occurrence of the particle are observed to be sensitive to verb classification. For instance, the combination of the verb and the particle is impossible, thus inapplicable in type 5.

4. **Description of verbs in terms of aspect.** Metslang distinguishes the following verb classes: (phrasal) perfective verbs; simple imperfective verbs; inherently perfective telic punctual verbs, inherently perfective transition verbs; verbs used imperfectively and perfectively; telic durative verbs; atelic durative verbs; atelic, inherently imperfective verbs of transition; atelic verbs denoting situations that have no typical or other imaginary bound; atelic, mostly stative verbs denoting relations, for which no bound may be thought out. Thus, reference to the boundability of a situation, telicity, and perfectivity are the basis for the lexical aspectual oppositions. These oppositions of imperfectivity-perfectivity, atelicity-telicity and further, punctuality, durativity, and transition can be factored out as features of the Estonian verbs that are relevant for combining with particles. The exact content of these terms and the exact principles for a classification in

these terms must be clarified in order to find out the details about the relations with the verbal particles.

5. **Description of particle verbs in terms of aspect.** The exact nature of all the groups of the resultant particle verbs has remained sketchy. The object case in sentences containing combinations with particles is total, and this indicates in terms of Metslang perfectivity: particle verbs are perfective. The types one and two pattern together according to the role of the particle in indicating the information novelty of the referent as described in Metslang (2001), Rajandi and Metslang (1979). The position of the particle before or after the object indicates the old and new status of the object referent. In this discussion, I apply the labels «thematic-rhematic» used in Metslang (2001). Metslang has not provided a description of type 3 in terms of information structure, thematicity and rhematicity, but according to my test the sentences of type three can indicate rhematicity the same as the sentences illustrating type 1 and 2, as evidenced by (43a), as an example as the basis for testing, from Metslang (2001), and (43b) (my test).

(43)

a.	*Ta*	*müü-s*	*oma*	*maja*	*venna-le /*	*ära.*
	s/he[NOM]	sell-PST.3S	his/her	house.TOT	brother-ALL	PRT
	‹S/he sold his/her house to his/her brother.›					
b.	*Ta*	*müü-s*	*venna-le /*	*ära*	*oma*	*maja.*
	s/he[NOM]	sell-PST.3S	brother-ALL	PRT	his/her	house.TOT
	‹S/he sold his/her house to his/her brother.›					

The combination types 1-3 thus represent combinations with the type of particle uses that participate in influencing and structuring text coherence. On the contrary, the combination type 4 has an information structurally distinct, fixed particle, the rhematic-only *ära*. Another point of clarification is also due here. It is somewhat unclear what the information structural contribution is of the resultative phrase *paiste* ‹swollen› in combination with *suudlema* ‹kiss› in Metslang: «The sentence *Ma suudlesin ta ära* (literally ‹I kissed her off›) could be said if one has made a bet to kiss the girl» (Metslang 2001: 449). The fourth type is rather exceptional also because the cohesion function of the particles in 1-3 is not a particular property of the particle, but of adverbs in general (Rajandi and Metslang 1979). Is the information structural contribution of the lative phrase *paiste* listed as a parallel to the particle the same as *ära*? Here I quote Metslang's example in (44a) and interpretation of it; the test for whether the object can appear as rhematic information shows that it can (44b).

(44)

a.	*Ta*	*suudle-s*	*tüdruku*	*paiste.*
	s/he	kiss-PST.3S	girl.TOT	swollen
	‹He kissed the girl swollen.›			

b. *Ta* *suudle-s* *paiste* *tüdruku.*
s/he kiss-PST.3S swollen girl.TOT
‹It was a/the girl that he kissed swollen.›

The facts do not verify that the resultative complement *swollen* has the same rhematic property as the particle *ära* has in combination with this verb. Therefore, the information structural classification inherent in Metslang's classification could be refined: the generalization about rhematicity can be only maintained with the particle *ära*, which proves therefore to be a different grammatical entity than the resultative complement in this respect. Also, the particle is not intuitively similar to the resultative complement *paiste* ‹swollen›, which describes a result state «swollen» of the girl, since the particle does not describe any result state of the object referent.

The circumstances of the optional nature of the perfective particle for the occurrence of the perfective aspect can be divided in five groups. Here follow the five possibilities, as follows from the description of Metslang (2001).

1. Obligatory.
2. Optional.
3. Obligatory, but replaceable by directional phrases.
4. Optional or obligatory depending on the verb class, replaceable depending on the verb class.
5. The combination of the verb and particle is impossible, thus inapplicable.

Differently from types 1-3, only the type 4 relations do not form a separate, identifiable group. Combination type 4 simultaneously contains obligatory and optional, replaceable and irreplaceable particles. The type 4, therefore, as opposed to other types, contains verb-particle relations where the optional nature of the particle is not relevant for defining the type. However, here the function of the particle is described only as «purely perfective». Type 4, therefore, indeed embodies a different classification criterion. Chapter 5 deals with the particle and with developing the insights from Metslang's work in further detail.

Conclusion to verb classes and particles as discussed in Metslang (2001). Metslang's combinational classification contains two main criteria: the optional nature of the particle and information structure. On the one hand, there are types of relations where the obligatory and irreplaceable nature of the perfective particle for perfective aspect is relevant for describing the verb-particle relation, on the other hand, there is one type where either this nature is not relevant, or the relevance of this nature is insufficiently defined as the basis for a separate type. Instead, this, the fourth type, emerges as being different in terms of its information structural particularities. That this class 4 has a different relation to the base verb class suggests that the particle and the combi-

nation of the particle with the verb is not lexically restricted but regulated by other factors instead.

From Metslang's description it follows that across the 5 types the circumstances of the occurrence of the particle are sensitive to verb classification. That is, verb classification is relevant for whether the particle can combine with the verb, and whether it is obligatory or replaceable for the emergence of perfectivity. In order to find out the exact relations between verbs and particles, a more in-depth study of phenomena must be carried out.

Table 4.2 represents the discussed results. I have added the telic-atelic or perfective-imperfective aspectual qualities of simplex verb classes that combine with the particles; the number column contains reference to Metslang's combination type.

Table 4.2 Summary of Metslang (2001) on verb classes, object case, and the role of verbal particles.

No	pattern	alternation without particle	particle oblig. for perf.	particle related to Total Object	cohesion effect	characterization of simplex	simplex-particle pairs
1, M1	V+TO+PP	V+PO	Yes	Yes	Structuring	Atelic	*know–recognize*
2, M2a	V+TO(+PP)	V+PO	No	Yes/no	Structuring	Imperfective and perfective	*koristama* ‹clean – tidy up›
3, M3a	V+TO+lat/PP	V+PO	Yes	Yes	Structuring	Imperfective, atelic	*veeretama* ‹roll something – roll something somewhere›
4, M4b	(V+TO+PP/lat)	V+PO	Yes	Yes	Rhematic	Atelic	*suudlema* ‹kiss›
5, M2b	V+TO (+PP)	V+TO	No	No	Structuring	Perfective, telic	*tapma* ‹kill›
6, M4a	V+TO ((PP))	V+TO	No	No	Rhematic	Perfective	*sünnitama* ‹give birth to›
7, M3b	V+TO+lat/PP	None	Yes	Yes	Structuring	--	*panema* ‹put›
8, M5	V+PO	--	--	--	--	Atelic	*vajama* ‹need›

In this table, I distinguished eight different patterns and types as answers to the questions about the particle's relevance to perfectivization and total objects, information structuring, and the nature of the simplex verbs that combine with the particle. By now, some areas where Metslang's classification suggests a need of further clarification have become visible—especially class 4 verbs and their combinations with the particle. I discuss the further details of verbs and particles and their relations in Tamm (2004c).

Vaiss (2004) compares Estonian aspect to Russian aspect and provides an aspecual classification on the basis of approximately one third of the verbs from the beginning of the Dictionary of the Estonian Standard Language (2008). Vaiss follows the aspectual classification of Metslang and divides verbs (or their meanings) into partitive, aspectual and perfective ones (Vaiss 2004: 83). Partitive verbs occur with partitive object case and have imperfective or perfective aspect. Aspectual verbs can be used with both total or partitive object case and denote perfective or imperfective aspect. Perfective verbs have mostly total object case and perfective aspect. Vaiss distinguishes two additional subgroups. Potentially aspectual partitive verbs can be exceptionally used with total object case and denote perfective aspect in case boundaries are added to the sentence. Potentially aspectual perfective verbs can be exceptionally used in some imperfective contexts with partitive object case, where they denote imperfective aspect.

4.3.4 *Verbs describe situations and shift aspectually*

Sulkala (1996) is a source where verbs are divided according to the situation type that they describe. Nemvalts (1996, 2000) and Metslang (1994) also contain information and views on aspectual classifications of Estonian verbs. Sulkala devotes attention to aspectual shifting, which she understands as the phenomena where aspectually imperfective verbs are used perfectively and *vice versa*.

Verbs and situations. Sulkala also discusses the aspectual features that are present in the lexical semantics of verbs. In her words, «[s]emantic properties do not make verbs definitely transitive/intransitive or resultative/irresultative» (Sulkala 1996: 178). Verbs are classified according to how they describe situations. Sulkala writes, «[i]t depends on the semantic properties which kind of a verb fits into a sentence describing a situation» (Sulkala 1996: 177). Sulkala (1996: 178) distinguishes four situation types as described by verbs for Estonian:

1. punctual (*leidma* ‹find›)
2. durative (*lugema* ‹read›)
3. ingressive (*algama* ‹start, begin›)
4. terminative (*lõpetama* ‹finish, stop›).

Following Kangasmaa-Minn (1985: 87-88), verbs are also classified according to their (inherent) aspectual features (Sulkala 1996: 178):

1. inherently imperfective(*valvama* ‹ward, be awake›)
2. perfective (*saavutama* ‹achieve›, *võtma* ‹take›)
3. neutral (*lugema* ‹read›, *ehitama* ‹build›).

The inherent lexical aspectual features of the verbs can be changed by shifts.

Shifts. Sulkala devotes attention to aspectual shifting, which is understood as the phenomena where aspectually imperfective verbs are used perfectively and vice versa, or perfective sentences are used imperfectively and vice versa, etc. Agreeing with Kangasmaa-Minn (1985: 443) on Finnish, Sulkala finds that «an imperfective sentence can always be made perfective by bounding, while a perfective sentence can only be made imperfective under certain conditions» (Sulkala 1996: 211). Sulkala discusses cases where perfectivity, bounding, and case give combinations that are generally less discussed in the literature. For instance, «[a]n explicit bound, e.g. distance, can be added to sentences indicating an imperfective aspect, but it does not necessarily change the case of the object. On the other hand, when an explicit bound is added to a perfective sentence, the object is in the nominative/genitive. The aspect of the sentence is perfective in both cases» (Sulkala 1996: 186). These claims are illustrated by examples (45) and (46).

(45)

Takso	*sõiduta-s*	*Peetri-t*	*viis*	*kilomeetri-t.*
taxi[NOM]	drive-PST.3S	P-PTV	five[NOM]	kilometer-PTV

‹The taxi took Peter five kilometers.›

(Sulkala 1996: 186)

The previous example (45) has the partitive object case. It is considered perfective by Sulkala, and there is an explicit bound. It is also perfective by the divisive reference test referred to in the introduction.

(46)

Takso	*sõiduta-s*	*Peetri*	*viis*	*kilomeetri-t*
taxi[NOM]	drive-PST.3S	P.TOT	five[NOM]	kilometer-PTV
Oulu-st	*lõuna*	*poole.*		
Oulu-ELA	south.GEN	direction.ALL		

‹The taxi took Peter five kilometers south of Oulu.›

(Sulkala 1996: 186)

The previous example (46) has the object case. It is considered perfective by Sulkala, and there is an explicit bound. The duration of the situation, the bound, can be expressed by a measure adverbial in the nominative/genitive (total) operating in a basically imperfective sentence (Sulkala 1996: 188). The adverbial adds perfectivity to the sentence (Sulkala 1996: 188). Note that perfectivity does not coincide here in (47) with the nominative/genitive (total) case on the object (the book).

(47)

Loen	*tunnikese*	*raamatu-t.*
read-1S	hour.TOT	book-PTV

‹I will read a book for about an hour.›

4.3.5 *Conclusion on verb classifications*

In sum, the boundedness and resultativity-based approaches to lexical classifications make reference to lexical aspect terminology and in the studied classifications. The aspectual oppositions are seen to correlate with the alternation of the object case. The main difference in these two types of classifications is the treatment of a large group of in-between, boundable, or dual, ambiresultative verbs, «irresultative verbs with an element of resultativity», partitive verbs, which display the behavior of both the partitive and the genitive/nominative assigning verb types. However, many verbs that are classified as partitive or irresultative verbs can occur with the total object when they combine with the particle. The lexical aspectual properties that have been mentioned to be related to the object case are that of perfectivity/imperfectivity, telicity/atelicity, boundability, terminativity/coursivity of verbs. Also, elements that are most frequently referred to as bounding and resultative adverbials or verbal or perfective particles tend to co-occur with total objects.

4.4 *Conclusion*

There are various standpoints on how to understand the relation between aspect and verbal lexical entries. Frequently, properties of situations are referred to (boundability). Aspect has not developed into a grammatical category. The specifics of the phenomena of object case, and combining with particles are at least in part seen to be dependent on verbs and their classification. The following chapter studies the verb classifications in more detail.

Endnotes

[1] Many teaching materials (e.g., Kippasto and Nagy 2002) have found it useful to introduce object case alternation facts with discussing the nominal reference part-whole opposition before the aspectual uses. This tendency is not restricted to schoolbooks (see also as an instance Harms 1962, 131).

[2] The asterisk * is used for morphologically or syntactically ungrammatical sentences. The hash mark # is used for semantically unacceptable sentences, given a particular predicate that is illustrated with the sentence. The percent mark (%) is used for context-dependent, pragmatically infelicitous sentences. This sentence, for instance, is felicitous in a fairy tale, where the wind is depicted as an animate being.

CHAPTER 5

UNRESOLVED ISSUES ABOUT VERB CLASSES AND OBJECT CASE

5.1 *Introduction to the problems left for further study in earlier sources*

This chapter presents additional data on verb classification and object case. The main purpose of Chapter 5 is to demonstrate that despite the facts that Estonian transitive verbs can occur with either object case, and the same verbs occur in sentences with opposite aspectual properties, verb classification is crucial for the exact realization of the object case and the aspectual properties of the sentence.

The first section of the chapter points out the problems with assuming two or three verb classes that determine object case. The main problem is that, on the one hand, the relevant terminology is not clearly defined in the earlier accounts and, on the other hand, verbs are classified according to their occurrence with one of the object cases. However, verbs associated with one object case do not invariantly appear with this object case only. Thus, the grounds for assuming verb classes are not firm enough. On the other hand, this section discusses that the reasons for occurring with the «opposite» object case vary depending on the verb class. Also, a more systematic overview of the combinations with the so-called «boundaries» or «resultative complements» is presented. According to these additions, a more precise aspectual verb classification can be proposed for Estonian.

The second section of this chapter contains a classification of Estonian verbs in terms of the classification discussed in Vendler (1957). A comparison with this disputed but widely known aspectual or event structural classification clarifies some regularities of the aspectual behavior of verbs and shows the relation with the object case.

The understanding from Chapter 4 is that Estonian object case alternates on the basis of aspect, but the alternation is not available for all verbs and it is dependent on the properties of the object NP. This chapter starts with a brief recapitulation the data. To remind, the total case, the morphological genitive (1a) marks singular NPs and the morphological nominative (1b) marks plural NPs. These sentences are perfective, following the line of Metslang's research. These two sentences are terminative according to the criteria of Verkuyl (1993) and bounded in terms of Kiparsky's notion of boundedness (Kiparsky 1998). For defining perfectivity, Kiefer's definition of perfective events is also applicable in these cases (Kiefer 2000: 276).

A. Tamm, *Scalar Verb Classes. Scalarity, Thematic Roles, and Arguments in the Estonian Aspectual Lexicon,* ISBN (online) 978-88-6655-055-6, 2012 Firenze University Press

(1)

a. *Mari* *ost-is* *raamatu.*
M[NOM] buy-PST.3S book.TOT
‹Mary bought a/the book.›

b. *Mari* *ost-is* *raamatu-d.*
M[NOM] buy-PST.3S book-TOT.PL
‹Mary bought (the) books.›

Partitive typically marks singular object NPs, as in (2a), (2c), and plural object NPs, as in (2b), in imperfective sentences.

(2)

a. *Mari* *ost-is* *raamatu-t.*
M[NOM] buy-PST.3S book-PTV
‹Mary was buying a/the book.›

b. *Mari* *ost-is* *raamatu-id.*
M[NOM] buy-PST.3S book-PTV.PL
‹Mary bought books. (It was books that Mary bought.) Mary was buying (the) books.›

c. *Mari* *ost-is* *ve-tt.*
M[NOM] buy-PST.3S water-PTV
‹Mary bought water. (It was water that Mary bought.) Mary was buying water.›

When the object NP has a plural (2b) or a mass (2c) referent, the sentence can have two aspectual interpretations, perfective and imperfective. These sentences can be pronounced with different stress and intonation patterns, and these facts influence the interpretation. In case of neutral stress and intonation, sentences (2b) and (2c) are perfective, the object NPs are not focused and the referents of these phrases are not specific.

An overview of case patterns as discussed in *EKG II* can be found in Table 4.1, Chapter 4. Despite this type of frequently presented data that would suggest that Estonian verbs are aspectually «amorphous» and flexible in terms of object case assignment, and despite the evidence that shows that most verbs can occur with objects that bear either case, the goal of this section is to demonstrate that verb semantics has an important role in determining aspect and compatibility with case marking.

Previous approaches have documented a typology of verbs in two or three distinct classes. However, these approaches to verb classification do not have an explanation when verbs that belong to one «object case class» appear with the object case marking that is used as a classification criterion for another verb class. In several instances, the aspectual properties of the sentence are changed under the influence of the so-called boundaries, in others they

are not changed; in addition, the aspectual properties of the sentence can be changed without any boundaries. One of the most important problems to solve is what the relation between the so-called boundary, the verb, its object and aspect, such as in the pairs (3a) and (3b) is. Marginally, speakers allow for partitive objects in sentences with the particle, as in (3c).

(3)

a. *Mari* *ost-is* *raamatu.*
M[NOM] buy-PST.3S book.TOT
‹Mary bought a/the book.›

b. *Mari* *ost-is* *raamatu* *ära.*
M[NOM] buy-PST.3S book-TOT *ära*/PRT
‹Mary bought a/the book.›

c. %*Mari* *ost-is* *raamatu-t* *ära.*
M[NOM] buy-PST.3S book-PTV *ära*/PRT
‹Mary intended to be efficient in buying the book.›

Similar examples are recorded in some sources (cf. Harms 1962: 131), but they are rare. However, mass and plural partitive NPs, which are acceptable with the same verb and without particle, seem to have additional unnatural readings for pragmatic reasons, as in (3c).

The various particles and phrases that contribute to the interpretation of the sentence as having a set endpoint are referred to as «boundaries» in this chapter. As an introduction to the verb classification in Chapters 8-10, this section wishes to make some adjustments to the Estonian sources about verb classification and the correspondence to the facts about object case. The main point to be presented in this section is that the verbs grouped according to their occurrence with the partitive or total object case in the classifications of *EKG II* and Tauli-Rätsep must be grouped according to principles that are more predictive of the correspondences between form and meaning.

Ultimately, the aim is that clearly defined lexical aspectual properties replace the observational, purely object-case-based grounds for the classification of verbs. On the one hand, what is exactly meant by the terms «resultative» and «irresultative» or «boundability of situation» has not been adequately defined; therefore, the verbs cannot be classified according to a definition. On the other hand, reliable classification tests have not been provided to distinguish between the different verbs either. The lack of well-defined classification principles hinders extending the classes with new items. Section 3.2 discusses the standard aspectual classification tests but also shows the differences from a hypothesized pattern of object case and lexical aspect. This section organizes the data, discussing the problems of earlier classifications and occasional misclassifica-

tions. The verbs will be discussed in two parts, first the irresultative (B and C) and partitive verbs' classes (5.2), followed by the resultative (A) and aspect verbs (5.3).

5.2 *Partitive and irresultative verbs*

Irresultative verbs. The irresultative classes (Tauli 1968; Rätsep 1978) are not clearly distinguished from the resultative class in terms of verbal features or object case. Verbs belonging to both classes occur with both object cases. The classes B and C are termed irresultative, but only the class B (2), the «true» irresultative verbs, contains verbs that can occur with the partitive object only. In order to give an account of the interaction between verbs, particles, and object case, it is necessary to clarify the following points about the material presented in these sources:

1. the term «irresultative»
2. the feature that distinguishes verbs, if many verbs allow for either case
3. the differences between boundaries and their influence on aspect
4. problems with treating the verb-boundary complexes
5. identifying the inconsistencies in the classifications
6. differences between the irresultative verbs.

The standpoints about these issues are discussed in turn below.

Issue 1. The term «irresultative».
The term «result» will not be defined in this book. In order to prepare the discussion and rejection of the «telicity-object case hypothesis», I propose relating the material that has been referred to in terms of the previous terminology «irresultative-resultative» to «atelic-telic». I leave the possible research options concerning the issues of a result state for future.

Issue 2. The problem of distinguishing verbs.
The relation of class C («ambiresultative») to class A (res.) and to class B (irres.) is unclear. Lexical aspect makes class C (ambires.) identical to B (irres.), but the ability to occur with two types of object case makes C (ambires.) similar to A (res.).

Issue 3. The problem of boundaries and partitive objects.
The combination of class C («ambiresultative») verbs with a boundary does not automatically trigger total case marking of objects, as seen from the examples (4a) and (4b). The insight is that these verb-boundary combinations occur more typically with total object case marking, but they do not exclude the partitive either.

(4)

a. *Mari* *loopi-s* *tund* *aega*
M[NOM] throw-PST.3S hour[NOM] time.PTV
palli *katuse-le.*
ball.PTV roof-ALL
‹Mary was throwing the ball on the roof for an hour.›

b. *Mari* *ässita-s* *koera* *tund* *aega*
M[NOM] incite-PST.3S dog.PTV hour[NOM] time. PTV
võõra-le *kallale,* *aga koer ei võtnud vedu.*
stranger-ALL at, but the dog did not get interest.
‹Mary urged the dog to bite the stranger for an hour, but the dog showed no interested.›

Thus, the conditions of partitive case that make a difference between classes A, B, and C can be better articulated.

Issue 4. Problems with treating the verb-boundary complexes.

The insight is that even if both A (res.) and C (ambires.) verbs appear *with* a boundary, appearing with a boundary is relevant for object case only in case of C (ambires.) verbs. The question is, when they are «in combination with a boundary», do class C (ambires.) verbs behave like class A (res.) verbs in terms of case marking on the infrequent occasions that the A (res.) verbs appear without a boundary in natural discourse, as in (5a). Alternatively, looking at the same problem from the viewpoint of the boundary, if the two classes have identical behavior «in combination with a boundary», what the exact status of the boundaries is, needs specification. That is, what is in common in the sentences (4a) and (4b) and sentence (5b)? Intonation and the subject pronoun indicate a difference in the information structure of the two sentences. The difference is possibly not lexical aspectual.

(5)

a. *Mina* *teg-i-n* *selle* *töö.*
I[NOM] do-PST-1S this.TOT work.TOT
‹I did the job.›

b. *Ma* *teg-i-n* *selle* *töö* *ära.*
I[NOM] do-PST-1S this.TOT work.TOT *ära*/PRT
‹I did the job.›

On the one hand, the book searches for a way to capture the similarities and differences between the combinations of verbs and boundaries. Chapter 8-10 propose a way to treat the differences.

Issue 5. Inconsistencies in the classifications.

The fact that there is a lack of exact classification tests yields inconsistencies in classification. Many of the verbs that are classified as purely irresultative, partitive-object verbs can occur with the particle *ära* and a total object: *puudutama* ‹touch›, *võrdlema* ‹compare›, *abistama* ‹help›, *jälgima* ‹watch›, *külastama* ‹visit›, *solvama* ‹offend› (Tauli 1968); *alustama* ‹start, begin›, *liputama* ‹wag, whisk›, *õigustama* ‹justify› (Rätsep 1978).

Issue 6. Differences between the irresultative verbs.

The lack of clearly defined features that would predict object case behavior and the aspect of the sentence gives rise to another unresolved issue. There are some verbs that can refer to events with a clear beginning, end, and a result, such as *solvama* ‹offend›. Despite the resultativity of these verbs, they are classified as irresultative on the basis of the typical facts about their object's case, which is partitive. Here, the intuitive concept «irresultativity» does not make correct predictions about object case. Therefore, I consider the alternatives of (im)perfectivity and (a)telicity. These verbs typically (that is, at least in some, most often used senses) appear in perfective sentences. Their reference is non-divisive, since the arbitrary proper parts of the event in the denotation of *solvama* ‹offend› are not necessarily in the denotation of the predicate. The sum of two events of *solvama* ‹offend› may be in the denotation of the predicate. The intuition about these verbs is that although they denote a delimited, bounded event where a relevant change of affairs has taken place, their denotation does not exclude that the event can be continued. These verbs are, on the one hand, compatible with the adverbials denoting grades of intensity, such as *üha rohkem/vähem* ‹more and more, less and less›; on the other hand, they are compatible with adverbials that indicate that a change has been completed to at least some extent, such as *mõnevõrra* ‹to some extent›. Verbs such as ‹run› or ‹watch› do not combine with this adverbial.

Thus, the defining principle that relies on irresultativity is not exact for defining this class of partitive-object verbs. Reference to an alternative term pair that relies on the frequently used concept of *lõpetatus* ‹having (been brought to) an end, closed-endedess, being finished› does not define the irresultative class either. It may cover verbs of the type *solvama* ‹offend›, which describe events with a result and possible continuation; so, these events can be open-ended. However, there are other verbs that are not open-ended. Resorting to open-endedness as a common denominator for the class would leave out verbs such as *puudutama* ‹touch› or *riivama* ‹touch lightly›. These verbs describe events that typically are of short duration and have an obligatory temporal end. However, this endpoint cannot be brought in connection with any relevant change in the situation, a result. These verbs typically (that is, at least in some, most often used senses) appear in perfective sentences. Some of them (e.g., *riivama* ‹touch fleetingly, slightly›) cannot appear with durative adverbials that denote a definite extent, span or measure of duration; others, such as *puudutama* ‹touch› can appear with such du-

rative adverbials, but in that case, they rather have stative or iterative readings. Their reference is non-divisive, since the arbitrary proper parts of the event in the denotation of *puudutama* ‹touch› are not necessarily in the denotation of the predicate (there are no parts). These verbs do not typically appear in sentences with the telic interpretation, however, since the sum of two events *puudutama* ‹touch› may be in the denotation of the predicate. As opposed to the type of partitive object verbs such as *solvama* ‹offend›, verbs of this type are compatible with simple temporal bounding adverbials that refer to undefined temporal boundaries of the event, such as *korra* or *korraks* ‹a time, once, for a while›. Therefore, the conclusion is that the irresultative verb class houses various verbs that are not compatible with total object case marking for different reasons.

Verbs that are classified as irresultive not on the basis of their denotation—lacking reference to a result or an element of endedness—but on the basis of their partitive object case are perfective by the tests. Being lexically perfective thus cannot be related to total object case assignment. However, these verbs are perfective in clearly different ways, one group lexicalizes a minimal change and the other group—short duration. The verbs of the type *solvama* ‹offend› describe lexically an event of a changed situation, whereby the event can have duration or not. This information suggests that there is a kind of perfectivity or boundedness that relates to a minimal *change* in an event and to partitive objecthood. On the other hand, verbs of the type *puudutama* ‹touch› encode rather the information that the event is short whereby changes can take place. This information suggests that there is a kind of perfectivity or boundedness that relates to a minimal *duration* of an event and to partitive objecthood.

In sum, there are two interesting classes: some perfective partitive verbs encode (short) duration and some encode a (minimal) change. There are several points to clarify, and they pertain primarily to the nature of verb entries, the meaning components in verbs and ways of combining with boundaries that determine the object case possibilities. Partly, these points to clarify coincide with the points that can be raised in the discussion of the partitive verbs of *EKG II*. In order not to repeat some points that are common in both approaches, the presentation of some problems of the verb classification in *EKG II* is more constructive in a sense that I make a preliminary finer distinction between the verbs that occur under partitive verbs in *EKG II*, using some insights from the three-way classification and a distinction between (resultative) complements and particles as opposed to the particle *ära*.

Partitive verbs can have total objects. The two-way classification avoids reference to result and relies on the term «boundability». It tries to integrate the parallels between the nominal and verbal domain (cf. Bach 1986) by introducing a term that may be related to boundedness. Therefore, «result» does not emerge as a relevant term, which removes some problems of the Tauli-Rätsep approach. *EKG II* is also a step forward in treating particle and verb combinations as lexical aspectually distinctive units. Also, this approach

allows for more variation in the verbs' behavior in terms of object case; this variation is motivated by the properties of the situations that these verbs describe. Some less articulated issues in the two-way classification in *EKG II*:

1. A definition for (not) boundable situations.
2. The status of boundaries (arguments or not), partitive verbs appearing with several boundaries, the particle *ära* and a total object.
3. Partitive verbs that appear with total objects.

The problems of the partitive and irresultative verb class are largely identical; therefore, the discussion of partitive verbs partly complements the discussion of irresultative verbs.

Issue 1. This classification (*EKG II*) relies on the notion of boundable situations. The approach allows for the occurrence of one verb in the description of several types of situations (boundable and bounded) and, therefore, one verb can occur with different object case and have various complementation patterns. Some complements and particles are related to situation boundaries. However, what are boundable or not boundable situations is not clearly defined; therefore, the predicates that refer to the situations are not well defined either. Actually, the classification in *EKG II* is even less articulated about verbs that typically occur with the partitive than the classification based on the notion of resultativity. The reasons for appearing with a partitive object diverge. The same reasoning can be carried over to the boundability approach. Some partitive verbs describe boundable (*jälgima* ‹follow, watch›, *kuulama* ‹listen (to)›) and others, typically non-boundable situations (*mäletama* ‹remember›). Other partitive verbs describe situations that are bounded (*kahjustama* ‹damage, harm›). The verbs that describe boundable situations can also be applied for describing bounded situations. These are the verbs that, despite their classification as «partitive verbs» in *EKG II,* allow for total case marking, and they occur in aspectually opposite sentences. On the other hand, those verbs that describe non-boundable situations describe situations that cannot be bounded for various diverging reasons, some of which are mentioned in connection with the perfective «irresultative verbs». They may lack a temporally relevant dimension, describing general attitudes and states, and they may be unavailable for bounding because they are inherently (temporally or otherwise) minimally bounded already.

Issue 2. Boundable situations can be bounded, but in terms of linguistic forms that correspond to the bounding of the situation, I propose a finer distinction between the linguistic correlates of boundaries. First of all, partly, it is the total object case that unambiguously correlates with the boundedness of the situation. However, differently from Finnish, total objects typically occur when there is a boundary present in the sentence. On the basis of the verbs discussed in *EKG II* and their typical occurrence with object case and «boundaries», I suggest further distinctions among the presented partitive verbs.

Type A. Non-boundable: individual level predicates and inherently bounded verbs.

Type B. Boundable by an argument.

Type C. Boundable by the terminative phrases (the object is partitive) or the particle *ära* (the object is total).

Resultative complementation of partitive verbs that occur with total objects is also discussed in the examples of Klaas (1999). Klaas (1999) is discussed in terms of a lexicalist approach by Ackerman and Moore (2001) in Chapter 6.

Type A. Non-boundable: individual level predicates and inherently bounded verbs are verbs that occur with partitive objects only, listed in (6).

(6)

alahindama ‹underestimate›, *armastama* ‹love›, *austama* ‹honor›, *eeldama* ‹presuppose›, *himustama* ‹desire, have lust›, *ihaldama* ‹desire›, *imetlema* ‹admire›, *jälestama* ‹loathe›, *jälgima* ‹watch, follow›, *kahetsema* ‹regret›, *kartma* ‹fear, be afraid of›, *kogema* ‹experience›, *kujutama* ‹imagine, shape, depict›, *kuulma* ‹hear›, *käsitama* ‹regard, approach to sth as sth›, *leinama* ‹mourn, lament›, *meenutama* ‹try to remember›, *mäletama* ‹remember›, *nautima* ‹enjoy›, *teadma* ‹know›, *usaldama* ‹trust›, *uskuma* ‹believe›, *vajama* ‹need›, *vihkama* ‹hate›, *ülistama* ‹glorify, exalt›, *ette kujutama* ‹imagine›, *imeks panema* ‹be surprised›, *järele aimama* ‹mock, play sb›, *pealt kuulama* ‹eavesdrop›, *pealt kuulma* ‹hear by accident›, *pealt nägema* ‹see by accident›, *pealt vaatama* ‹watch as sth going on›, *silmas pidama* ‹mean sth concrete›, *taga nutma* ‹mourn, cry for sth/sb›, *tähele panema* ‹notice, perceive›, *üle hindama* ‹overestimate›, *huvitama* ‹interest›, *kartma* ‹fear›, *valdama* ‹overwhelm›, *valitsema* ‹rule›, *harrastama* ‹go in for sth›, *kavatsema* ‹plan›, *takistama* ‹obstruct›, *taotlema* ‹apply›, *väärima* ‹be worth(y)›, *üritama* ‹attempt›, *soosima* ‹favor›, *teenima* ‹serve›, *toetama* ‹support›, *ülal pidama* ‹keep (sb, supporting)›, *taga ajama* ‹chase.›

The fact of writing a verbal particle or a case-marked noun as one word with the verb does not influence the case assignment of the predicate. See as examples of combinations that are written as one verb, Tauli (1972: 118). All of the transitive verbs discussed there, except *taaselustama* ‹revive›, have typically partitive objects.

On the one hand, these are the verbs that cannot typically combine with the particle *ära* (7) and that are not boundable, since they describe a general situation, state, truth, relation, or an attitude; these are referred to as individual level predicates as opposed to stage level predicates in aspect-related literature (cf. Kratzer 1995).

(7)

a.	*#Mari*	*alahinda-s*	*Tooma*	*kavaluse*	*ära.*
	M[NOM]	underestimate-PST.3S	T.TOT	cleverness.TOT	PRT

Intended to mean: ‹Mary underestimated the wit of Thomas.›

On the other hand, there are partitive verbs in Type A that seem to be compatible with the optional phrases that denote a boundary, but adding a boundary can pertain to the intensity of the activity and would not affect the object case (8). Here I discuss the example of the verb *solvama* ‹offend›, which was presented in the discussion about irresultativity. This type of verb describes situations with an outcome, a change in the situation, or result; however, the result can be attained at any occurrence of the described situation. The exact extent to which Thomas is offended does not matter for the boundedness of the event.

(8)

a.	*Mari*	*solva-s*	*Toomas-t*	*südamepõhja-ni.*
	M[NOM]	insult-PST.3S	T-PTV	bottom.of.the.heart-TER
	‹Mary insulted Thomas to the bottom of his heart.›			

Example (8) is problematic in terms of a result-based approach, and it fares better in a boundability-based approach. In that case, the verb could be understood to describe a situation that is bounded inherently. The list in (9) includes more instances of such inherently bounded verbs in *EKG II*.

(9)

ette heitma ‹reproach›, *üllatama* ‹surprise›, *kohtama* ‹meet›, *alustama* ‹start, begin›, *jätkama* ‹follow, continue›, *kahjustama* ‹damage›, *liigutama* ‹move, make a move›, *noogutama* ‹nod›, *pilgutama* ‹wink›, *riivama* ‹touch lightly›, *kibrutama* ‹frown›, *karistama* ‹punish›, *premeerima* ‹award, stimulate›, *ründama* ‹attack›, *õnnitlema* ‹congratulate›, and *puudutama* ‹touch›

Type B. Boundable by an argument. The proposal to distinguish between boundable and nonboundable verbs is made in various forms. Klaas (1999), who compares the alternation of Estonian object cases with the corresponding Lithuanian phenomenon, calls the occasionally partitive assigning verbs of this class «soft» and the solely partitive assigning ones «hard» partitive verbs. An example of the behavior with a hard partitive verb *pooldama* ‹support, be on behalf of› with a boundary *lõpuni* ‹until the end› is borrowed from Klaas (1999: 55) in examples (10a)-(10c) for discussion.

(10)

a.	*Komisjon*	*poolda-s*	*teis-t*	*kandidaati.*	
	board[NOM]	support-PST.3S	second-PTV	candidate.PTV	
	‹The board supported the second candidate.›				
b.	**Komisjon*	*poolda-s*	*teise*	*kandidaadi*	*lõpu-ni.*
	board[NOM]	support-PST.3S	second.TOT	candidate.TOT	end-TER
	Intended to mean ‹The board supported the second candidate until the end.›				

c. *Komisjon* *poolda-s* *teis-t* *kandidaati* *lõpu-ni.*
board[NOM] support-PST.3S second-PTV candidate.PTV end-TER
‹The board supported the second candidate until the end.›

The examples (11a)-(11c) illustrating the behavior of the soft partitive verb *ihuma* ‹sharpen› are borrowed from Klaas (1999: 55). The sentences (11b) and (11c) with the translative marked phrases occur with both object cases.

(11)

a. *Mees* *ihu-s* *nuga.*
man[NOM] sharpen-PST.3S knife.PTV
‹The man was sharpening the knife.›

b. *Mees* *ihu-s* *noa* *terava-ks.*
man[NOM] sharpen-PST.3S knife.TOT sharp-TRA
‹The man sharpened the knife.›

c. *Mees* *ihu-s* *nuga* *terava-ks.*
man[NOM] sharpen-PST.3S knife.PTV sharp-TRA
‹The man was sharpening the knife.›

The terminative and translative marked phrases are listed in Rätsep's complement types that occur in verb patterns with the Rätsep's complement type «N+ngp» (see example (4.20) in 4.2.5 for its definition). However, the terminative marked phrase is an adjunct in (10) and (12a), but a translative marked phrase is an argument and a secondary predicate in (11b), (11c), and (12b), which I test with the possibility of a «do-so» test (12a), (12b).

(12)

a. *Komisjon* *poolda-s* *teis-t* *kandidaati*
board[NOM] support-PST.3S second-PTV candidate.PTV
ja *teg-i* *se-da* *lõpu-ni.*
and do-PST.3S this-PTV end-TER
‹The board supported the second candidate, and did so until the end.›

b. *#Mees* *ihu-s* *nuga,*
man[NOM] sharpen-PST.3S knife.PTV
ja *teg-i* *se-da* *terava-ks.*
and do.PST.3S it-PTV sharp-TRA
Intended to mean: ‹The man was sharpening the knife, and did so sharp.›

This is an example that illustrates that the boundaries provided by the verb and its arguments are relevant for object case, and that the boundaries that are provided outside the verb-argument complex, generally, do not have any impact on object case. As the facts with the terminative and translative marked NPs show, I may assume a distinction between the boundaries provided by the phrases that have the argument as opposed to adjunct status. It is a weakness of the description in *EKG II* that it does not distinguish clearly between the status of the boundaries and their relation to the object case. This distinction is clear in Rätsep (1978) because the approach is primarily lexical. However, the relation between the argument and adjunct status of the NP that denotes the boundary and object form type is not explicitly stated in Rätsep (1978) either.

The relation between the status of the boundary phrase and object case has not been well defined in other earlier Estonian sources either. However, the syntactically and lexically different status of the boundary NPs is mentioned in Erelt (2003). In his discussion of obliques and adverbials, Erelt (2003: 99) proposes special spatial and temporal semantic roles of boundary («N ter»). It remains further unclear in this source how semantic roles are linked with arguments and adjuncts. However, the fact that they are linked is relevant. That is, there are other native speakers who recognize the link between an identical semantic role and arguments on the one hand and adverbials, on the other. My intended improvement to this intuition is clarifying the exact basis of the link between the boundary semantic role and the NPs that are either arguments or adjuncts. In my view, identical case marking of obliques (arguments) and adverbials (adjuncts) is related to the boundedness of entities with a different semantic structure, measure and scale. A verbal lexical scale dimension is related to direct internal arguments (or «objecthood»). The existence of actual boundedness of this dimension is encoded by object morphology. Adjunct NP morphology specifies a boundary or an endpoint of a different, linear, and measurable dimension—measure, extent, or span. The total case marked adjuncts and terminative case marked adjuncts both specify that there is a boundary, but differently from the terminative marked adjuncts, the total case marked ones do not necessarily specify the exact identity of the boundary or endpoint. The total case-marked adjuncts cannot specify that the event is «over» and that the event cannot be continued.

Returning to sentences (10) and (11) containing «support» and «sharpen», both sentences, both sentences describe an event with an endpoint. Thus, although the translative or terminative case-marked phrase can provide a boundary, it co-occurs with the total object complement type («N+ngp») only if it is an argument and not an adjunct. For the definition of this complement type, «N+ngp», see example (4.20) in 4.2.5 for its definition. The translative marked phrase *teravaks* ‹sharp› in (11b, c) and (12b) is an argument, the terminative marked phrase *lõpuni* ‹till the end› (10c) and (12a) is an adjunct and a secondary predicate. In terms of Rätsep's patterns, the translative NP is the syntactic realization of the obligatory

material belonging to the lexical entry including the (object) complement type. The other, parallel lexical entry of the verb *ihuma* ‹sharpen› is without the translative complement type, and it has only the Rätsep's complement type «N+part» (basically, the partitive object type). On the other hand, the terminative phrase in (10c) and (12a) is not the realization of the obligatory material in the lexical entry of *pooldama* ‹support›, it is a free adjunct that denotes a boundary or endpoint. *Lõpuni* ‹until the end›, therefore, refers to a type of situation boundary that cannot be directly related to the object case and aspect. A terminative marked phrase may have impact in other cases, where it is the realization of the obligatory material that is contained in the lexical entry. For instance, the same terminative phrase occurs as argument by the do-so test in sentences where the object case is total, as in *ma vaatan filmi lõpuni* ‹I'll watch the film till its end›. See also the discussion of Klaas (1999) in Ackerman and Moore (2001).

Type C. Boundable by the terminative phrases (the object is partitive) or the particle ära *(the object is total).* Thus, there is another group of verbs that typically occur with partitive object case, but in sentences with the perfective particle *ära* these verbs appear with a total object. The discussion here also shows that one verb can be applied for descriptions of several types of situations. The verbs may combine with the particle *ära*, and have a total object as illustrated in (13), even if the combination with the particle and a total object is pragmatically not neutral.

(13)

Mari	*solva-s*	*Tooma*	*ära.*
M[NOM]	insult-PST.3S	T.TOT	*ära* /PRT

‹Mary did the act of insulting of Thomas.›

These data suggest that more partitive verb groups can be distinguished according to the situations they can describe. The following discussion presents groups of verbs that denote activities but also static situations or relations, verbs that denote activities, and «soft partitive verbs» that can describe activities and accomplishments. The goal is to make a semantic classification of verbs that is predictive of their syntactic behavior.

1. *Partitive verbs.* Verbs that denote activities but also static situations or relations:

(14)

ahistama ‹harrass›, *iseloomustama* ‹characterize›, *pilkama* ‹mock, banter, deride›, *sihtima* ‹target›, *solvama* ‹offend›, *varjutama* ‹shadow›, *taga ajama* ‹chase›, *käsitlema* ‹regard, study›, *ette heitma* ‹reproach›, *üllatama* ‹surprise›, *kohtama* ‹meet›, *alustama* ‹start, begin›, *jätkama* ‹follow, continue›, *kahjustama* ‹damage›

2. *Partitive verbs.* Verbs that denote activities:

(15)

laksutama ‹click›, *liputama* ‹wave quickly, wag›, *vangutama* ‹wag, waggle, shake›, *nuusutama* ‹sniff, smell›, *käsitlema* ‹regard, study›, *läbima* ‹go through›, *kahjustama* ‹damage›, *liigutama* ‹move, make a move›, *noogutama* ‹nod›, *pilgutama* ‹wink›, *riivama* ‹touch lightly›, *kibrutama* ‹frown›, *karistama* ‹punish›, *premeerima* ‹award, stimulate›, *ründama* ‹attack›, *õnnitlema* ‹congratulate›, and *puudutama* ‹touch›

The verb *puudutama* ‹touch› is presented in (16a) as discussed in Klaas (1999). Also, another example, with *tänama* ‹thank› as in (16b) belongs to this group.

(16)

a.	*Ta*	*puuduta-s*	*mängija*	*ära.*
	s/he	touch-PST.3S	player.TOT	PRT
	‹S/he touched the player.›			
b.	*Priit*	*täna-s*	*jõuluvana*	*ära*
	Fred[NOM]	thank-PST.3S	SC.TOT	PRT
	ja asus kommikoti kallale.			
	and started with his bag of candy.			
	‹Fred thanked (said the requested/expected ‹thanks› to) Santa Claus and started with his bag of candy.›			

Examples (16a) and (16b) are the examples of partitive verbs where the bounding can occur only with the particle *ära* (the bounding particle). This group can be expanded with many verbs.

3. *Partitive verbs.* «Soft partitive verbs» that can describe activities and accomplishments form one group.

This is the best studied phenomenon of verbal aspectual alternation in Estonian. Here follow the verbs that are referred to in Klaas (1999) as soft partitives. These are mainly the «ambiresultative» verbs, class C (number 3) of the three-way distinction. These are verbs that appear basically with the partitive object. From verbs that can belong to this group, *EKG II* does not include many (caused) motion verbs.

Combinations with a particle. The following verbs listed in (17a) can occur with the particle *ära* and the total object. Resultative phrases and causative constructions with these verbs are frequent. Some verbs that occur in resultative constructions are listed in (17a) and provided with illustrative examples. The object case is total with verbs such as *helistama*

‹phone, ring, call› as in (18a), *lehvitama* ‹wave› as in (18b), *juhtima* ‹drive, lead› as in (18c), *trahvima* ‹fine› as in (18d).

(17)

a. *parandama* ‹improve›, *katkestama* ‹interrupt›, *kasutama* ‹use›, *kuulama* ‹listen›, *nägema* ‹see›, *vaatama* ‹look›, *ootama* ‹wait›, *näitama* ‹show›.
b. *embama* ‹hug›, *kallistama* ‹hug›, *keerutama* ‹twist›, *kehitama* ‹shrug›, *kraapima* ‹scrape›, *kratsima* ‹scrape, scratch›, *lappama* ‹turn pages, flip›, *limpsima* ‹lick›, *müksama* ‹nudge›, *nõelama* ‹sting›, *näpistama* ‹pinch›, *peksma* ‹beat›, *piitsutama* ‹whip›, *silitama* ‹stroke›, *sügama* ‹scratch›, *taguma* ‹bang, beat›, *aitama* ‹help›

(18)

a. *Oliver* *helista-s* *arsti* *jalule* */ sõrme-d*
O[NOM] ring-PST.3S doctor.TOT up finger-TOT.PL
kange-ks / *kella* *tila* *küljest.*
stiff-TRA bell.GEN clapper.TOT off
‹Oliver rang until the doctor woke up, his fingers got stiff, the bell's clapper off.›

b. *Francesca* *lehvita-s* *rätiku-ga* *kärbse-d* *eemale.*
F[NOM] wave-PST.3S towel-COM fly-TOT.PL away
‹Francesca chased the flies away by waving the towel.›

c. *Rebekka* *juhti-s* *auto* *kõrvaltee-le.*
R[NOM] drive-PST.3S car.TOT sideway-ALL
‹Rebecca drove the car to a sideway.›

d. *Nii* *trahvi-d* *sa* *mu* *vaese-ks*
so fine-2S you I.TOT poor-TRA
kui *kirikurott.*
as church.mouse[NOM]
‹You fine me so that I'll be as poor as a church mouse.›

The most productive means of bounding is resultative constructions. A possible lexical template of such constructions is *agent/instrument CAUSE patient to BECOME in state (of being (at) x) BY activity*, whereby the agent or instrument is the subject, the state is specified by various phrases (a resultative phrase, a lative oblique), and the activity is represented by the base verb (cf. Spencer and Zaretskaya 1998). The resultative constructions such as in (18d) typically contain a translative resultative complement, that is, an adjective as in (18d) or a noun phrase case marked with the translative case as in (19).

(19)

Tanel *luge-s* *raamatu* *kapsa-ks.*
T[NOM] read-PST.3S book.TOT cabbage-TRA
‹Dan read the book till it looked like a cabbage.›

The constructions that have come to being by combining a soft partitive verb with a resultative complement are often also analyzed as causatives. In all of these cases there is a clear theme, patient or experiencer argument involved in the event. Those arguments are changed in the course of the action, or their location is changed. Also, there are opaque and semi-transparent particle combinations and idiomatic phrases that contain a partitive base verb and the boundary that by Rätsep's criteria belong to the verbal center. These are separate lexical entries and have their own object type properties. See Klaas (1999) for detailed examples of this type.

4. *Stative verbs with total objects*. Some verbs, illustrated in (20), have an object case alternation that does not correspond to any shift in the aspectual interpretation.

(20)

piirama ‹border as obstacle›, *raamima* ‹frame›, *ääristama* ‹border as decoration›, *katma* ‹cover›, *moodustama* ‹form›, etc.

These verbs, which can be classified as «partitive verbs» according to the criteria of *EKG II*, allow total case objects in aspectually *not* opposite sentences (stative nonscalar-stative measure alternation). This book regards these cases as instances of case with historical motivation reflecting the measure semantics of objects; according to my preliminary assessments, this alternation is losing its productivity.

As a conclusion to the discussion of irresultative and partitive verbs, many but not all partitive and irresultative verbs can occur with the total object. Therefore, defining a class via the object case is problematic. Defining the class of verbs that intuitively should be grouped together (since they typically occur with the partitive object case) on the basis of the terms non-boundable or irresultative is also problematic. Therefore, new criteria for verb classification will be proposed in Chapters 8-10 and a different approach to the interaction between verbs, case and aspect will be sketched.

The following subsection addresses the problem that almost all verbs listed under aspect and resultative verbs can occur with partitive objects.

5.3 *Aspect verbs and resultative verbs occur with partitive objects*

The verbs listed under aspect verbs can occur with partitive objects, which is a problem if verb classes are distinguished from each other on the basis of the verbs' occurrence with concrete object cases. This subsection shows that they can do so with different effect. Therefore, the class A (1) of the Tauli-Rätsep classification could be refined.

Resultative verbs. First I discuss some points of class A (1) of resultative verbs that need to be clarified in the three-way, Tauli-Rätsep classification. Many of the points of criticism are discussed earlier; therefore, the exposition here is brief, touching the following topics:

1. The term «resultativity».
2. The conditions for appearing with partitive objects.
3. The status of boundaries.
4. Misclassifications.

Issue 1. The term «resultativity».

In previous sources, it is not sufficiently defined what determines the object case alternation, what is the relation between verbal (verb class) resultativity, on the one hand, and «resultativity of the action» (actual resultativity) and case assignment, on the other. The verb's basic lexical aspect (in terms of resultativity) is considered the only essential difference from classes B (2), (irres.) and C (3), (ambires.). Despite this assumption, the lexical (class based) aspect can equally well fail to predict the total case assignment as evidenced by the contrast between the sentences (21a) and (21b) below. In those examples, the C (3), (ambires.) type verb's lexical aspect can change from resultative (21a) to irresultative (21b) in a sentence as the object case alternates.

(21)

a. *Mari* *kirjuta-s* *raamatu.*
M[NOM] write-PST.3S book.TOT
‹Mary wrote a book.›

b. *Mari* *kirjuta-s* *raamatu-t.*
M[NOM] write-PST.3S book-PTV
‹Mary wrote/was writing a/the book.›

Issue 2. The conditions for appearing with partitive objects.

The verbs within the group A (1) (res.) are lexical-semantically heterogeneous and they have not been given specific characteristics in those sources. However, these verbs have alternating object case (22a). These verbs occur with the partitive in the habitual (signaled by ‹as usual, always›) or iterative (signaled by ‹often›) meaning, as in (22a). They cannot denote processes (22b) and cannot typically be understood as the progressive, as demonstrated by the progressive test in (22c).

(22)

a. *Mari* *rikku-s* *tihti / nagu alati* *raamatu-t.*
M[NOM] ruin-PST.3S often / as usual book-PTV
‹Mary ruined/was often, as usual ruining a/the book.›

b. *#Mari* *rikku-s* *tundide kaupa* *raamatu-t.*
M[NOM] ruin-PST.3S for hours book-PTV
‹Mary was ruining a/the book for hours.›

c.	*#Mari*	*rikku-s*	*raamatu-t,*	*kui*
	M[NOM]	ruin-PST.3S	book-PTV	when
	uks	*avane-s.*		
	door[NOM]	open-PST.3S		

‹Mary was ruining a/the book when the door opened.›

Verbs that are referred to as typical incremental theme verbs can belong to this class A (1) (res.), e.g. *kirjutama* ‹write› (but, e.g. *lugema* ‹read› is not included in this class). This term became widely known since Dowty (1991) and Krifka (1992) and his earlier work. They used it for the description of verbs such as *eat* and *build. Eat (an apple)* and *build (a house)* type verbs denote the piece-by-piece, incremental creation or consumption; they are said to have incremental themes. There is a final piece or increment in the events described by these verbs, which marks the temporal end of the whole event. Such verbs are also referred to as effected object verbs. Those verbs occur with the partitive in the habitual or iterative meaning and also duratively (23a) as tested by the durative temporal adverbial *for hours* or in the progressive (23b) (tested by the *when*-clause).

(23)

a.	*Mari*	*kirjuta-s*	*tihti/tundide kaupa/*	*nagu*	*alati*	*raamatu-t.*
	M[NOM]	write-PST.3S	often/for hours	as	always	book-PTV

‹Mary was writing a/the book for hours/wrote a book as usual.›

b.	Mari	*kirjuta*-s	*raamatu-t,*	*kui*	*uks*	*avane-s.*
	M[NOM]	write-PST.3S	book-PTV	when	the door	open-PST.3S

‹Mary was writing a/the book, when the door opened.›

Other incremental theme verbs (creation verbs, effected object verbs), some of which are listed in (24) have in this respect the same properties as the incremental theme verb *kirjutama* ‹write›. They occur with the partitive object if durative; as shown, in the habitual, iterative and in the progressive meaning. The more precise tests for Vendler classification are studied in Chapters 9-10 in further detail.

(24)

tegema ‹make›, *ehitama* ‹build›, *rajama* ‹create, establish›, *trükkima* ‹print›

Issue 3. The status of boundaries. The role of the verb meaning and the role of the added boundary in the notion of resultativity can be made more explicit with resultative verbs. It is true of class A (1) (res.) as much as of class C (3) (ambires.) verbs that the boundary is related to total case assignment, however, that relation has not been sufficiently articulated yet. The

verbs within the group A (1) (res.) are heterogeneous in their occurrence with the particles. The verb *viima* ‹bring› combines with the directional *ära* (see Tamm 2004c). In a different function of *ära* (only as the bounding particle), the verbs in (25) can occur in a sentence with it.

(25)

vigastama ‹harm, injure› (it is a partitive, irresultative, misclassified verb), *alistama* ‹subjugate›, *omandama* ‹acquire.›

The verb *minetama* ‹forfeit, lose› does not occur with *ära* or any other boundary.

Issue 4. Misclassifications arise in this classification. For instance, *vigastama* ‹harm, injure› is a partitive-only verb unless combining with the bounding particle (see Tamm 2004c). This is, intuitively, a resultative verb. Some of the listed verbs, such as *viima* ‹bring›, occur felicitously only with a complement.

The verbs listed under resultative verbs can occur with partitive objects under various circumstances; therefore, the criteria for establishing class A (1) of the Tauli-Rätsep classification could be worked out in more detail.

Aspect verbs occur with partitive objects. Since the class of aspect verbs in *EKG II* and the class A (1) (res.) of the Tauli-Rätsep classification are designed to capture similar generalizations about classification and object case, the problems with the classification overlap. The following observations are detailed in the ensuing sections:

1. Appearing with or without boundaries.
2. There is no correlation between the appearance of a boundary and the total object.

Observation 1. Appearing with or without boundaries

As in the case of the verbs listed under resultative verbs, the aspect verbs occur often with a boundary (particle). The role of a boundary that occurs with the aspect verbs is differently defined in *EKG II* than in the Tauli-Rätsep approach. An example demonstrates that the boundary has a role in the information structural organization of a sentence with an aspect verb. More specifically, the appearance of a boundary is seen to be related to the fact that the object referent belongs to old, known information. However, the types of combinations with the boundaries are dependent on the aspect verb semantics and cannot be explained uniformly by information structural conditions. As in the case of the resultative verbs, there are verbs among the aspect verbs that practically do not occur without a boundary, there are verbs that occur somewhat less typically with a boundary and there are verbs that cannot appear with a boundary at all. I list the types with examples below.

Type A. The verbs in (26) typically occur with the boundary when in combination with the total object:

(26)

jätma ‹leave›, *äratama* ‹wake›, *leotama* ‹soak, drench› (probably a misclassification), *keetma* ‹boil›, *voltima* ‹fold›, *laenama* ‹borrow, loan›, *viima* ‹bring there, take.›

Partitive objects do not have a forced interpretation effect with many of these verbs when they occur without a boundary. Also, *jätma* ‹leave› occurs rarely without a boundary, *viima* ‹bring there, take› does not occur without a boundary. Several combinations of these verbs and boundaries are opaque (many with *saama* ‹get, become›, *leidma* ‹find›, *kutsuma* ‹call, invite›).

Type B. The verbs in (27) do not occur with a boundary; only the particle *ära* may occur with them in (context dependent) sentences.

(27)

avastama ‹discover›, *looma* ‹create›, *saavutama* ‹achieve, attain›, *sooritama* ‹make (exam, etc.)›, *koostama* ‹compile›, *moodustama* ‹form, create.›

Type C. The verbs in (28) occur with an adessive or allative (location-source) phrase that serves as a kind of goal boundary; the object case is partitive or total.

(28)

saama ‹get, become›, *leidma* ‹find›, *kutsuma* ‹call, invite›, *teatama* ‹announce›, *varuma* ‹gather and save in reserve›

Observation 2. There is no hard-and-fast correlation between the appearance of a boundary and the total object. Usually the boundary-verb combinations that are listed under aspect verbs allow both cases, with a preference for total case, as in in (29). The partitive is not excluded as shown in (30).

(29)

ette võtma ‹start (with something), deal with something resolutely.›

(30)

Mari	*võtt-is*	*se-da*	*eksami-t*
M[NOM]	took-PST.3S	this-PTV	exam-PTV
juba	*viienda-t*	*korda*	*ette.*
already	fifth-PTV	time.PTV	PRT

‹Mary was taking/went for this exam for the fifth time already.›

As a conclusion to Subsections 5.1 to 5.3, which sketch some observations about earlier accounts, I cannot assume the total or partitive case as a case that is only dependent on verb class and some grammatical categories such as negation. This point is actually made by more thorough studies, such as Kont (1963), Rätsep (1978), Tauli (1983), or the *EKG II* if read attentively. However, it is not made clear enough for simpler accounts that are based on these sources. This subsection shows that the verbs' relation to object case and combinability with several types of boundaries is largely based on lexical aspect, but for a satisfactory account of the conditions of either case assignment, the classes must be more clearly defined.

5.4 *Total objects, aspect, and intransitive verbs*

The discussion of earlier sources is not complete without mentioning two earlier not discussed issues. Two problems related to the aspect of intransitive verbs are discussed in this subsection: the object case of transitively used intransitive verbs and the aspectual properties of intransitive verbs. Intransitive verbs (such as *olema* ‹be›) typically do not express aspect. Both earlier verb classifications reflect generalizations about the sensitivity to the concept of result and boundaries, but in order to explain the classification principles of new verbs the classifications are static, relying on the presence of objects and using terminology that is not defined in the given sources. An area that has not been studied yet is the question of where to categorize various intransitive verbs with their potential object case assignment properties when they are used transitively, consider *triikima* ‹iron› as in (31a), (31b), an intransitive verb with a nominative subject, or *sadama* ‹rain› as in (31c), (31d) a verb with a typically partitive subject.

(31)

a. *Mari* *triiki-s.*
M[NOM] iron-PST.3S
‹Mary was ironing.›

b. *Mari* *triiki-s* *arvuti* *laia-ks.*
M[NOM] iron-PST.3S computer.TOT flat-TRA
‹Mary ironed the computer and it became flat. Mary made the computer flat by ironing it.› (Literally, ‹Mary ironed a/the computer flat.›)

c. *Vihma* *sada-s.*
rain.PTV rain-PST.3S
‹It was raining.›

d. *Vihm* *sada-s* *kübara* *märja-ks.*
rain[NOM] rain-PST.3S hat.TOT wet-TRA
‹The hat was soaked by the rain. The rain caused the hat to become wet.› (Literally, ‹The rain rained the hat wet.›)

Some basically intransitive verbs can appear with objects when they are combined with a resultative phrase. Next to describing the object case assignment properties of transitive verbs, a verb classification should ideally be based on principles that are valid for intransitives as well.

On the other hand, given the fact that one class of verbs is named *aspect* verbs, what might be the reasons for including only transitive verbs under aspect verbs? Excluding those intransitive verbs that are very similar to the transitive aspect verbs in terms of aspectual properties, such as the ones in the following example sentences (32a)-(32g), is not justified.

(32)

a. *Mari* *pühendu-s* *töö-le.*
M[NOM] devote-PST.3S work-ALL
‹Mary devoted herself to work.›

b. *Mari* *lakka-s* *hüüd-mast.*
M[NOM] stop-PST.3S shout-M_ELA
‹Mary stopped shouting.›

c. *Mari* *tutvu-s* *Kati-ga.*
M[NOM] acquaint-PST.3S Kate-COM
‹Mary got acquainted with Kate.›

d. *Mari* *süvene-s* *mõtte-(i)-sse.*
M[NOM] immerse-PST.3S thought-(PL-)ILL
‹Mary was sunk in thought.›

e. *Mari* *joobu-s* *õnne-st.*
M[NOM] get.drunk-PST.3S happiness-ELA
‹Mary was giddy with joy.›

f. *Mari* *rahuldu-s* *pisku-ga.*
M[NOM] satisfy-PST.3S little-COM
‹Little sufficed for Mary, Mary was/got satisfied with quite little.›

g. *Haigekassa nõukogu* *loobu-s* *otsustamise-st.*
the.Council.of.Public.Health[NOM] give.up-PST.3S deciding-ELA
‹The Council of Public Health refused to decide; the Council declined to make the decision.›

Due to mixing morphological and semantic terminological labels, the opposition is formulated in terms of «partitive» versus «aspect» verbs. However, it is possible that there are intransitive verbs that have the same aspectual properties as transitive «partitive» verbs. In sum, there are some aspect and object case related unresolved questions that pertain to intransitive verbs. The problems of intransitive verbs and their object case prop-

erties will not be discussed in detail in this book, but they are relevant for pointing out the need for a more uniform approach.

5.5 *Summary of Chapter 5*

Using the examples in the *EKG II* and in the accounts of Tauli and Rätsep have pointed out the necessity for assuming more verb classes than discussed in those sources. On the other hand, I have shown that the verbs and their relation to object case and combinability with several types of boundaries is dependent on lexical class. However, it is advisory to define verb classes less circularly, that is, not via observations about their typical object case, since most verbs appear with both cases. In order to extend the lists that predict the object case assignment behavior and motivate better the present classification, independent criteria are useful. Also, there are some issues that have not been addressed about Estonian aspect and object case. One of these is intransitive verbs and their ability to express aspect and to occur in transitive sentences. The following groups listed in (34) emerged.

(34) Groups

1. Genuinely non-boundable, individual level predicates, hard partitive verbs that do not combine with a particle or if they appear in sentences with a boundary, their object case is partitive (*underestimate, support*).
2. Non-boundable, inherently bounded predicates, while the bounding can be of two different types (*offend* vs. *touch*).
3. Boundable partitive verbs that combine with the particle *ära* ‹away, off, completely, finish›, and the object case is in that case total (*wag*).
4. Boundable, soft partitive verbs, aspect verbs and intransitive verbs that form resultative constructions; the object case can be in that case total (*wave*).
5. Partitive verbs that appear with total object case with no change in aspect (*cover, contain*).
6. Aspect verbs that typically occur with a boundary (*find*).
7. And those aspect verbs that typically do not occur with a boundary (*discover*).
8. Intransitive verbs that can express aspect (*get acquainted*).
9. Intransitive verbs that cannot express aspect (*be*).
10. Intransitive verbs denoting relationships and that typically cannot be related to the temporal dimension (*be equal to*).
11. Degree achievements or gradual completion verbs (*widen*) that have several aspectual readings and can appear with both types of objects, appear in transitive-intransitive pairs. If intransitive, their subject is never partitive. They seem to have a weak inherent endpoint related to a standard of quality.

CHAPTER 6

APPROACHES TO THE THEMATIC RELATIONSHIP AND ASPECT, LFG

6.1 *Objects are tightly related to aspect and vice versa*

In order to provide an account of verbal lexical semantics and its relationships to objects and case, this chapter reviews some formal, cognitive, and generative syntactic approaches to relationships between various approaches to form-function relationships. Argument structure, thematic roles, and aspectual roles stand central in the previous attempts to capture the relationships.

Previous chapters have established that the total case is grammatical only if certain types of lexical and semantic information are provided. It is an aspectual, grammatical marker. The total case on objects and adjuncts alike occurs in clauses with telic or quantized event predicates. However, in the following subsections I will discuss that the type of telicity that is defined by the relation as formulated in Krifka (1992: 39) provides the necessary and sufficient conditions for the total case marking of adjuncts only. This event-object relation does not hold for all grammatical objects. More specifically, the defined homomorphic relation between the event and object does not hold in telic predicates that appear with total objects in syntax. Objects of verbs that encode a different relation also appear with total objects, e.g., verbs of movement (*push the car into the store,* where there is no homomorphic relationship between the total case marked *car* and the progress of the event), achievement verbs (*find the key*), etc. Although formulating a more correct alternative thematic relation between objects and events is out of the scope of this book, I use the term «telic» to refer to predicates that contain a set terminal point (STP). An STP event predicate applies to events such that all subevents that fall under the predicate have the same terminal point. The reasons for assuming the incremental event-object (syntactically, the semantic object here is an adjunct in syntax) mapping relation are provided in the following subsections.

In sum, Estonian predicates that appear in syntax with either a total case marked object or adjunct have the following property in common: they are telic. However, they are telic in different ways. In order to proceed with the account, the notion of telicity and the event-object homomorphic thematic relationship that preliminarily explains the relation to adverbial total case marking is studied in 6.2.

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6.2 *Telicity and the account of event-object mapping*

Many studies are devoted to the correspondence between the reference type of NPs and verbs. In Krifka (1992: 29), thematic roles are taken as primitive relations between events and objects; they are links between nominal reference and temporal constitution. Krifka is a relevant source since it deals with the effect of partitive case marking on aspect as exemplified by some instances of partitive objects in Finnish (Krifka 1992: 46-48). Krifka sets out to capture the similarities between the nominal and verbal domain and provides an account of how the properties of the noun carry over to aspect («temporal constitution»). He studies the meaning of verbs that fix a special homomorphic mapping relation between events and objects, that is, verbs that have an incremental theme role. A quantized NP such as *an apple* or *a glass of wine* denotes an object with precise limits, and the predicate *run a mile* denotes an event with precise limits. A cumulative NP such as *wine* denotes something without clear limitation; the predicate *run* also denotes an event without any clear limitation (Krifka 1992: 30). Krifka notices that with many predicates, the reference type of the arguments determines the aspect («temporal constitution»): a quantized argument yields a telic verbal predicate (line (a); a cumulative argument yields an atelic verbal predicate, as in line (b) in (1).

(1)

*John drank wine for an hour/*in an hour.*	line (a)
*John drank a glass of wine *for an hour/in an hour.* (Krifka 1992: 30)	line (b)

With other predicates, such as *see,* this effect does not emerge. A quantized argument does not yield a telic verbal predicate in (2).

(2)

*John saw a zebra for an hour/*in an hour.*	line (a)
*John saw zebras for an hour/*in an hour.* (Krifka 1992: 30)	line (b)

This difference between the two predicates serves as the proof that the verbal lexical semantics determines whether the nominal reference type of the arguments can have an effect on clausal aspect. Krifka formulates a possible way of capturing the parallels between events and objects via a thematic relation. This is a relation that he envisages in terms of a homomorphism from objects to events (Krifka 1992: 39). Krifka establishes the following five assumptions or conditions for defining this relation:

1. Summativity.
2. Uniqueness of objects.
3. Uniqueness of events.

4. Mapping to objects.
5. Mapping to events.

Krifka explains these assumptions on the example of drinking a glass of wine. The condition of summativity secures the connection between thematic relations and the join operation. Summativity ensures that the join of two distinct events of drinking a glass of wine yields an event of drinking two glasses of wine. Uniqueness of objects secures that an event is related to a specific object: the drinking of a glass of wine is related via the patient role to this glass of wine and to nothing else. Mapping to objects captures the fact that every part of a drinking of the glass of wine corresponds to a part of the glass of wine. A mapping to events ensures that every part of the glass of wine being drunk corresponds to a part of the drinking event. Given these provisions, the object's properties can be reflected in the verb-object construction and, therefore, determine the telicity and atelicity of the predicate.

Krifka (1992) explains the difference between telic and atelic expressions on the basis of the example of *run* and *run a mile*. If we have two events of running, then they form together an event of running (Krifka 1992: 34); and if we have an event of running a mile, then no proper part of it is an event of running a mile. Telic predicates have a set terminal point (STP) and atelic predicates lack such a set terminal point. An STP event predicate applies to events such that all subevents that fall under the denotation of the predicate have the same terminal point. The predicate *run a mile* is a predicate with a set terminal point. Every subevent of a telic event of running a mile has the same terminal point. Such predicates are termed quantized. Non-quantized predicates are termed cumulative. Subevents of the cumulative predicate *run* can have different endpoints.

6.3 *Event-object mapping verbs are not the object case altering verb class*

As a matter of fact, Krifka admits the restricted application of his account to Finnish object case as well, quoted in (3).

(3)

> Note that in Finnish the partitive is used in many more cases; it serves to express the progressive even with nouns like *read* or *buy*, and it may be employed to mark irresultative verbs, as e.g., *to shoot and wound* versus *to shoot dead*. This can be explained by an analogical extension of this type of marking to conceptually similar cases. The *tertium comparationis* of this extension is that the expression with a partitive object denotes an event which is not as complete as an event denoted by the corresponding expression with an accusative object (Krifka 1992: 48).

Krifka notes the conceptual similarity between non-quantized, cumulative events and the progressives of verbs such as *read* or *buy*, and the irresultativity of the verbs such as *shoot* and *wound*. I can conclude on the basis of this excerpt that Krifka considers the occurrences of the partitive

case as different phenomena (progressive versus irresultative). Krifka establishes the ground for the meaning extension, which he words in terms of completeness, («the expression with a partitive object denotes an event which is not as complete as an event denoted by the corresponding expression with an accusative object» (Krifka 1992: 48). However, he does not elaborate on these intriguing insights further. One can conclude with Krifka that the event-object mapping account applies to a restricted set of data, compared to the data that are presented in Chapters 1-4, and that Estonian aspectual lexicon cannot be captured by using the notion of thematic relationships that relate the properties of events to the quantificational properties of the objects.

Kiparsky (1998) gives a more extensive comment on the applicability of Krifka's theory. Kiparsky's critique holds equally of the reach of Krifka's account if applied to Estonian total and partitive case.

6.4 *Distance and temporal adjuncts*

This subsection discusses temporal and spatial adverbials and shows that the impact of arguments and adjuncts to telicity can be identical if they are case marked with the total case: they occur in clauses with the telic interpretation[1]. The relation that was captured in Krifka's account mediates between the event and an object of a different kind: an object that is a spatial or temporal measure, realized as an adjunct (adverbial). I leave it for further research to find out the exact ways of understanding this. Estonian has total, nominative, and partitive marking of measure adjuncts. Phrases that denote measures in terms of spatial distances and temporal measure in sentences describing events and that are marked with the total case fulfill the conditions for the described homomorphic relation between objects and events. The phrase with the spatial denotation—the traversal of which denotes the set endpoint of the event—is case marked with the total case. Consider the following sentence (4) with a partitive object and a total case marked spatial measure adverbial.

(4)

Takso	*sõiduta-s*	*Peetri-t*	*ühe*	*kilomeetri*	*edasi.*
taxi[NOM]	drive-PST.3S	P-PTV	one.TOT	kilometer.TOT	further

‹The taxi drove Peter further (by) one kilometer.›

The review of the conditions shows that the same homomorphic relationship can be assumed to determine telicity in the case of spatial and temporal measures (extents, spans); spatial and temporal measures bear similarity to objects such as a glass of wine. Homomorphism follows from the properties of the thematic relation that mediates between the event and the distance measure. Summativity holds, the join of two distinct events —taking Peter one kilometer and taking Peter another kilometer—yields an event of tak-

ing Peter two kilometers. Uniqueness of objects is secured, the object being a distance; the event is related to a specific distance: the taking of Peter one kilometer is related via the given role to this measure, this kilometer and to nothing else. Mapping to objects holds, since every part of the taking of Peter one kilometer corresponds to a part of the kilometer. Mapping to events also holds, since every part of the kilometer corresponds to a part of taking Peter.

The relation of mapping to objects could be carried over to mapping to time spans as objects, where the phrase with temporal denotation—the traversal or expiring of which denotes the set end point of the event—is case marked with the total case. Consider the following sentence (5) with a partitive object and a total case marked temporal measure adverbial.

(5)

Takso	*sõiduta-s*	*Peetri-t*	*ühe*	*tunni*	*edasi.*
taxi[NOM]	drive-PST.3S	P-PTV	one.TOT	hour.TOT	further

‹The taxi drove Peter further for one hour.›

A temporal span may seem somewhat weird as an object, and more traditionally, the semantic correspondent of it is an operator (as in Verkuyl 1993). A temporal phrase has several roles to play in the semantics of aspect. Here I describe how the same relation can be assumed for the temporal and spatial relations. The sentence above describes an event where Peter's progress in the event is measured in time (e.g., Peter had to make a taxi ride of an intended temporal extent). The sentence has a counterpart where the measure phrase bears the nominative case (*üks tund* ‹one hour›); in that instance, the event-object homomorphic mapping relation cannot be assumed; the nominative marked adjunct is just a normal operator. In (5), summativity holds; the join of two distinct events driving Peter (for) one hour and driving Peter (for) another hour yields an event of driving Peter (for) two hours. Uniqueness of objects is secured, the object being a time span; the event is related to a specific temporal span: the driving of Peter (for) one hour is related via the given role to this span, the lapse of this hour and to nothing else. Mapping to objects holds, since every part of the driving of Peter (for) one hour corresponds to a part of the hour. A mapping to events holds as well, since every part of the hour corresponds to a part of driving Peter. If an STP event predicate applies to events such that all subevents which fall under the predicate have the same terminal point, then the predicate *drive Peter a kilometer and drive Peter (for) an hour* (with total case marking) are equally telic predicates. That is, such predicates have a set terminal point, since every subevent of a telic event of *drive Peter a kilometer* or *drive Peter (for) an hour* (with total case marking) has the same terminal point. The predicates in the example sentences with total case marked measure adverbials as in (4) and (5) are telic and specify a homomorphic event-object mapping, where the measure NPs resemble thematically related objects of verbs.

6.5 *Arguments and non-arguments in event-object mapping*

The relation that was defined in Krifka holds between events and objects that are realized as adjuncts and not as arguments in terms of syntax. Here, the Krifkan quantized event (telicity) does not relate to case marking of what is syntactically an argument of a predicate—as he himself acknowledges, see (3)—but this relation stands behind the case marking of an adjunct. Adjuncts (not syntactic objects) have total case marking if summativity, uniqueness of objects, uniqueness of events, mapping to objects, and mapping to events hold. This is a difficult situation for a lexicalist approach working with thematic roles. A verb can assign a thematic role to an argument, but it cannot assign a thematic role to an adjunct. Given the problem, more possibilities are provided by a feature-based approach, taken in chapters 8-10, as opposed to a thematic role approach.

6.6 *Total objects and telicity*

Total objects also occur with telic predicates other than those where there is a thematic link between syntactic objects and events; they appear in clauses that contain a predicate with a set endpoint. However, as claimed above, the semantic modeling of the relation between events and objects is not applicable with verbs such as *shoot* and *wound,* but also *bake* and *build*. Surprisingly, the total case-telicity correspondence holds for measure adjuncts. The exact semantic delineation of the telicity that plays a role in object case marking is out of the reach of this approach if the goal is to show the basic interaction between aspect, objects, case, and verbs. At the end of the day this book wishes to contribute to the understanding of the interface that connects many levels of representation. This is the novelty of the approach in this book; therefore, I integrate expertise from various subfields and I include topics that are challenging for current models.

6.7 *Interim summary*

In sum, from the semantic side, the condition of the telicity of the predicate, and reference to a set terminal point is a necessary and sufficient condition in a sentence related to the total case marked adjuncts and objects. Identical case marking that emerges with objects and adjuncts is a problem for lexicalist syntactic accounts working with thematic roles. How should a verb assign a total case to a non-argument? The proposal in Chapters 8-10 is to handle the total case as constructive case, and assume verbal aspectual features (attributes) for which cases provide values.

6.8 *Aspect and objects: Tenny (1994)*

The reason for choosing Tenny's approach as the next step in introducing the problems of the lexicon-syntax interface is its special focus on the

relation between aspect and objects from a lexicalist point of view. After all, the Estonian object case alternation is a morphosyntactic phenomenon; the quest for its solely lexical underpinnings requires the understanding of the verbs in syntax. My interface claim is that an unbounded scale (tier, attribute) in the meaning of the verb tends to determine the presence of the internal argument (or the Object in LFG).

Tenny's work is taken as a reference point for many lexicalist studies on aspect. On the one hand, after two chapters of discussing Estonian earlier works and data, a review of Tenny's framework is a suitable and classic starting point for emphasizing the special nature of several Estonian aspectual phenomena and articulating the problems they raise in the context of aspectual syntax-semantics interface studies. Namely, Tenny (1994) claims that universal principles of mapping between the lexicon and syntactic argument structure are governed by aspectual properties. This claim seems to be confirmed by Estonian data, since objects and aspectual expression are clearly related. More specifically, Tenny posits a link between the presence of a direct object (direct internal argument) and the expression of certain aspectual properties such as «delimitedness» or «measuring out of events». Tenny's terminology is discussed in further detail in 3.1.7, comparing it with Verkuyl's terms, and spelling out the relevance of related terms in accounting for Estonian aspectual phenomena.

6.9 *Aspectual roles mediate between the lexicon and syntax*

Tenny introduces special aspectual roles that mediate between the lexicon and syntax. One of these roles is termed as the MEASURE role, and it is «assigned to an argument of the verb, which (in the event as described by the verb) either undergoes some internal change or motion, along a single parameter; or provides a scale or parameter without undergoing change or motion; that measures out and defines the temporal extent of the event» (Tenny 1994: 95). This role represents the link between the temporal progress and the change or traversal of the entities that are processed. It is unclear from this formulation how to understand the status of non-argument measure phrases, which measure out and define the (temporal) extent of the event. A verb may assign the MEASURE role to its argument, and a noun phrase argument may bear it in a sentence. In Tenny's account, an equivalent to MEASURE can also be composed of the other two aspectual roles of PATH and TERMINUS, and PATH is seen as a defective MEASURE role. Given this division of aspectual roles, Tenny (1994: 106) defines two (three) verb classes in terms of a common aspectual role grid. Her classes of verbs are the following: 1) verbs with no aspectual roles; 2) verbs with a MEASURE aspectual role and verbs with an alternative to MEASURE, the PATH-TERMINUS aspectual roles (see below and in Table 6.1 for specifications). In Tenny's classification, we have thus two large aspectu-

ally distinct classes of verbs: those that have an argument (or argument constellation, with the roles PATH-TERMINUS) that can measure out an event and those that do not have such an argument. Those that have a measure argument (or the equivalent PATH-TERMINUS arguments) refer to events with an event nucleus, that is, achievements and accomplishments, delimited events. Syntactically, the argument bearing the [MEASURE] role must always be the direct internal argument in Tenny's approach, the argument that bears the [PATH] role may be implicit and the argument that bears the [TERMINUS] role must be the indirect internal argument. The arguments bearing any of these roles cannot be external arguments. Those verbs that have arguments that can measure out an event are divided according to the way their arguments are involved in measuring out the event.

6.10 *Three verb classes: incremental theme, change of state, and path object*

There are three kinds of verbs that have arguments that can measure out an event in Tenny's account. They are divided according to how their arguments are involved in the measuring out of the event:

1. Incremental theme verbs (Tenny 1994: 15). Examples of such verbs are *eat* and *build*. *Eat (an apple)* and *build (a house)* types of verbs of creation or consumption have incremental themes. There is a final increment in the events described by these verbs, which marks the temporal end of the event. The event's temporal terminus is achieved by progressing incrementally through the apple or the house.
2. Change of state verbs (Tenny 1994: 16). Examples of such verbs include *ripen, crack* and *explode* as in *ripen the fruit*, *crack the glass,* or *explode the bomb*[2]. The event's terminus is achieved by progressing along measurable degrees of change in a property.
3. Path object or route verbs (Tenny 1994: 17). Path object or route verbs are verbs the argument of which does not undergo any change or motion during the event. However, traversing it provides a measure for the event. Examples of sentences including path objects as discussed in Tenny are *Bill climbed the ladder* and *Sue walked the Appalachian Trail*. Tenny discusses performance or event direct arguments such as in *play a sonata* also as instances of path objects. As the end of the Appalachian Trail determines the end of the walking, the end of the sonata determines the end of the playing event. Increments of the object may be associated with temporal increments of the event. Unlike incremental theme objects, path objects do not necessarily undergo a change during the event.

Here I flesh out the types briefly with some examples of Tenny's verbs in Table 6.1.

Table 6.1 The typology of Tenny's verbs with their aspectual role grids and examples as in Tenny (1994: 108)

Verbs	Verbs and aspectual roles	
1. Verbs with no aspectual roles are unergative, some transitive verbs, stative verbs	pound: study: push: run:	[ ] [ ] [ ] [ ]
2. verbs with a MEASURE aspectual role, unaccusative and transitive. 2a. For verbs that ambiguously specify a delimited or non-delimited event, the measuring roles are optional: here are incremental-theme verbs like eat.	eat:	[(MEASURE)] [MEASURE] *John ate apple in an hour.* [ ] *William ate the same apple for hours.*
2b. other incremental-theme verbs (build), and pure change of state verbs (ripen, freeze, crack) are not ambiguous, and their MEASURE aspectual roles are not optional.	build: ripen: freeze: crack:	[MEASURE] [MEASURE] [MEASURE] [MEASURE] [MEASURE]
3. verbs with a PATH-TERMINUS aspectual role grid (walk, play, push) and Path-object verbs	walk	[(PATH, TERMINUS)] [ ] *Susan walked for hours.* [PATH, TERMINUS] explicit terminus, implicit path: *Susan walked to Canada in sixty days* Implicit terminus, explicit path: *Susan walked the Appalachian Trail in sixty days* Explicit terminus, explicit path: *Susan walked the Appalachian Trail to Canada in sixty days.*
	play	[(PATH, TERMINUS)][3] [ ] *Martha played the sonata for hours.* [PATH, TERMINUS] *Martha played the sonata in twenty minutes.* (Tenny 1994: 108)
Verbs indicating an enforced change of location	push	[(PATH, TERMINUS)] [ ] *Bill pushed the rock (but it would not move).* [PATH, TERMINUS] *Bill pushed the rock to the top of the hill.* Tenny (1994: 108)

6.11 *Measuring arguments are not always realized as direct internal arguments*

Despite the fact that the described hypothesis explains much data, there are reasons to argue for a more fine-grained approach to the syntax-

lexicon interface. The following discussion provides examples of Estonian sentences that suggest a revision of the strong hypothesis of Tenny (1994). Here is a list of data that are problematic in a potential analysis.

1. Aspectual sentences without direct internal arguments (*tutvuma* ‹get acquainted›).
2. Sentences with verbs with an experiencer (agent) and theme argument[4], where it is the theme argument that is realized as the (total) object and not the experiencer, which is the argument that undergoes an internal change and should, therefore, provide the measure for the event: *andestama* ‹forgive›, *unustama* ‹forget›.
3. Some of the data on the aspectual particles are puzzling. They suggest, on the one hand, that the Estonian bounding particle *ära*, which can combine with verbs with no measuring argument[5], is not the kind of particle that is clearly covered by Tenny's account of particles. This particle is not covered by Tenny's theory, as her examples of Russian verbal aspectual morphology are. On the other hand, the non-argument related expression of measuring out and delimitedness in sentences with this particle and its relation to total case marking suggests that the exact lexical nature of the concepts of delimitedness, measuring out, and their relation to arguments must be revised.
4. The total (accusative) object of non-measuring arguments of verbs such as *andma* ‹give› or *lükkama* ‹push›, as in *andis Marile raamatu* (TOT) ‹s/he gave a book to Mary›, *lükkas käru* (TOT) *poodi* ‹s/he pushed this cart to the store›. These accusative objects are non-measuring arguments, and are therefore problematic for Tenny's account of Finnish, where the distribution of accusative and partitive case should reflect the presence and absence of measuring arguments.
5. The partitive object case that appears in sentences with a measuring argument describing a delimited event (surprise achievements, such as *üllatama* ‹surprise›) is another piece of evidence of unexplained relations between arguments, case, measuring out, and delimitedness.

Many additional problems of Tenny's account are pointed out in various sources; see Jackendoff (1996) for several examples. I discuss these problematic points of Tenny's theory for the Estonian data in more detail to prepare the ground for an approach that would fit the data better[6].

A closer look at the Estonian data shows that Tenny's widely accepted aspectual interface hypothesis is too strong. Also, many of her formulations are simply not clear in view of Estonian phenomena. Despite the fact that a fair majority of Estonian data seems to confirm Tenny's hypothesis, Estonian and its various means of aspectual expression allow for a more fine-grained study of the interface between syntax and semantics. Thus, there are data that suggest a revision of the hypothesis. In the following passages I give detail to the list of problematic data above.

Firstly, there are examples without any direct object that, contrary to expectations, are compatible with Tenny's criteria for delimitedness and measuring out, for instance, *tutvuma* ‹get acquainted›, as in (6).

(6)

Mari	*tutvu-s*	*Kati-ga.*
M[NOM]	acquaint-PST.3S	Kate-COM

‹Mary got acquainted with Kate.›

Secondly, the relations between delimitedness, object case that is expected to be connected to the measure argument, verbs, and particles present a wider array of data than Tenny's theory can capture, necessitating a different approach to aspectual phenomena. For instance, there are sentences with an experiencer and a theme argument. It is the theme argument that is realized as the (total) object and not the experiencer. This situation is unexpected under Tenny's account, because it is the experiencer that undergoes an internal change and should, therefore, provide the measure for the event and encode an accusative NP. A couple of examples: *andestama* ‹forgive› and *unustama* ‹forget› are demonstrated in (7). Unexpectedly, the non-measuring object carries measure marking, the accusative-total.

(7)

a.

Mari	andesta-s	*selle/#se-da*	*oma sõbra-le.*
M[NOM]	forget-PST.3S	it.TOT/it-PTV	her friend-ALL

‹Mary forgave it to her friend.›

b.

Mari	*unusta-s*	*oma sõbra /*	*#sõpra.*
M[NOM]	forget-PST.3S	her friend.TOT	friend.PTV

‹Mary forgot her friend.›

The total (accusative) object of non-measuring arguments of verbs such as *andma* ‹give› as in (8a) or *lükkama* ‹push›, as in (8b), are problematic for Tenny's account of Finnish as well as her potential analysis for Estonian. Their parts are not related to the temporal measure of the event. Contrary to expectations, they still encode measure by the accusative-total.

(8)

a.

Toomas	*and-i*s	*Mari-le*	*raamatu.*
T[NOM]	give-PST.3S	M-ALL	book.TOT

‹Thomas gave the book to Mary.›

b.

Toomas	*lükka-s*	*selle*	*käru*	*poodi.*
T[NOM]	push-PST.3S	this.TOT	carriage.TOT	store.ILL

‹Thomas pushed this cart to the store.›

The theory predicts that the distribution of the accusative and partitive case should reflect the presence (- accusative or partitive) and absence (-no accusative) of the measure aspectual role and the existence (accusative) or the lack (partitive) of delimitedness. It would be contrary to expectations to find the partitive object case on the measuring argument in a sentence describing a delimited event. However, this is exactly the situation with verbs such as *üllatama* ‹surprise›, as in (9). The event is delimited, the object is a measuring argument, still it does not bear accusative. This is the surprise-partitive, the partitive object of verbs such as *üllatama* ‹surprise› that we would expect to emerge with a non-partitive object.

(9)

Mari	*üllata*-s	*Jüri-t/*	*#Jüri.*
M[NOM]	surprise-PST.3S	J-PTV/	#J.TOT

‹Mary surprised George.›

This is another piece of evidence of unclear relations between arguments, case, measuring out, and delimitedness. It is clear that some kind of alternative is needed.

A thematic role based approach cannot be adopted. It is a widely accepted fact that the thematic role of «incremental theme» is aspectually relevant, as illustrated in Sections 6.1-6.7. It occurs with verbs that can express aspectual oppositions depending on their object's quantification. However, the presence of a quantized incremental theme argument is not a sufficient condition for delimitedness and the total object case realization. For instance, the incremental theme verbs *kirjutama* ‹write› or *sööma* ‹eat›, as opposed to *lugema* ‹read›, have total objects in contexts without a contrastive focus or an aspectual particle in the example in (10).

(10)

a.

Mari	*kirjuta*-s	*raamatu.*
M[NOM]	write-PST.3S	book.TOT

‹Mary wrote a book.›

b.

Mari	*kirjuta*-s	*raamatu-t.*
M[NOM]	write-PST.3S	book-PTV

‹Mary wrote/was writing a/the book.›

c.

Toomas	*sõ-i*	*võileiva.*
T[NOM]	eat-PST.3S	sandwich.TOT

‹Thomas ate a sandwich.›

d.

Toomas	*sõ-i*	*võileib-u.*
T[NOM]	eat-PST.3S	sandwich-PTV.PL

‹Thomas was eating sandwiches.›

The verb *lugema* ‹read› can only have a total object if there is a contrastive focus as in (11c) or an aspectual particle as in (11b) or a resultative phrase (as in 11a) in the clause.

(11)

a. *Ta* *luge*-s *raamatu* *kapsa-ks.*
s/he read-PST.3S book.TOT cabbage-TRA
‹S/he read the book so that the book looked like a cabbage.›

b. *Ta* *luge*-s *raamatu* *läbi.*
s/he read-PST.3S book-TOT PRT
‹S/he read the book (through, completely).›

c. *??Ta* *luge-s* *raamatu.*
s/he read-PST.3S book.TOT
‹S/he read the book; he chose a book to read.›

Given these data, the aspectual interface hypothesis is definitely way too strong. It is a question if a thematic role account would provide a solution for the problem (cf. the discussion of Krifka and incremental themes).

6.12 *Aspect and object case: Ackerman and Moore (1999, 2001)*

Despite these substantial shortcomings that Tenny's framework has with regard of the Estonian data, it provides a model for separating the types of aspectually relevant features in the lexical entries and their relation to lexical representations. Clearly, the relationship between measuring out of the events, mapping to arguments, and mapping to concrete morphosyntactic encoding is not as strict as proposed by the aspectual interface hypothesis. Can some of these problems be solved if measuring out is envisaged on two aspectual (measuring) tiers that belong to the lexical items? The different types of boundedness (delimitedness) should be separated from the arguments' properties, and to some extent, from the verbs' lexical properties as well. Crucially, Tenny's hypothesis allows me to bring out the difference between the lexically (verbally) specified scale and measure tiers but not more than that. Tenny seems to be concerned with the scale tier only, the tier that encodes change lexically, but she treats it as if it were a measure tier, a simple measure connected to an argument that in turn is connected to the temporal tier. A lexically specified measure tier (for an hour, three kilometers) is less likely related to argument encoding and is irrelevant for mapping to direct internal arguments. A lexically specified but unbounded scale tier is much more relevantly related to the presence of internal arguments and objecthood; but again this is not a necessary or sufficient condition for accusative marked arguments either[7].

A proposal to assume many thematic («proto-») role entailments that are involved in aspectual object case encoding is developed in Ackerman and Moore (1999, 2001). My claim is that Estonian aspectual case cannot be accounted for in terms of case assignment that is based on thematic roles, since it concerns both arguments and adjuncts (adverbials) and interacts with aspectual particles. Also, my interface claim is stronger than theirs in that an unbounded scale (tier, attribute) in the lexical representation of the verb is seen to determine the mapping to direct internal argument.

Ackerman and Moore (1999, 2001) include an aspectual role as part of thematic (patient) proto-roles. These authors share the views of Tenny about an aspectual role mediating between semantics and syntax. However, they differ from Tenny in giving a more precise account of object encoding phenomena and case phenomena. Ackerman and Moore envisage two levels of proto-role and hierarchy-based encoding; one leads to objecthood, and the other leads to object case encoding, explaining morphosemantic alternation. Ackerman and Moore (2001) thus do not support the aspectual interface hypothesis. However, for object case encoding (morphosemantic alternation), the aspectual proto-patient entailment is relevant.

Thus, the aspectual role or predicate entailment of telicity (Ackerman and Moore 1999) or boundedness (Ackerman and Moore 2001) plays a crucial role in the selection of the morphological case of an object but not in the encoding of an object as such. Intuitively, this is correct. The aspectual role serves as part of the entailments that determine case encoding in terms of the case hierarchy of Blake (2001). These authors are further relevant, since they discuss Estonian. As an innovation introduced on the basis of Estonian, Ackerman and Moore (2001) enrich Blake's hierarchy with the partitive case, which is placed lower than accusative (genitive-nominative) in the case hierarchy. The more proto-role entailments there are, the higher up in the hierarchy is the encoding of the case. Thus, having the aspectual entailment results in the encoding of the genitive-nominative (total) case in Estonian. Further, the alternative cases (the partitive vs. genitive-nominative) are assigned by separate but related predicates that have a different number of proto-patient entailments.

The line of research in my approach is similar to that of Ackerman and Moore (2001) in being predicate based, giving special emphasis to morphological case and explaining the difference between the two types of case in terms of lexical aspect. Thus, I agree with their account in that there is one level of operations and one set of features that determine verb frames, and there is another level of operations and another set of features that are related to the concrete object case. I disagree with these authors in assuming more interdependence between these two levels. In fact, Ackerman and Moore's account has three proto-roles that matter for object case encoding: bounding entity, incremental theme, and change of state. In my account, the equivalent of Ackerman and Moore's bounding role is a feature that is encoded in the entry of the total case

(or a particle). However, in contrast to their system, where verbs specify a bounding entity, transitive verbs in my system can specify only an incremental theme entailment like attribute (measure attribute) or a change of state and incremental theme entailments like attribute (scale attribute). The feature that is similar to the bounding entity entailment is specified by the case or by the aspectual particle as a feature-value pair. The consequence is that if a verb specifies an attribute that bears similarity to incremental theme or change of state as having a value lexically, the wellformedness conditions in LFG ensure that the verb cannot occur with the total case marking.

As a difference, an aspectual feature, more specifically, the feature that is similar to the incremental theme entailment is related to adverbial and measure adverbial case in my approach. Capturing adverbial and object case is a challenge for a lexicalist approach. In order to solve the problem of case assignment to non-arguments, case in general has been given an active role in my approach. The thematic role approach is not followed.

As opposed to the general similarities in understanding the aspectually important elements in verb meaning (and the crucial differences in modeling them), the combinations of verbs and particles are understood and modeled differently than in Ackerman and Moore (2001). The combinations of the particle type called completive particle may be regarded as a result of a productive resultative rule that derives predicate complexes from transitive and intransitive verbs, which is similar in spirit to Ackerman and Moore. Differently, the resultative rule does not automatically introduce the bounding entity proto-patient role entailment, but it adds only a special semantic specificity constraint on the complement and an existential constraint of the scale attribute. Therefore, the assignment of the total case is not as tightly related to the predicate complex as in Ackerman and Moore. More importantly, combinations of verbs and the particle type called the bounding particle are not regarded to be a result of a productive resultative rule. Those combinations are not brought about by a lexical rule; they are free combinations and their features interact with case features instead of verbal features (Tamm 2004c).

Thematic roles related to aspect. The lexical, argument structural approach to aspect is exemplified by the approaches of Ackerman and Moore (1999, 2001) and Tenny (1994). For Tenny, the interface is regulated by a structure that is similar to thematic structure in that syntax «sees» only roles; she claims that it is not exactly the thematic roles but what she calls aspectual roles that are «visible to syntax». Ackerman and Moore (1999) and (2001) include an aspectual role as part of thematic proto-roles. These authors thus have basically the same view about an aspectual role mediating between semantics and syntax, but they differ from Tenny in accounting for the object encoding phenomena and case phenomena at two levels. Ackerman and Moore envisage two steps of proto-role and hierarchy-based encoding; one leads to object encoding and the other leads to object case

encoding. In step one of object encoding (this would be comparable to the mapping function λ), the «bounding entity proto-patient entailment» has no relevance. In step two, the bounding entity proto-patient entailment is relevant and serves as part of the entailments (Dowty 1991) that motivate the encoding of the case towards a position that is found higher up in the hierarchy.

Object case is realized via a procedure regulated by «paradigmatic selection principle». How this principle works is illustrated in an analysis about Estonian predicates that are traditionally seen as being able to assign both object cases. These predicates are split in two related predicates. The two (related) predicates differ from each other in the number of Dowty's proto-property predicate entailments. Depending on the number of the corresponding proto-property entailments, the objects differ in obliqueness. The selection for case is constrained on a case hierarchy, as mentioned above. Objects of related predicates that are based on less oblique, more «prototypical» arguments are morphologically encoded with a case that is higher in the hierarchy, and vice versa. One example of their lexicon entry is illustrated below in (12) on the basis of the verb *ehitama* ‹build›, where x stands for an argument slot, PA for protoagent and PP for proto-patient properties:

(12)

	various PA-s	various PP-s
ehitama$_a$	‹x_1,	x_2›
‹build›	SUBJ	DO
		partitive
	various PA-s	various PP-s
		BOUNDING ENTITY
ehitama$_b$	‹x_1,	x_2›
‹build›	SUBJ	DO
		genitive

Example (12) from Ackerman and Moore (2001: 98) illustrates how the total case is realized on the argument that has more proto-property entailments than the argument that has less. The argument with less proto-property entailments is encoded with the case that is one step lower in the relevant case hierarchy: partitive. The aspectual role that makes the difference is here the bounding entity.

There are two basic reasons why this analysis is not followed for object and adjunct case. Intuitively, the type of aspectual information that relates to object case in Estonian is independent of the thematic roles, since verbs allow for object case alternation in NPs that have otherwise an identical thematic role. Object case is intuitively more independent of the lexical semantics of the verb and more a matter of grammar than a matter of thematic roles. Second, total case marking on adjuncts (adverbials) suggests an

analysis that (at least partly) is independent of argument structure, since adjuncts are not part of argument structure. The more intuitive angle is not from the predicate to case encoding, but from case encoding to predicates. The two solutions that are available are the following:

1. To include what are realized as measure adverbials (adjuncts) in c-structure as arguments, that is, to extend the typology of arguments. Extending the typology of arguments on the basis of case marking and a special bounding role is possible, but, however, does not seem to make further independent predictions that would justify the consistence of the possible new syntactic argument type. Moreover, some properties of arguments that are used for defining their class (such as their obligatory nature) disappear. This option is dropped.
2. An alternative account relies on the possibility that certain semantic and lexical constraints interact with case marking, and case itself is more directly related to grammatical features.

6.13 *Elaborated argument structures with an aspectual tier*

6.13.1 *Aspect between structures*

The expression of aspect on constituents other than verbs is a problem for lexicalist approaches, where sentential grammatical features are associated with verbs. LFG adopts the so-called «Grammatically Relevant Subsystem» hypothesis (Dalrymple 2001: 197): only those semantic features that are represented at argument structure are relevant for syntax. Therefore, the semantic basis that serves for Estonian aspectual case assignment would be (preferably) modeled via the argument structure in standard LFG. For a verb or a predicate, argument structure contains the specification of the number and types of arguments that it requires for wellformedness.

There are many levels of representation that are regarded across various theories to encode aspectually relevant information, such as conceptual structure (e.g., Jackendoff 1990, 1996), lexical conceptual structure (e.g., Levin and Rappaport 1995; Butt 1997), and argument structure (e.g., Grimshaw 1990). My approach departs from the general view held in LFG that semantics, also aspectual information, interacts with syntactic information solely via argument structure (cf. Dalrymple 2001, see her Chapter 8 on argument structure and references therein). The following subsection reviews the debate on argument structural aspect encoding.

This subsection proposes a location for representing the aspectual information in LFG. It argues against an argument structural encoding of aspect and proposes a scattered model of aspectual encoding instead. Previous chapters have recorded that Estonian verbs allow for considerable aspectual freedom. Aspectual information must be, therefore, only partly fixed in the lexicon.

Several other works in LFG or related theories opt for a more argument structural model to capture the aspectual properties of the sentence. In LFG (and lexicalist approaches), aspect is occasionally captured in the lexical

conceptual structure (Butt 1996, 1997) as in the LCS of the verb *give* (3). Butt adopts the format of the Lexical Conceptual Structures of Jackendoff (1990) and terms this structure an elaborated argument structure (Butt 1997: 129). The tier of interest here is the aspectual tier in the third line in the inner box of (3), and this line is Butt's innovation compared to Jackendoff (1990). The three slots stand for inception, duration, and completion.

(3)
$$\left[\begin{array}{l} \text{give} \\ \left[\begin{array}{l} \text{CS}([\alpha], \text{GO}_{\text{Poss}}([\ ], \text{TO}[\beta])) \\ \text{AFF}^{+}([\ ]^{\alpha}), \\ \text{ASP}(\_, \_, \_) \end{array}\right] \\ \qquad\qquad\qquad\qquad\qquad\qquad \text{EVENT} \end{array}\right]$$

As another interesting fact, most of the verbs do not specify the slots and the elaborated argument structure is filled in the aspectual tier mainly in the course of complex predicate formation. However, the problems of object case cannot be smoothly solved at this level, since the specification of the aspectual slots does not predict everything about the object case: if a verb is «completive», its object's case is not necessarily total, whereas a verb that has a specified duration slot has a partitive object (naturally, if transitive). These facts suggest that it is not advisable to locate all object case induced aspectual information in argument structures but allow for more flexibility.

6.13.2 *Functional specifications instead of thematic structural aspect*

This book assumes a non-thematic structural aspectual link between syntax and semantics. Aspectual information takes the form of functional specifications in lexical entries. It is possible that the relation between the features proposed here and the argument structure can be better articulated. However, the study on Tenny in Sections 6.8-6.11 has yielded an understanding that the correlations between argument frames and aspect (delimitedness, measuring out) are not reliable and can be regarded as tendencies. The occurrence unbounded scale correlates with the verbal meaning element of direct internal arguments. On the other hand, works such as Nordlinger and Sadler (2004) provide an account for clause aspect as being encoded in dependent marking, and no link to argument structures is assumed. Toivonen (2001) uses features and underspecification to account for particle phenomena, but aspectual case is not involved.

The problem of earlier LFG work on aspect is that it either concentrates on clausal aspect (and clausal features) or event structures (and verbal aspect). In contrast with earlier LFG approaches, my approach wishes to demonstrate how Estonian aspectual case is a clausal aspect phenomenon that is constrained by verbal aspect. The constraints imposed on clausal aspect by the verb, particle, and object determine the aspectual composition of a clause, depending on each other. LFG is a suitable approach since it is de-

signed to allow languages to differ from each other in terms of the types of semantic information relevant for their grammars, also allowing for differences in lexical, periphrastic, or grammatical encoding. This is an advantage, since, as mentioned, Estonian seems to use principles of the aspectual systems of many languages.

The previous section argued against an argument structural encoding of aspect. This section has proposed that the location for representing the aspectual information in LFG is spread across c-structure elements, in features associated with case, verbs, and particles. Verbs and particles are well-known carriers of aspectual features, and NP quantification has enjoyed some attention (Verkuyl 1993; Krifka 1992), but case has not received the attention it deserves in aspectual studies. In order to integrate the case in the overall system, the following chapters shed more light on the status, role and possibilities of representation of Estonian case within LFG.

Endnotes

[1] See Metslang (2007) for more typological information on this topic.

[2] Tenny does not make a linguistic difference between achievements and accomplishments, and the argument of the verb *explode* measures out an event as the verb *eat (*as in *eat an apple)* does. An example about the pragmatic nature of the accomplishment-achievement nature is that of a bomb exploding in a slow-motion film. Tóth (2009) discusses the relevance of the accomplishment-achievement distinction for Hungarian predicates and their linking properties.

[3] The function of the parenthesis is to show the non-obligatory nature of the roles.

[4] However, if several positions of internal argument are assumed, cf. Belletti and Rizzi (1988), some of these phenomena find a solution. In those approaches, there are two internal arguments.

[5] Metslang: «The sentence *Ma suudlesin ta ära* (literally ‹I kissed her off›) could be said if one has made a bet to kiss the girl» (Metslang 2001: 449).

[6] There is something puzzling about the relationship between transitivity, agentivity paired with patientivity, and aspect. It would be an idea to study verbs that have transitive and intransitive readings and their aspectual realizations. It seems that degree achievements are different in defaulting towards boundedness, while other intransitives do not. There is a recent tendency to form intransitives from traditionally transitive verbs, which are best understood perhaps as new unergatives. Here is a corpus example, where I translate the relevant part. *Tüdrukud soovivad oma east vanemad välja näha, nõuavad suuremat vabadust ning näljutavad, et vastata moejoonele ja saledad olla*. ‘Girls want to look older than their age, are requiring more freedom and ***starve*** in order to comply with the fashion and to look slim’. There is already an existing intransitive lexical item for these thematic roles, *nälgivad* ‘they are starving’. While *nälgivad* ‘they are starving’ can be involuntary or agentive, *näljutavad* ‘they are starving’ is causative (in standard use, it would be transitive), and the agent and the patient coincide.

[7] Another reason for introducing the framework and terminology of Tenny (1994) is the discussion of aspectual particles, of which there are many in Estonian. On the one hand, the different status of a type of Estonian aspectual particle is clearly revealed, since it can be shown that this particle falls out of the scope of Tenny’s theory. On the other hand, the fact that delimitedness (and total object case) is not determined by the role grid of the verb but rather depends on the presence of the aspectual particle suggests that there must be a better alternative to a

verbal aspectual role based approach. In addition, some of the particle data suggest that the Estonian bounding particle *ära*, which can combine with verbs with no measuring argument, is not the kind of particle that is clearly covered by Tenny's account of particles.

CHAPTER 7

LEXICAL SEMANTIC VERB CLASSES AND SCALES

7.1 *Lexical aspect in Kiparsky's accounts*

Splitting aspectual boundability in more dimensions than one follows the ideas expressed by Kiparsky (2001b) and Jackendoff (1996). Actually, Tenny (1994) presents a related proposal. In her account, syntactically relevant aspectual distinctions are defined in terms of one tier of internal change, where internal change encompasses several concepts. On several occasions she distances herself from terms such as endpoint-related telicity, acknowledges the existence of aspectual data that are left unanalyzed, and stresses the irrelevance of durativity for aspectual interface. Doing so, Tenny separated the lexically relevant B1 tier from other possible dimensions of aspect. Her claim can be translated, in this respect, into the idea that there is a special B1 tier that is relevant for aspectual interface, and this tier is lexically fixed. Tenny deals with verbs that specify what is defined here as the B1 attribute; these verbs have a Measure role in their aspectual role grid. Comparing my account to hers, some of the data covered in my approach by the feature B1 = MAX would equal to delimitedness with verbs with the Measure role. However, the relation between the lexical information and delimitedness is not defined precisely enough for the purposes of my approach. In a way, my approach divides Tenny's measuring scale in two concepts: measure (B2) and scale (B1).

Jackendoff points out that the measuring out of events is not necessarily related to thematic-role like aspectual roles and internal argumenthood. However, differently from the dimensions described in Jackendoff (1996) and similarly to the dimensions presented in Kiparsky (2001b), here only those dimensions are studied that are directly relevant for grammar. Relevance for grammar is understood as a concrete grammatical form corresponding to of a semantic distinction, here, thus, more specifically, as Estonian case marking. For instance, the semantic distinctions that are involved in the emergence of effects in sentences of the type *He entered the icy water slowly* or *The train arrived for two minutes* or *The parade passed the tribune for an hour* will not be addressed, since here the semantic effects have no corresponding grammatical effect in Estonian. There is no case alternation effect. Jackendoff's approach is centered on the effects of the dimensional properties of the arguments, which do not play a role in case encoding for Estonian. Semantic notions that are relevant for grammatical encoding are discussed in Kiparsky (2001b).

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To some extent, some of the transitive verbs that are defined here as specifying the B1 tier correspond to what Kiparsky (2001b) defines as verbs that have a degree variable; these are accomplishment and degree achievement verbs. Verbs that are defined here by their B2 tier correspond to Kiparsky's idea of one of the different dimensions. Kiparsky (2001b), an approach to Finnish partitive, is based on the distinction between predicates with and without a degree variable. In Kiparsky's view, telic predicates have partitive objects if they have an existentially bound degree variable. In this approach, verbs assign case on the described semantic basis. The head of a predicate that contains an existentially bound degree variable assigns partitive case.

As it is now, Kiparsky's account is too sketchy to make a comparison about how his hypothesis fares in Finnish as opposed to Estonian. First of all, Kiparsky's empirical motivation behind assuming a degree variable in some predicates needs to be clarified: what is the linguistic evidence for gradability, having a degree variable? How are gradable predicates different from Verkuyl's ADDTO verbs or Krifka's verbs with the incremental theme role? Kiparsky gives examples of degree adverbials that yield different results with verbs, depending on the verbs' gradability (Kiparsky 2001b: 9). Distribution with the degree adverbials shows that there are two classes of predicates in Finnish, the gradable ones (1) and the non-gradable ones (2), presented with the tests as in Kiparsky (2001b: 9).

(1)

shoot at a bear some more
touch the vase slightly
modify the password radically
How much did you study the theorem?
use the book a bit
protect the necklace considerably
love Bill enormously
want this copy very much
fear the outcome greatly

These examples contain predominantly activity, accomplishment and some state verbs. Non-gradable verbs are incompatible with these degree sensitive adverbials, illustrated in (2).

(2)

#kill the bear some more
#buy the vase slightly
#remember the password radically
#How much did you prove the theorem?
#finish the book a bit
#contain the necklace considerably
#marry Bill enormously
#own this copy very much
#know the outcome greatly

These are state and achievement verbs. The testing adverbial set may need refinement, since even if *kill the bear* cannot combine with *some more* or *slightly*, it can combine with *radically*, for instance.

Recapitulating, Kiparsky's idea of accounting for the Finnish case phenomena relies on the ability of a predicate to have a degree variable. To be more specific, this ability of the predicate is termed as gradability, which is associated with the level of the VP: «Finnish case marking depends on the *gradability* of the VP's denotation» (Kiparsky 2001b: 9). In addition to the verb, several adverbials can add gradability to the VP. Kiparsky (2001b: 9-10) names some dimensions of gradability and some adverbials that pertain to the different dimensions.

1. Degree to which result state is achieved, e.g. *shorten the rope* (to 10 meters, to half its length), *clean the kitchen* (superficially, thoroughly).
2. Degree of change, e.g. *shorten the rope* (by little, by 50 cm).
3. Amount of the theme argument involved, e.g. *see the bear, cross the desert* (in part, fully).
4. (Intended) duration of the result state, e.g. *lend the book* (briefly, overnight, for a month).
5. Duration of event (durative, iterative, progressive), e.g. *kill the bear* (quickly, slowly), *drop the ball* (repeatedly, all the time).

Case depends, as the next step, on the binding of degree variables. In the following example (3), actually, Kiparsky regards the binding of a variable that belongs to at least one of the illustrated dimensions as relevant for the partitive object case assignment.

(3) Finnish

Hän	*ava-si*	*ikkuna-a.*
s/he	open-PST.3S	window.PTV

1. ‹He opened the window› (to x degree of openness)
2. ‹He opened the window› (by x amount)
3. ‹He opened the window› (x much of it)
4. ‹He opened the window› (for x amount of time)
5. ‹He was opening the window› (during x stretch of time)
6. ‹He opened the window› (x times)

The interpretations correspond to the different dimensions. However, not all verbs allow for all dimensions: «The temporal dimension (4), (5), (6) seems to be available only for events…The *x's* can be fixed by explicit measure phrases, inherent lexical properties, and/or contextual inference… If all are fixed, partitive is excluded» (Kiparsky 2001b: 10). Before proceeding with the account proposed in the following sections, I list some preliminary observations.

While the degree of intensity is an important factor in conditioning Finnish case according to Kiparsky, the degree of intensity with achievement and state verbs fails to formulate a basis for predictions about case in Estonian. Consider the example *killed the bear* in combination with *radically:* this achievement verb still appears with the total object.

Otherwise, Estonian verbs yield similar results in the tests, but the case encoding facts differ: *know the outcome greatly* is as anomalous in Estonian as it is in Finnish. Kiparsky takes this fact as evidence about the lack of gradability in the meaning of the Finnish *tietää* ‹know›. The prediction of Kiparsky's hypothesis is that the verbs that lack a degree variable cannot be bound and cannot assign partitive. This prediction is borne out for Finnish but not for Estonian, where the verb *teadma* ‹know› appears only with the partitive object. Tamm (2012) proposes an alternative epistemic modal account for the accusative object with the verb *tietää* ‹know›. Case marking of the objects of state verbs diverges in Estonian and Finnish, which suggests that case-marking cannot be explained with reference to semantic gradability distinctions only. Cross-linguistic variation in case assignment to objects of identical verbs shows that case is related to different kinds of lexically fixed scales.

Kiparsky does not notice the striking fact that the expressions that bind the variable in his examples appear with accusative case marking. Nelson (2003) points out this tendency about accusative temporal adverbials.

There are many issues that remain unclear; for instance, the question of how to test the fixing of all of instances of «*x*» simultaneously in Kiparsky's account: for the accusative case to be assigned, all the instances of «*x*» must be fixed. It is not clear what this means. Presently, no other evidence than the observation of appearance with the accusative object case is given; assuming the case to be evidence leads to circularity in explanation.

However, related to the previous point, there is an argument for following Kiparsky's approach. It concerns analyzing the combinations with the bounding particle *ära,* which occurs with atelic or durative verbs together with a total object. If I hypothesize that the bounding particle *ära* provides the binding of all degree variables in the VP and assume with Kiparsky that the degree variables can be contributed by several elements in the VP, then, following Kiparsky, the prediction is that the object is total in a sentence with a bounding particle. The prediction of this hypothesis is borne out. For instance, see the verb *suudlema* ‹kiss› with the total object and the bounding particle *ära* in (9) and the proof about its classification as a partitive verb in Subsection 4.3, verb list (30). The total (accusative) case is assumed to emerge when all the degree variables in VP are bound, whether lexical or not.

Basically, the problem is that the account on dimensions of «x» is not worked out in sufficient details to build upon it or to clearly compare the Estonian data with it. I adopt the idea that verbal meaning determines the different dimensions and that these dimensions can be accessed separately for bounding. I confine my account to two dimensions and I study primarily verbal aspect in interaction with case. The choice for two dimensions is motivated by the fact that an account of these dimensions enables the

coverage of a larger and more central set of data. These two dimensions differ in their properties. Scale is the only dimension that encodes a change of a property (encoding quality change, a scale), whereas measure, and as I assume, the rest of the dimensions, encode progress that is measurable or countable in terms of time (times) or space (encoding quantity change, a measure, cf. example 3). Also, if measure can be a lexically specified attribute, it does not exclude that this attribute can be specified by something else than the lexical entry. The aspiration here is to capture the basic facts first and provide an approach that can be extended.

After relating the earlier discussion on boundedness and dimensions of boundedness to the attributes *scale* and *measure* that are used in this approach, chapters 8-10 describe how these notions are implemented in the LFG account.

In sum, the thematic or aspectual role based and argument structural approach to lexical aspectual encoding is not taken as the basis for the account of Estonian aspect in this book. Here, a spread or «scattered information» model of aspectual information is adopted; this model can be implemented within the LFG framework.

Change as opposed to simple temporal progression. My study shows that language distinguishes change and simple temporal progression in its lexicon. Thus, here I present a feature system where a verb entry specifies the type(s) of dimension encoded in the verb meaning. The linguistic evidence for different features is twofold. First, it comes from the difference in grammatical function of the NPs that bear the total case as a marker of boundedness. The reflection of the boundedness of the first tier («scale») is primarily object morphology; the reflection of the boundedness of the second tier («measure») is primarily non-argument morphology. The boundedness of the dimensions or tiers can be encoded by identical morphological means, the total case. Second, additional evidence for the lexical encoding of two different aspectual tiers is provided by the lexicon, the semelfactive and degree achievement verbs. Some verbs (momentaneous, semelfactive verbs) encode an event of minimal progression in time (duration) without any relevant change. On the contrary, others (degree achievements) encode an event of minimal change, whereby the temporal dimension is lexically irrelevant.

Transitive verbs that are traditionally called telic cannot be regarded to be associated with exclusively quantized, non-homogeneous reference (telicity) in Estonian. Intuitively, only one part of the composite information that leads to telicity in the semantic structure is present in a simplex verb's entry. In my approach, the boundedness features that correspond to semantic telicity are, therefore, composite. In Chapter 8 this insight is captured as an existential constraint in the lexical entry, which secures the attribute part of the attribute-value pair in syntax. The existential constraint provides a way to fix the dimension, the type of change in a verb's entry. This device thus represents the ability of an Estonian transitive verb to refer to telic events. The other part of the composite information—the values for the attributes—is provided by particles, verbs, or case. The values that are related to clausal

perfectivity are included in the lexicon in the entries of a case or a transitive verb, but crucially, the values that are related to the telic interpretation do not stem from the entry of a verb. According to the values of the attributes called «bounded», the semantic interpretation is perfective, telic and perfective, or neither in Chapter 8 and in Tamm (2007c, 2008), Chapters 9 and 10 offer a more finegrained tier system and the details of verb classification.

7.2 *What is a scale: Lexical aspect in Levin, Kennedy and McNally*

Hay, Kennedy and Levin (1999) describe the scalar structure of the base adjective and its relation to the derived verb, which is a degree achievement verb.

Hay (1998) and Hay, Kennedy and Levin (1999: 135) divide adjectives into closed range and open range adjectives. The two classes are distinguished according to the structure of the scale that the adjectives map their arguments to. The closed range adjectives are associated with a scale with a maximal value (*straight, empty, full, dry, flat*), the open range adjectives are associated with a scale where no maximal values can be established (*long, wide, narrow, short, slow*). The closed range adjectives accept modification with modifiers such as *completely* (*completely straight, empty, full, dry, flat*); the open range adjectives do not (*#completely long, wide, narrow, short, slow*). The verbs derived from closed range adjectives are telic, as witnessed by their failure in the progressive-perfective test: it does not follow from *The clothes are drying* that *The clothes have dried*. The verbs derived from open range adjectives are atelic, as witnessed by their suitability in the progressive-perfective test: from *His eyes are widening* follows *His eyes have widened*.

Kennedy and McNally (2005) demonstrate another scale-based analysis of derivation, from verbs to adjectives. They observe that telic verbs with incremental theme arguments derive adjectives (participial forms) with closed scales (*completely/half eaten cookies*). Atelic verbs with incremental arguments derive adjectives (participial forms) with closed scales (*a completely/partially kissed/met/punched young man*). In Kennedy and McNally's account (see the quote in 4), in derivation, the semantics of the adjectival participles preserves the degree to which their arguments have participated in the event. The degrees on the scale correspond to the incremental parts of the argument involved in the event of the verb that serves as the derivation base.

(4)

> [I]t is precisely the homomorphic relation between the incremental theme argument and the corresponding event that is responsible for the scalar properties of adjectives derived from this class of verbs. Specifically, since such adjectival participles measure the degree to which their arguments have participated in the event described by the source verb, their scales should have minimal and maximal values defined as follows: the minimal degree on the scale represents participation in a minimal (sub)event of the appropriate sort by (a minimal part of) the incremental theme (or a minimal degree of the relevant measurable property for Pat+/- arguments, or a minimal movement along the relevant path for Pat loc arguments); the maximal degree on the scale represents participation in the maximal event involving (all of) the incremental theme/property/path (Kennedy and McNally 2005: 1).

Some sources deal with the notions of boundedness or degrees as they are shared, transferred or preserved in derivation, but Estonian with its rich case inventory allows extra environments where the morphosyntax offers more clues to the phenomenon.

7.3 *Previous general linguistic work on degree achievement verbs*

The properties of gradual completion verbs are discussed in the works of Bertinetto and Squartini (1995) and in Bolinger (1972). Bolinger (1972) shows how widely spread are degree expressions, and that the semantics of degree is not just confined to adjective comparison. Bertinetto and Squartini (1995) is the first in-depth study of the class of verbs referred to as degree achievement verbs or gradual completion verbs. The material is primarily from Indoeuropean languages, but later research has demonstrated that the phenomenon can be found in typologically different languages.

7.4 *Estonian and scalar approaches*

There have been previous discussions of Estonian and scale structures. Tamm (2004f) proposes an alternative to the Vendler classification and the Estonian object case alternation in terms of a scalar verb classification. The following chapters are building on those insights. Two other works on Estonian deserve mentioning; they concern the morphosyntactic behavior of abstract nouns.

Firstly, Estonian abstract nouns diverge in their morphosyntactic properties in pseudopartitive constructions. Tamm (2011b) studies some abstract nouns that have to do with dimensions and scales, especially temperature. Although *temperatuur* ‹temperature› and *soe* ‹warmth, heat› are synonyms in Estonian, ‹warmth› can appear in pseudopartitive constructions (PPC), while ‹temperature› cannot (*viis kraadi sooja/#temperatuuri* ‹five degrees above zero›). The article shows that the morphosyntactic behavior is sensitive to the lexical semantic meaning, namely, scalarity. If the lexical meaning of the noun encodes a degree along a dimension, then it can appear in a PPC (‹warmth, heat›). If the lexical meaning does not encode a degree, then the PPC is not possible (‹temperature›). The degree structure of ‹warmth, heat› is a feature derived from adjectives, an option unavailable for the noun ‹temperature›. This study shows that the adjectival properties are operative in the nominal domain as well if put in an environment that triggers sensitivity to them. Scalar properties are thus cross-categorial.

Secondly, cross-categorial scalar properties explain also differential object and subject marking in Estonian. Again, abstract nouns that are derived from adjectives provide the evidence in Tamm (to appear a and b). The received knowledge that is challenged by these articles is that, apart from several factors such as the lexical aspectual properties of the verb, the Finnic object case encoding also depends on the distinction between

mass and count. The new Estonian data show that it is problematic to relate differential object or subject marking and mass-count distinction. There is a further differential object or subject marking distinction among mass nouns; contrary to expectations, some mass nouns display the case encoding behavior of count nouns. Typically, unexpected count-like behavior occurs with abstract nouns that are derived from adjectives. The differential object or subject marking phenomena are only explained by the scalar properties of the base adjectives. Unexpected, count-like behavior appears with nouns that are derived from adjectives that cannot denote open scales. Since the properties of scales are preserved in the course of derivation to another category, they are cross-categorial properties.

These findings have bearing on the understanding of aspectual composition and lexically encoded aspect. The following chapters will not spell out the exact aspectual composition; however, by providing a verb classification they will contribute to that goal as well.

7.5 *Summary to scalar approaches to verb classification*

There are newer approaches to scalarity and verb classes, by authors such as Caudal and Nicolas (2005), Caudal (2005) and Beavers (2008, 2009). New studies on scalarity have appeared about scalarity in several languages, but there is no clear example about the overall system in the verb domain, with clear morphosyntactic properties linked to the verb classification. This is due to the lack of evidence. Estonian can provide the necessary evidence, and this is the topic of the following chapters.

CHAPTER 8

ESTONIAN SCALAR VERB CLASSIFICATION: NEW PERSPECTIVES

8.1 *Introduction*

This chapter introduces the analysis of transitive verbs in terms of their aspectual classification and case alternations on their objects. The goal of Chapters 8, 9 and 10 is to explain and represent the correspondences between the relations between lexical aspectual classes and the typical object case. This chapter has three main goals: to establish the principles of the verbs' aspectual classification, to introduce the correspondences between object case and aspectual classification, and to propose and describe the aspectual features of the object cases and verbs. The chapter gives an overview with some examples, tests, and tables summarizing the proposals in a nutshell.

This book aims at a comprehensive study of the relations between verbs, argument structure, particles, object case, and aspect. This complex task has to be approached from some concrete viewpoint. Therefore, the following chapters describe Estonian verbs and verb-complement combinations in terms of Vendler's (1957) classification as perhaps the best known aspectual classification. A list of remarks prior to reading this study is in order.

1. The details of the Vendlerian classification are in Chapters 9 and 10. Transitive accomplishment and achievement verbs can be found in Chapter 9, and stative and activity verbs are the subject of Chapter 10. This chapter sketches some possibilities of representing other verb classes as well, such as intransitive verbs or semelfactives.

2. The proposal concerns only the syntactic features that link the syntax to the semantics of case and verbs. No attempt is made to capture the exact semantics of the features. Pragmatic factors are deliberately not included in the explanation either. For those topics, Tamm (2003a, 2003b, 2009, 2011b, 2012, forthcoming a, b) are more useful. The vast area of the Estonian aspectual particles is omitted. Their place in the Estonian aspectual system is discussed in Tamm (2004a, 2004c, 2004e, 2004f). The specific features of cases are only briefly introduced in this chapter, Tamm (1999, 2007a, 2004e) form a complement to the contents of this book in this respect.

3. This chapter is a hub between the chapters of the book and materials that are omitted. It serves as a link between the previous chapters presenting the data and the problems of previous classifications, the ideas about scalarity and boundedness across categories, and the synthesis in the

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form of a feature-based verb classification. The feature system presented in Chapters 9 and 10 is new, but it is more detailed than previous scale and measure based accounts of particular Estonian verb classes and types of object case, described in Tamm (2004b, 2004d, 2004e, 2004f, 2006a, 2006b, 2007a, 2007b, 2007c, 2008). Therefore, it is useful to introduce the previous system that comprised three values and two features. Chapters 9 and 10 aim at a better link with Lexical Conceptual Structures and their features have only two values combined with feature co-occurrence. Since it is certain that the content of this chapter is likely to be in need of updates more than any other chapters of this book, the reader is invited to consult <http://tammacademic.pbworks.com> for later updates.

8.2 *The proposal in a nutshell*

In several examples discussed in previous chapters, compositional factors do not seem to play a role in determining clausal aspect. The aspectual class of the verb restricts the type of the event so that either only partitive or also the total object appears. However, what is the structure of the mismatch between verbal lexical aspect and clausal aspect?

My approach takes clausal aspect as unification at the syntactic level that combines semantic and functional information. I present one possible way of formalizing the results in Lexical Functional Grammar (Bresnan 2001; Dalrymple 2001; Butt et al. 1997). The features of verbs and of case constrain the clausal aspect both ways. To some extent, the aspectual information is encoded in verbs and their argument structures; therefore, the composition of clausal aspect is determined—but not fully determined—by the features of the individual lexical items. The features of the object case provide the full aspectual specification in a clause.

Verbs are either scalar or non-scalar. Verbs that encode a change that has a stable direction towards an endpoint or result are called scalar. The verbs *eat, read, build, write, bring, find,* and *buy* are scalar verbs. If one evaluates the situation at different temporal points, then there is a difference in the quality of the states, and the difference in the quality of the states increases at a later point in time. Let me discuss the earlier examples. Reading is a gradual process that has a natural endpoint when the book is read through. Eating proceeds by a series of changes that reduce the volume of the thing eaten or is directed towards reaching the state when the eater is satisfied with the amount of what he or she has eaten. Writing proceeds by a series of directed changes that serve the goal of yielding a piece of writing that satisfies the quality intended by the writer. Buying proceeds by interactions that bring about changes with the goal of a successful exchange of property. These changes add up to a scale, if the direction of them is the same. Gradually completed changes can be abstract and differ from each other in the course of attaining the ultimate goal, as in the event of building in (1a)-(1b). A completed change of state can be abrupt, as in a finding event, as in (1c).

(1)

a. *Mari* *ehita-b* *suvila.*
M[NOM] build-3S summer.cottage.TOT
‹Mary builds/will build a summer house.›

b. *Mari* *ehita-b* *suvila-t.*
M[NOM] build-3S summer.cottage-PTV
‹Mary is building a summer house.›

c. *Leid-si-n* *vea.*
find-PST-1S mistake.TOT
‹I found a/the mistake.›

There are verbs that cannot denote changes that can make up a scale in the way described above. These verbs are referred to as nonscalar. In the event of watching TV, there is no natural endpoint encoded in the meaning of the verb, and watching TV has no inherent directionality. The same is true for the verbs *love, trust, see/observe, want,* or *visit,* as in (2a)-(2f).

(2)

a. *Mati* *vaata-b* *televiisori-t.*
M[NOM] watch-3S TV-PTV
‹Matthew watches TV, Matthew is watching TV.›

b. *Mari* *armasta-b* *Jüri-t.*
M[NOM] love-3S J-PTV
‹Mary loves George.›

c. *Mari* *usalda-b* *Jüri-t.*
M[NOM] trust-3S J-PTV
‹Mary trusts George.›

d. *Mari* *näg-i* *tänava-l* *oma* *kolme* *sõpra.*
M[NOM] see-PST.3S street-ADE her three.PTV friend.PTV
‹Mary saw her three friends in the street.›

e. *Mari* *taha-b* *homme* *kahte* *auto-t.*
M[NOM] want-3S tomorrow two.PTV car-PTV
‹Mary will want two cars tomorrow.›

f. *Mari* *külasta-b* *oma* *Tartu* *sõpr-u.*
M[NOM] visit-3S her Tartu.GEN friend-PL.PTV
‹Mary visits/is visiting her friends in Tartu.›

It can be observed that the non-scalar verbs have partitive objects but the scalar verbs have either partitive or total objects. The observations are summarized in Table 8.1.

Table 8.1 The types of verbs and the corresponding object cases.

Type	Scalar	Non-scalar
Verbs	eat, read, build, write, bring, find, buy	watch, love, trust, see, want, visit
Object case	total/partitive	partitive

This approach takes the total object case as the grammatical marker encoding a closed scale. Partitive encodes the opposite—the lack of a closed scale. Constraining the partitive to the lack of a closed scale allows it to be compatible with both types of verbs, scalar and non-scalar. Table 8.2 illustrates the essence of this analysis, more specifically, the correspondences between the scalar properties of the clause and object case encoding.

Table 8.2 Verbs, scalar properties, and case.

	Scalar (eat, buy)	Non-scalar (watch)
Open scale	partitive object case	partitive object case
Closed scale	total object case	n.a.

Table 8.3 indicates the patterns of the presence of the overt measure phrase and the total case.

Table 8.3 The presence of an overt measure argument and its corresponding case.

Measure	Case
specified	total adjunct case
unspecified	n.a.

The scalarity of a verb is a property of the verb and its arguments. One type of scalar verbs consists of those predicates that have lexically restricted resultative phrases or other thematically constrained telicizing arguments or verbal particles.

The verb's scalarity is specified in the lexical entry, while the nature of the scale (open or closed) is specified by the object case. The proposal explains how verbs and case mutually constrain the aspectual interpretation in a clause, and why some combinations of verb and case are ruled out.

The remnants of the earlier, spatial (spatiotemporal) part-whole based marking system combined with scale-based case marking require an account of verb classes where scale-based and spatiotemporal measure-based NP marking are teased apart.

Verbs specify scale and measure features. The presence of the scale feature may but need not be related to the presence of an overt related thematic (or meas-

ure) argument in Estonian. The measure feature in the lexical entry represents the historically motivated lexicalized spatial or temporal measure. The specification of this feature can also be compositionally derived, since in LFG, features may be underspecified (having no values or default values), or specified (positive, negative). In a feature co-occurrence account, if the feature is specified as positive, then the feature must co-occur with an additional feature specifying the type of scale or measure. In a three-value account, an attribute type can specify the values that correspond to non-scalarity, minimal and maximal degrees.

Case is treated as a semantic constructive case in LFG. It specifies additional information in the course of unification. The **total case** may add the additional feature specification in the co-occurrence account, the values CLOSED ([0,1]) for the scale feature or SPECIFIED for the measure feature. **Partitive** appears with any other type of objects, with nonscalar predicates and scalar predicates with an open scale ([0,1]).

(3)

a. total
(SCALE↑)=+
(SCALE SPECIFICATION↑) = CLOSED
and
(MEASURE↑)= +,
(MEASURE SPECIFICATION↑) = SPECIFIED

b. partitive
¬ [(SCALE↑)=+ &
(SCALE SPECIFICATION↑) = CLOSED]

The partitive case excludes the values in (3a) in object marking as in (3b). In a three-value account, the total case has the feature MAX. More specifically, the feature specification of the total case contains the values (B1↑) = MAX. The partitive case has a negative constraint, ¬ (B1↑) = MAX.

The properties of the scale are derived from the composition of the phrases making up the VP. As opposed to the main focus of the previous study, which is accomplishments, Estonian verbs show that it is rather the achievements where the composition of the noun and verb properties plays a prominent role.

8.3 *Verb classification: two attributes, three values*

8.3.1 *The scale and measure attributes*

Since this book contains references to related works where the measure specification does not play an important role, and this book builds on a dissertation, I introduce here the labels that I have generally used with some

examples and explanation. The goal of the previous works on scalar verb classes is to provide an account of how the information from lexical entries specifies structures of syntactic representation (and also, how it does not specify them). The proposal is that lexical entries provide partial but basic information about clausal aspect at the f-structural level of syntactic description. In this respect, my approach to verb-case interaction is similar to the approach of Toivonen (2001) to verb-particle interaction and it captures many insights from previous Estonian work. Earlier Estonian accounts suggest an approach treating Estonian aspect in terms of boundedness and verbal boundability, based on the intuition that transitive verbs are either boundable or not. Verbs are bounded in two different ways: some verbs are bounded lexically and others, by particles and nominals bearing case.

On the one hand, the proposal is that aspectual case marking relates to two aspectual dimensions or tiers. An aspectually available tier is specified by a verb by means of encoding an attribute in the verbal entry. On the other hand, next to the availability of an aspectual tier, a lexical entry can also specify whether the tier is bounded or not. In my solution, this information is encoded in the form of a value that is given to the attribute. Some verbs contain an attribute called B1 (SCALE) in their entries, others—a B2 (MEASURE) attribute; there are some that contain both attributes. These attributes may have a value in the lexical entry; otherwise, the value must be provided in the clause. In this way, verbs provide a partial aspectual specification in a clause.

8.3.2 *The three values*

The next question concerns the possible values of these attributes. In the previous scalar accounts of Estonian there are three values:

maximal	(MAX)
(at least) minimal	(MIN)
unbounded	(-).

As discussed in 8.4 all these values can be specified by some elements in the syntax. The maximal boundedness value, MAX, can be specified only compositionally for transitive verbs, by means of unification. The maximal value is provided by the aspectual semantics and the feature of the total object case. Particles and adjunct case can also provide the value MIN. Estonian aspectual particles always specify a B1 attribute or attribute-value pairs with the maximal value. Only two of the values can be specified lexically for transitive verbs: MIN and «-». Once an attribute is provided with a value lexically, it cannot be specified by another element in syntax. However, elements in syntax can add information but not change attribute-value pairs. This section deals with the question of what the content and

representation of these attributes and values is. Combinations of attributes and values associated with verbs yield distinct verb classes.

8.3.3 *Interim summary: lexically specified information*

In sum, the partial specification provided by lexical information comes in two attributes and two values in the three value system:

1. Attribute B1. This is the «scale» or «quality change» attribute, comparable to notions such as gradability, degree of change, telicity, transition, culmination, resultativity, or directed change in the previous literature.
2. Attribute B2. This is the «measure» or «quantity change» attribute; it relates to notions such as incrementality, durativity, coursivity, or irresultativity in previous literature.
3. Value MIN for lexical boundedness. It relates to change, culmination, momentaneity, punctuality, atelicity, perfectivity, and irresultativity.
4. Value «-» for lexical unboundedness. It relates to durativity, progressive, imperfectivity, or atelicity.

The existence of these mixed constellations of different concepts, which can intuitively characterize the contribution of the attributes and values that are crucial for an account of Estonian aspectual phenomena, justifies the need for a better motivation for separating the two tiers. Before giving the details of the motivation, the following subsection provides some references to and discussion of previous works that assume more than one boundable dimension or tier.

8.4 *Values as boundaries for the two boundable tiers*

Two boundable tiers are captured in the f-structure representation as the attributes B1 and B2. The value MIN in the f-structure may capture the lexically encoded boundedness and the negative value—unboundedness. This subsection presents more details on the boundability attributes B1 and B2 that represent the two tiers.

1. B1. The first boundable tier is captured in terms of a boundability feature that is referred to as B1. This aspectual property of verbs is referred to most frequently as telicity; this approach compares it more to Dahl's T property of telicity as in Dahl (1981: 81-82), a degree variable as in Kiparsky (2001b), or a lexically encoded degree of change of a property (Hay, Kennedy, and Levin 1999). The description here intentionally captures the comparable terminology from several frameworks: this attribute represents the verb's ability to express telicity, culmination, transition, natural or logical endpoint, result, or directed change. In other words, B1 verbs denote a change in a situation, or a transition in the event. Achieve-

ment verbs such as *find* typically have the boundability B1 feature, but they lack B2.

2. B2. The second boundable tier is referred to here as B2. This property of verbs is referred to in sources as (lexical) durativity, coursiveness, or irresultativity. B2 is the aspectual property, the ability to describe events extending over time. The activity verb *run* typically has the boundability feature B2: e.g., running can continue endlessly unless it is stopped by outer circumstances. Some state verbs, such as *seisma* ‹stand›, may also have the attribute B2 in the representation of some of their lexical senses.

Aspectual lexical information constrains temporal relationships of the course of events in time that a verb can express. Assuming the two tiers is motivated by the intuition that some verbs present events as if they were «bounded» in the free development of the event that they express. However, some of these verbs seem to encode lexically that the development of the event is bounded temporally while the fact of anything changing in their evolvement seems to be irrelevant (e.g., semelfactive verbs). In an event of jumping or flashing, several perceivable changes take place. For linguistic interaction, these changes are irrelevant; rather, the «short measure, extent, or span» of the event is lexicalized. Failing the durative adverbial test is sensitive to the distinction of a «short measure». Other events can protract over time or not as described by the predicates, but they are «cut» after any degree of change in the situation has been accomplished (e.g., degree achievements). In other words, some events are restricted by lexical aspect to be of short duration, they happen, having a marked temporal beginning and end (*jump, flash*). Other events are described by verbs encoding a minimal degree of change of a property (*widen, lengthen, change*). These two types of verbs have motivated two distinct boundable lexical features, the attributes B1 and B2.

The correctness of the reasoning that there are two boundable tiers could be proved by the existence of verbs that have one tier, verbs that have another, and verbs that have both along with these verbs displaying grammatically relevant different behavior. Jumping ahead a bit, the accomplishment verb *eat* has typically the boundability feature B1: when the changes have reached their natural end for instance, when an object is eaten up, the B1 tier is bounded. The *eating* is «bounded» when it cannot continue any more. On the other hand, *eat* has B2, it can naturally, by its lexical properties, refer to the event progressing in time, regardless of the changes that take place in the course of the event. Identical grammatical case assignment on objects and on adjuncts is the fact that intuitively reflects different kinds of boundedness.

8.5 *Examples of lexical entries and functional structures*

The features are referred to as different boundedness features. The c-structural correspondent of the f-structure attribute SCALE is referred to as B1

and the correspondent of the MEASURE attribute is referred to as B2. These features are represented in the verbal lexical entries under the c-structure terminal nodes. They can be represented as existential constraints in the form of (↑B1) and (↑B2). The effect of the existential constraints (↑B1) or (↑B2) is that the f-structure must provide a specification for these attributes, while the exact value is no more constrained than that there should be one. The examples *leidma* ‹find› and *jälgima* ‹follow› are illustrated in (4) and (5), respectively.

(4)

leidma, *V*: (↑PRED)= ‹FIND <(↑SUBJ), (↑OBJ)>›
(↑B1)

(5)

jälgima, *V*: (↑PRED)= ‹FOLLOW <(↑SUBJ), (↑OBJ)>›
(↑B2)

The f-structure attributes B1 and B2 of these verbs are represented in the partially specified f-structures as follows in (6) and (7).

(6)

$$\begin{bmatrix} \text{PRED 'FIND <(}\uparrow \text{SUBJ), (}\uparrow \text{OBJ)>'} \\ \text{B1} \end{bmatrix}$$

(7)

$$\begin{bmatrix} \text{PRED 'FOLLOW <(}\uparrow \text{SUBJ), (}\uparrow \text{OBJ)>'} \\ \text{B2} \end{bmatrix}$$

The next question is: given the incomplete f-structure, how will the values be obtained? In my approach, the value can be provided either by the lexical entry of a particle, by the morphological case, or by a verbal lexical entry.

The defining equation (↑B) = MIN captures the intuition that the given attribute is unavailable for further bounding with these verbs, since it is at least to some extent (minimally) bounded. «MIN» stands for «at least minimal», and it indicates the actual lexical boundedness. This grammatically relevant aspectual information is attached to a lexical entry with the intransitive verb *sneeze* as in (8).

(8)

aevastama, *V*: (↑PRED) = ‹SNEEZE <(↑SUBJ)>›
(↑B2) = MIN

The defining equation (↑B2) = MIN in (8) captures the intuition that the given attribute is unavailable for further bounding. Individual level predicates are lexically non-boundable along the B2 tier. The minus («-») stands for the negative value of the attribute. This grammatically relevant

aspectual information is attached to a lexical entry with verbs such as the intransitive *vedelema* ‹be scattered around› in (9).

(9)

vedelema, *V*: (↑PRED)= ‹BE SCATTERED AROUND <(↑SUBJ)>›
(↑B2) = –

In order to constrain the number of possible combinations of features, I could use an alternative of a negative existential constraint in the form of ¬ (↑B2). Here, I leave this possibility for further research, using the option with the negative value. These verbs have the f-structure information about the features B2 MIN and B2 «minus», illustrated in (10) and (11) respectively. Loosely speaking, this defining equation in the lexical entry states that one of the boundable attributes is bounded.

(10)

$$\begin{bmatrix} \text{PRED} & \text{'SNEEZE <(}\uparrow \text{SUBJ)>'} \\ \text{B2} & \text{MIN} \end{bmatrix}$$

(11)

$$\begin{bmatrix} \text{PRED} & \text{'BE SCATTERED... <(}\uparrow \text{SUBJ)>'} \\ \text{B2} & \text{--} \end{bmatrix}$$

Given the wellformedness condition of function-argument biuniqueness in LFG, the effect of this constraint in f-structure is that the attribute B2 cannot have a different value, since the result in that case is an inconsistent f-structure and an ungrammatical clause.

8.6 *Multiple frames, aspectual shifts, transitive and intransitive verbs*

The approach taken in this book departs from the event structure idea of lexical aspectual information, since it is less relevant for the purposes defined for the research goal. Estonian verbs are lexically associated with many types of behavior, thus many event properties. One verb displays a cluster of behavioral patterns. Some verbs contain no B features, others contain either B1 or B2, and one class contains both, and verbs such as *flash* or *jump* contain B1 with a specified or a B1 with an unspecified value. Verbs like *eat* are such that they have the B1 and B2 features simultaneously. Verbs are regarded to lexicalize different types of boundability and association with actual boundedness; the term of lexicalization is understood as in Talmy (1985). This information is more feasibly represented by disjunction. The aspectual lexicon of these verbal entries is presented below in (12). Intransitive verbs are provided with default aspectual features. The information that does not concern aspect is omitted[1].

(12)

leidma ‹find›: ...	(↑B1)
sööma ‹eat›: ...	(↑B1) V (↑B2)
jälgima ‹follow›: ...	(↑B2)
olema ‹be›: ...	(↑B2) = – V (↑B2)
laiendama ‹widen›: ...	(↑B1) V (↑B1) = MIN V (↑B2)
vilgutama ‹(make) flash›: ...	(↑B2) V (↑B2) = MIN
aevastama ‹sneeze›: ...	(↑B2) = MIN
ehmatama ‹frighten›: ...	(↑B1) = MIN
süvenema ‹concentrate›:	(↑B1) = MAX V (↑B2)
vilgatama ‹flash once›:	(↑B2) = MIN,
tutvuma 1 ‹get to know›:	(↑B1) = MIN V (↑B2)
tutvuma 2 ‹get to know›:	(↑B1) = MAX,
loobuma ‹give up›:	(↑B2) = – V (↑B1) = MIN

Partitive subjecthood seems to relate to the unbounded (↑B2) feature. The feature has the effect that the verb *vilgutama* ‹twinkle, flash› in (13) can specify the following partial f-structures, one with a valueless attribute B2. Transitive verbs denoting bounded events but no scale such as *puudutama* ‹touch› have a valued (MIN) measure feature (14).

(13a)

$$\begin{bmatrix} \text{PRED} & \text{'FLASH} \langle (\uparrow \text{SUBJ}), (\uparrow \text{OBJ}) \rangle' \\ \text{B2} & \end{bmatrix}$$

(13b)

$$\begin{bmatrix} \text{PRED} & \text{'FLASH} \langle (\uparrow \text{SUBJ}), (\uparrow \text{OBJ}) \rangle' \\ \text{B2} & \text{MIN} \end{bmatrix}$$

(14)

$$\begin{bmatrix} \text{PRED} & \text{'TOUCH} \langle (\uparrow \text{SUBJ}), (\uparrow \text{OBJ}) \rangle' \\ \text{B2} & \text{MIN} \end{bmatrix}$$

The work on the Vendler aspectual classification of Estonian verbs in Chapters 9 and 10 establishes that stative, process and activity verbs appear mainly with the partitive case object, the accomplishment and achievement verbs can—but need not—appear with the total object. Also, particle-verb combinations were found to belong to all Vendler classes. There are some regular instances of unexpected behavior in terms of the hypothesized correlation between aspectual classification and object case.

8.7 *Summary on verbal lexical boundedness and the features*

The following classification presents boundable attributes and the attributes that have values. This division presents the Vendler classification with some additional classes that have emerged as relevant in Estonian verb classification.

1. In achievement verbs such as *leidma* ‹find›, there is B1 and no B2.
2. In accomplishment verbs such as *sööma* ‹eat›, there is B1 and B2.
3. In state, activity and process verbs, as *jälgima* ‹follow›, there is a B2 attribute.
4. Some stative predicates with *olema* ‹be› typically lack any boundable attribute.
5. In *laiendama* ‹widen› and other degree achievement verbs there is B1 and B2, and B1 is lexically bounded or not bounded.
6. In *alustama* ‹begin› or *ehmatama* ‹frighten›, there is B1 and B1 is lexically bounded.
7. In *hüppama* ‹jump›, *vilgutama* ‹flash›, semelfactive verbs with B2 and without B1, B2 is either lexically bounded or not.
8. In *aevastama* ‹sneeze›, semelfactive verbs with B2 and without B1, B2 is lexically bounded.

8.8 *Examples of tests*

The following tests were used:

1. The attribute B1 is assumed, if the gradable adverbial test is positive or the time frame adverbial test is positive.
2. B2 is assumed, if the durative adverbial test is positive without an effort in processing.
3. Boundedness of B2 or B1 is assumed when the verb is compatible with adverbials that locate the event temporally (at one o'clock) or specify some change by the adverbial *mõnevõrra* ‹to some degree›.
4. The intuitive notion of whether B1 or B2 is the lexically bounded attribute is also tested by the gradable adverbial test, which is negative with B2 bounded and positive with B1 bounded verbs.

8.9 *Verb classes summarized*

This division also captures that many verbs are lexical aspectually ambiguous.

Table 8.2. Verb classes

Class/attribute	B1 (scale)	B2 (measure)
Find	Boundable	
Eat	Boundable	Boundable
Follow		Boundable
Be (be scattered)	Non-boundable	(Non-boundable or) boundable
Widen	Boundable or lexically bounded	Boundable
Introduce, begin, win, frighten	Lexically bounded	
Sneeze		Lexically bounded
Jump		Boundable or lexically bounded

The classification is asymmetric. The pattern after adding lexical boundedness is irregular. On the one hand, there is no class where two attributes are lexically bounded. On the other hand, the lexical representation of degree achievements (*widen*) contains the possibility that the B1 attribute has a bounded value or not, and a specification of a B2 attribute. The inchoative (*begin*) and momentaneous classes (*sneeze*) specify lexically only bounded B1 and B2 features respectively. In contrast, *jump* or *flash* specify either a bounded or a non-bounded B2 attribute.

In this approach, case depends on the properties of the predicate, interacting with semantic properties. This section has outlined the way to formalize the verbal lexical part. An advantage is that instead of an unstructured set of conjunctions of features and their combinations, features interact more freely with each other and with features outside the verbal lexicon. The idea is that not only the usual telicity, dynamicity and durativity features are lexical, but also (short) duration and minimal change are lexically determined on the corresponding tiers. Tiers fall in two according to whether they denote a change or (measurable) difference—quality or quantity.

Another important advantage of this approach is that it allows for the cross-linguistic variation in (verbal) lexically vs. not (verbal) lexically expressed aspect instead of positing a cross-linguistic rigid inventory of (lexical) aspectual classes. Ultimately, my approach helps to understand why the effect of Estonian case is comparable to the effect of aspectual particles or verbal morphemes in other languages. The proposed equations and existential constraints secure the grammaticality of the clause in terms of the well-formedness of f-structure via the presence of the attributes and features in the f-structure (Table 8.3).

Table 8.3. Extended Vendler classes, their scalar properties, and the typical object case.

Vendler class	**scalarity**	**case**	**boundedness**
Accomplishment ‹eat›	scalar	total	bounded
Achievement ‹find›	scalar	total	bounded
Degree achievement ‹widen›	scalar	partitive	bounded
Stative	nonscalar	partitive	unbounded
Activity ‹run›	nonscalar	partitive	unbounded
Semelfactive ‹explode›	nonscalar	n.a.	bounded

8.10 *Conclusions to Chapter 8*

The last couple of pages gave the rationale and an overview of the previous accounts of the Estonian scalar aspectual lexicon, and it ends here. The previous system used two features for verbs and three values for the

aspectually more relevant feature in the sentences. This system is simpler, but the disadvantage is the less spelled-out relations between the lexical meaning and various types of measure.

The following chapters, however, present a view on verb classes where the two boundedness features are named explicitly as scale and measure features. Another difference is doing away with three different possible values for the features, and the preference to see the two features as lexically (or otherwise conventionally) linked to each other in case of some verb classes.

Endnotes

[1] The source of this classification in Estonian, Tamm (2004b), summarized in Tamm (2004d).

CHAPTER 9

SCALAR VERB CLASSES

9.1 *What are scalar verbs?*

Scalar verbs are accomplishments, achievements, and degree achievements. In those verbs, the event progresses in degrees towards its completion, result or endpoint. These verbs encode a scale in their lexical meaning; whether the scale is closed is related to the object case encoding. In other words, scalar verbs have object case alternation in most verb classes.

9.2 *Accomplishment verbs: total objects*

There are various definitions of accomplishment verbs. They are described with the features + durative, + dynamic, + endpoint as in (1) in several sources.

(1)

accomplishments
+ durative
+ dynamic
+ endpoint

For a description, I have opted for the understanding of accomplishment verbs as verbs that denote events that have a preparatory process (activity) phase that leads to a definite change in the situation. These verbs typically denote nonhomogeneous events. There is an alternative understanding of verbs denoting events. According to this idea, accomplishment verbs are agentive and achievement verbs are non-agentive verbs that can refer to events. I do not follow this idea here, since there are agentive verbs that are achievement by the preparatory phase criterion, and there are non-agentive verbs that are accomplishments by the preparatory phase criterion. Ultimately, the idea of a preparatory phase is not clear with several verbs. In my approach, bundles of features—not event types—determine the interaction with case in the model. In the presentation of the Vendlerian accomplishment class, I rely on the following tests.

A. Tamm, *Scalar Verb Classes. Scalarity, Thematic Roles, and Arguments in the Estonian Aspectual Lexicon,* ISBN (online) 978-88-6655-055-6, 2012 Firenze University Press

On the one hand, verbs (or VPs) that can denote accomplishments are distinguished from activity or process verbs by the positive result of the time frame adverbial test (such as *ühe tunniga* ‹in an hour›).

On the other hand, they are distinguished from achievement verbs by the positive result for the durative adverbial test (such as *tund aega, üks tund/ühe tunni* ‹for an hour›).

Verbs such as *sööma* ‹eat›, or *valmistama* ‹prepare, create› and most particle verbs qualify as accomplishment verbs, since with a quantized argument NP they denote events that have a preparatory process (activity) phase that leads to a definite change in the situation. This change can be qualified as an endpoint, a result, or a completion. Because of this two-phase like structure, accomplishment verb tests have identical results with activity or process verbs and achievement verbs. The tests find out whether the verb shows common features with achievements via the verb's acceptability with the time frame adverbials such as *ühe tunniga* ‹in an hour› (1a); also, the tests fix their similarity with the activity/process verbs via the acceptability with the durative adverbials such as *tund aega, üks tund/ühe tunni* ‹for an hour› (2b) etc.

(2)

a.	*Mari*	*ost-is*	*ühe*	*tunni-ga*	*raamatu.*
	M[NOM]	buy-PST.3S	one.GEN	hour-COM	book.TOT
	‹Mary bought a/the book in an hour.›				
b.	*??Mari*	*ost-is*	*tund*	*aega*	*raamatu-t.*
	M[NOM]	buy-PST.3S	one[NOM]	hour.PTV	book-PTV
	‹Mary was buying a/the book for an hour.›				

The sentences with the durative adverbial have objects that bear the partitive case and the sentences with the time frame adverbial bear the total case. The acceptability of the verbs with the durative adverbials may vary; for instance, the sentence (2b) contains a verb *ostma* ‹buy› that is less acceptable, forced, with the durative adverbial, and in the case with *ehitama* ‹build› (3a, b), the result of the test is more acceptable and natural.

(3)

a.	*Joosep*	*ehita-b*	*suvila*	*ühe*	*suve-ga.*
	J[NOM]	build-3S	summer.cottage.TOT	one.GEN	summer-COM
	‹Joseph builds a summer house in one summer.›				
b.	*Joosep*	*ehita-b*	*suvila-t*	*terve*	*suve.*
	J[NOM]	build-3S	summer.cottage-PTV	whole.TOT	summer.TOT
	‹Joseph will be building a summer house all summer.›				

Therefore, I divide the accomplishment verbs into those that are more acceptable with the durative adverbials (4a) and those that are less acceptable with the durative adverbials, yielding a forced effect. That is, in the cases listed under (4b), the durative adverbial is felt to force a durative, activity or process reading. This distinction in acceptability with durative adverbials correlates with the acceptability of the occurrence of the verb with the partitive object.

(4)

a. *tegema* ‹make›, *alistama* ‹subjugate›, *ehitama* ‹build›, *istutama* ‹plant›, *kirjutama* ‹write›, *omandama* ‹acquire›, *rajama* ‹create, establish›, *trükkima* ‹print›, *äratama* ‹rouse, (make) wake up›, *looma* ‹create›, *parandama* ‹repair›, *kujundama* ‹shape, design, form›, *sooritama* ‹make (exam, etc.)›, *koostama* ‹compile›, *moodustama* ‹form, create›, *keetma* ‹boil›, *voltima* ‹fold›, *tooma* ‹bring here, fetch›, *kutsuma* ‹call, invite›

b. *laenama* ‹borrow/loan›, *tekitama* ‹create, bring to being›, *võtma* ‹take›, *saama* ‹get, become›, *haarama* ‹grab›, *avastama* ‹discover›, *saavutama* ‹achieve, attain›

Most particle and verb complexes denote either accomplishments or achievements. Particled accomplishment verbs are predominantly transitive and typically occur with total objects. Most verbs with *välja* and roughly one third of the examples with *ära* are accomplishments. Some examples follow in (5).

(5)

välja arendama ‹develop›; *välja koolitama* ‹educate, specialize›; *välja kühveldama* ‹shovel out›; *välja laadima* ‹load out›; *välja laduma* ‹heap out›; *välja laotama* ‹spread out›; *välja loksutama* ‹splash out›; *välja loopima* ‹throw out›

These verbs encode a clear endpoint towards which the event evolves, but the verbs themselves, without the information about the object case encoding, do not encode that this endpoint is also attained. It is the total object case that encodes various types of information pertaining to the verification of the attainment of this endpoint, result or completion. In terms of modularity, it is not clear if this information pertains to semantics or semantics and pragmatics, and it is not clear yet what the status of the meaning contributed by the case is. This question requires more study than can be provided in this book. It seems that the case is not determined at the lexical semantic level, but several relevant preconditions for the total and partitive case are present in the lexicon, which constrains the possible object cases. The choice between the two cases depends on speech acts and modality, which should be represented as operators that operate at a higher level than the purely aspectual operators. Therefore, my approach is a cautious one with regard to the object case, and I concentrate on the features of verbs that interact with morphosyntax. Other accounts may give a bigger role to the lexicon, or pure syntax. This account gives a major role to functional structure, which combines information from several linguistic levels. See Tamm (2012) for arguments that point to an epistemic modal analysis of the partitive.

It is clear that the case alternation that occurs with accomplishment verbs has an effect on aspect. Accomplishment predicates appear with partitive or total objects, they may appear with total case marked measure adjuncts, and they are scalar (nonscalar in the progressive-like uses). Since accomplishment verbs can give rise to sentences denoting totally completed events, and they can also be measured in terms of their temporal measure (span, extent), I propose that they encode the features «scale» and «measure» in their functional specifications, as represented in (6).

(6)

(↑SCALE) V
(↑MEASURE)

The scale and measure features of accomplishments must be lexically underspecified; that is, the attributes lack an exact value, as represented in (6). Accomplishment verbs allow either a closed scale, a scale specification «closed scale», as in *Mari ehitab* ***suvila***—as in (3a) or a measure, non-scalar measure specification «specified», *Mari ehitab suvilat* ***terve suve***—as in (3b), or both, scalar and non-scalar specification, *Takso sõidutas* ***Peetri viis kilomeetrit*** *edasi*— as in (9a). All of these specifications correspond to the total case marking.

A VP with an accomplishment predicate has the following feature unification combinations with the patterns of case marking. Total objects and a closed scale correspond to the sentence in (7a), and the feature unification of this sentence is represented in (7b).

(7)

a. *Takso* *sõiduta-s* *Peetri* *edasi.*
taxi[NOM] drive-PST.3S P.TOT further
‹The taxi took Peter further.›

b. (↑SCALE)=+
(↑SCALE SPECIFICATION)=CLOSED
(↑MEASURE)= +
(↑MEASURE SPECIFICATION)= UNSPECIFIED

Partitive objects and total adjuncts, as in sentence (8a), have the feature unification as in (8b) with an open scale and a specified measure.

(8)

a. *Takso* *sõiduta-s* *Peetri-t* *viis* *kilomeetri-t.*
taxi[NOM] drive-PST.3S P-PTV five.TOT kilometer-PTV
‹The taxi took Peter five kilometers.› (This was not the end destination.)

b. (↑SCALE)=+
(↑SCALE SPECIFICATION)=OPEN
(↑MEASURE)= +
(↑MEASURE SPECIFICATION)= SPECIFIED

Sentences with a total object and a total adjunct: as in sentence (9a), have the feature unification as in (9b), a closed scale and a specified measure.

(9)

a. *Takso* *sõiduta-s* *Peetri* *viis* *kilomeetri-t*
taxi[NOM] drive-PST.3S P.TOT five.TOT kilometer-PTV
edasi.
further
‹The taxi took Peter five kilometers further.› (This was the end destination.)

b. (↑SCALE)=+
(↑SCALE SPECIFICATION)=CLOSED
(↑MEASURE)= +
(↑MEASURE SPECIFICATION)= SPECIFIED

Sentences with a partitive object and a total adjunct, as in sentence (10a), have the feature unification as in (10b), an open scale and a specified measure.

(10)

a. *Takso* *sõiduta-s* *Peetri-t* *viis* *kilomeetri-t*
taxi[NOM] drive-PST.3S Peter-PTV five.TOT kilometer-PTV
edasi.
further
‹The taxi took Peter five kilometers further.›
(We do not know if the location was the end destination.)

b. (↑SCALE)=-
(↑MEASURE)= +,
(↑MEASURE SPECIFICATION)= SPECIFIED

Sentences with a partitive object only as in sentence (11a) have the feature unification as in (11b).

(11)

a. *Takso* *sõiduta-s* *Peetri-t* *edasi.*
taxi[NOM] drive-PST.3S P-PTV further
‹The taxi took Peter further.›

b. (↑SCALE)= –
(↑MEASURE)= +
(↑MEASURE SPECIFICATION)= NONSPECIFIED

These features pertain only to those properties of the lexical semantics that are relevant for syntax and argument encoding. The lexical conceptual structures and argument structures that correspond to these clauses are not discussed in this book.

9.3 *Achievement verbs: total and partitive objects*

9.3.1 *Types*

Achievement verbs denote events, but their meaning does not contain the preparatory phase that is characteristic of accomplishment verbs. They are described with the features –durative, +dynamic, +endpoint, as represented in (12), in several sources.

(12)

achievements
–durative,
+dynamic,
+endpoint

I divide the achievement verbs according to their typical object case, since achievements may have either **total** or **partitive objects** in VPs. Achievement predicates appear with partitive or total objects**,** they never appear with total case marked measure adjuncts, and they are scalar (nonscalar in the forced progressive-like uses). Since achievement verbs can give rise to sentences denoting totally completed events, but they cannot be measured in terms of their temporal span, I propose that they encode the features «scale» and «measure» in their functional specifications, as represented in (13), with a negatively specified measure feature.

(13)

(↑SCALE)
(↑MEASURE)=–

9.3.2 *Total object achievement verbs*

Achievement predicates, e.g., *leidma* ‹find›, appear with a total object as in (15a) and have the feature specification as in (14).

(14)

(↑SCALE)
(↑MEASURE)=–
((↑SCALE)=+
(↑SCALE SPECIFICATION)=CLOSED) (default constraint)

Sentences with *leidma* ‹find› and a total object as in sentence (15a) have the feature unification as in (15b). The unification happens in a VP, at the f-structure.

(15)

a. *Leid-si-n* *vea.*
find-PST-1S mistake.TOT
‹I found a/the mistake.›

b. (↑SCALE)=+
(↑SCALE SPECIFICATION)=CLOSED
(↑MEASURE)=−

Most of the transitive achievement verbs occur with a total case object. Examples are *leidma* ‹find›, *kaotama* ‹lose›, *jätma* ‹to stop, to leave, to quit›, *andestama* ‹forgive›, *minetama* ‹forfeit, lose›, *unustama* ‹forget› etc. These verbs are compatible with the time frame adverbial (e.g., *in an hour*). There is a difference between achievement verbs that allow and that do not allow modification with rate (gradable) adverbials such as *slowly*. However, achievement verbs form a contrast with the accomplishment simple verbs, which can have a partitive object case with a rate adverbial, as in (16).

(16)

Mari	*ehita-b*	*suvila-t/suvila*	*aeglaselt.*
M[NOM]	build-3S	summer.cottage-PTV/ summer.cottage.TOT	slowly

‹Mary is building a summer house slowly.›

Achievement simple verbs, such as *unustama* ‹forget› or *kaotama* ‹lose› (17) cannot have the partitive object case in a sentence with a rate adverbial. These sentences are relevant for verifying the gradable nature of the predicate. These achievement verbs are occasionally acceptable and occasionally not acceptable with rate adverbials and the total object.

(17)

Mari	*unusta-s/ kaota-s*	*oma sõbra*	*(# sõpra/*
M[NOM]	forget/lose-PST.3S	her friend.TOT	friend.PTV/
??numbri/ #numbri-t)	*aeglaselt.*		
number.TOT/ number.PTV	slowly		

(Intended meaning) ‹Mary forgot her friend/her number, it happened slowly.›

Sentence (18) displays a somewhat contradictory fact that reference to temporal progression or measure by means of a durative adverbial is not possible with these verbs and in this respect these achievement verbs resemble some stative verbs.

(18)

# Mari	*unusta-s/kaota-s*	*oma sõbra/sõpra*
M [NOM]	forget/lose-PST.3S	her friend.TOT/friend.PTV/
/numbri/numbri-t	*terve*	*aasta.*
number.TOT/ number-PTV	whole.TOT	year.TOT

Intended meaning: ‹Mary lost her friend/her number, it happened for a year.›

These examples (16)-(18) provide relevant facts about the nature of achievement verbs and event predicates. First, some event predicates simultaneously seem to refer to temporal progression (since they are modifyable by *slowly* in (17)) and an event (the total case is not related to the measure or extent case marking in (17) as is the case with some stative verbs). Simultaneous reference to temporal progression and to full (non-homogeneous) event is not evident with all occurrences of event verbs, as suggested by the data of the possible partitive object with the accomplishment verb in (16). Second, I can exclude the quantification of the object NP from the factors that have any essential relation to the object case. The quantification of the object NP ((her) friend, (her) number) is constant, but there is variation in the acceptability of sentences with the same total object cases. Third, the somewhat zeugmatic effects suggest that it is possible that losing or forgetting friends and numbers are separable as instances of verbal polysemy, of different lexical entries that have their own selection restrictions, aspectual type etc. What is more important is that once you lose or forget a friend or a number, however long it might take you, there is finally no more losing or forgetting them. Fourth, sentence (18) shows that any reference to temporal measure or duration can be expressed by accomplishment verbs only (naturally, also with activity and process verbs and some state verbs). Sentence (18) displays the fact that achievement verbs, as opposed to accomplishment verbs, are not compatible with durative adverbials.

Some examples with the achievements with particles follow in (19).

(19)

ära surema ‹die›, *ära tapma* ‹kill›, or *välja tegema* in the sense ‹offer, buy›

In sum, there is a natural lexical class of total object achievement verbs.

9.3.3 *Partitive object achievement verbs*

Other achievement verbs that denote an event, such as *märkama* ‹notice›, as in (20a), are scalar and have open scale as witnessed by their compatibility with *veel rohkem* ‹even more›. However, they do not denote an event that has a clear result despite their perfectivity, as wit-

nessed by the tests in (21). The point is that if a mistake is noticed even more, then it is not the case that a quantificationally bigger part of the mistake is noticed, it is rather the *gravity* of it that is perceived more acutely. These verbs cannot be modified by a total case marked durative adverbial. They have a partitive object. This is a class of achievement verbs that has fewer members than the total object achievement verb class. They are delimited, bounded event denoting verbs of which it is occasionally problematic to claim that they are achievements; nevertheless, I classify some verbs on the basis of some common features here as achievements.

This group consists of some perception verbs such as *märkama* ‹notice› (20a), occasional verbs that denote physical contact, such as *puudutama* ‹touch› or harm *vigastama* ‹harm, injure› (20b), *rikkuma* ‹ruin, spoil›, some other verbs, *võitma* ‹to win› (20c), *solvama* ‹insult›, *tutvustama* ‹introduce, make acquainted›, and some inceptive-inchoative verbs such as *alustama* ‹begin, start› (20d), and psych-verbs such as *ehmatama* ‹frighten› (20e).

(20)

a. *Märka-si-n* *ühe* *hetke-ga* *viga.*
notice-PST-1S one.GEN moment-COM mistake.PTV
‹I noticed a mistake in a moment.›

b. *Vigasta-si-n/puuduta-si-n/rikku-si-n* *ühe* *hetke-ga* *kä-tt.*
harm/touch/ruin-PST-1S one.GEN moment-COM hand-PTV
‹I hurt/touched/ruined (my/the) hand in a moment.›

c. *Võit-si-n* *Peetri-t* *lauatennise-s* *ühe* *hetke-ga.*
win-PST-1S P-PTV table.tennis-INE one.GEN moment-COM
‹I won Peter in table tennis in a moment.›

d. *Õpetaja* *alusta-s* *ühe* *hetke-ga* *tundi.*
teacher[NOM] start-PST.3S one.GEN moment-COM lesson.PTV
‹The teacher started the lesson in a moment.›

e. *Ehmata-si-n* *Peetri-t* *ühe* *hetke-ga.*
frighten-PST-1S P-PTV one.GEN moment-COM
‹I frightened Peter in a moment.›

On the one hand, combining these verbs with the durative adverbial may result in iterativity, which also proves that these verbs denote (full) events. It is a question if these verbs denote events with a distinct endpoint that is described by these predicates. It seems most plausible that these events do not have any preparatory phases that can be referred to by the

same predicate. On the other hand, these events, in some of their uses, do not have a clear unchangeable definite resultant state.

From the (idiomatic) composite verbs (*väljendverb*) I found an example for a partitive achievement verb (21), but the combination with a partitive object is not attested for the more common types of particle verbs that denote an achievement.

(21)

Pan-i-n		*se-da*	*viga*	*tähele*	
notice-PST-1S		this-PTV	mistake.PTV	(part of *panema* ‹notice›)	
ühe	*hetke-ga*	*/veel*	*rohkem/*	*#terve*	*minuti.*
one.GEN	moment-COM	even	more	whole.TOT	minute.TOT

‹I noticed the mistake in a second/even more/for a minute.›

In the case of ‹notice›, the judgements vary about whether the case is partitive or total. The behavior of the verb *ehmatama* ‹frighten› demonstrates the futility of a measure thematic role based account to the Estonian object case alternation. The object of the verb is an experiencer and a theme that undergoes a change. Its role does not change, but the case may alternate. Also, the feature cluster as illustrated above does not allow predictions with regard to differential object case assignment. Both variants, the total and the partitive object case one, are described with the features -durative, +dynamic, and +endpoint, as in (22).

(22)

a. *ehmatama* 1, partitive object:
   achievement
   - durative
   + dynamic
   + endpoint
b. *ehmatama* 2, total object:
   achievement
   - durative
   + dynamic
   + endpoint

The examples in (23) depict examples with the two object cases from actual language: a resultative phrase with an adjective (23a), a resultative phrase with a particle (23b), with an infinitive in its a goal case form (23c).

(23)

a. *Tiigerpüüton* *ehmata-s* *noorpaari* *poolsurnu-ks*[1]
tiger.python[NOM] frighten-PST.3S young.couple.TOT half-dead-TRA
‹The tiger python frightened the young couple half dead.›

b. *Mardipäeva-l* *ootamatult* *raemajja* *ilmu-nud*
Martinmas-ADE unexpectedly city.council.ILL start-ACT.PST.PTCP
karvas-te *jalga-de-ga* *Punamütsike* *ole-ks*
hairy-GEN.PL foot-PL-COM P[NOM] be-CND
ametnik-e *armee* *laiali* *ehmata-nud,*
clerk-GEN.PL army.TOT apart frighten-ACT.PST.PTCP
kui *mitte* *kuri* *hunt*
if not bad[NOM] wolf[NOM]
p-ole-ks *enne* *linnaviletsuse* *õudse-t*
NEG-be-CND before towncouncil.GEN horrible-PTV
lõppu *Punamütsikes-t* *nahka* *pan-nud.*[2]
end.PTV Red.Riding.Hood.PTV skin.ILL put-ACT.PST.PTCP
‹Some Red Riding Hood with hairy legs, suddenly appearing at the town hall on Martinmas, was about to disperse the crowds of clerks, but fortunately the big bad wolf appeared before Red Riding Hood could put an end to the misery of the city [a pun created by replacing two vowels in the word *valitsus* ‹government› vs. *viletsus* ‹misery›-AT] and ate up Red Riding Hood.›

c. *Alastistseen* *ehmata-s* *Faime Jürno* *Agnese* *ahvatleva-st*
naked.scene[NOM] frighten-PST.3S FJ.TOT A.GEN desired-ELA
osa-st *loobu-ma.*[3]
role-ELA give.up-M_ILL
‹The requirement of a naked scene so frightened Faime Jürno that she gave up the desired role of Agnes.›

The examples with this verb in (24) show that the word order of the case marked nouns may vary, but this does not matter for case marking.

(24)

a. *Pääsküla* *nais-t* *ehmata-s* *elektrienergia* *libakontrolör*[4].
P.GEN woman-PTV frighten-PST.3S electricity.GEN fake.inspector[NOM]
‹The woman of Pääsküla was frightened by a fake inspector of electricity.›

b. *Linnajuht* *ehmata-s* *alluva-id*[5].
town.leader[NOM] frighten-PST.3S employee-PTV.PL
‹The mayor frightened the employees.›

c. *Taudioht* *ehmata-s* *piirielanikk-e*[6].
danger.of.disease[NOM] frighten-PST.3S border.area.inhabitant-PTV.PL
‹The danger of disease frightened the inhabitants of the border area.›

There may be object case variation that depends on the presence of the aspectual particle or a certain information structural status of the object, as in (25). For instance, example (25a) is perceived as missing the aspectual particle—it is an example of a title of a newspaper article.

(25)

a. *Kahe* *kilomeetri* *kauguse-l* *löö-v* *pikne*
two.GEN kilometer.GEN distance-ADE strike-ACT.PRS.PTCP lightning[NOM]
riku-b *kodutehnika*[7]
ruin-3S home.apparatus.TOT
‹Lightning that strikes two kilometers away can ruin the domestic electric gadgets.›

b. *Puujuurikas* *rikku-s* *vee* *ära:(*[8]
tree.root[NOM] ruin-PST.3S water.TOT PRT
‹The root of the tree ruined the water.›

c. *Ajateenistus* *rikku-s* *tervis-t*[9].
serving.in.the.army[NOM] ruin-PST.3S health-PTV
‹Serving in the army ruined the (my/your/his/her…) health.›

If the verb is achievement by tests but its object case is partitive, then the verb is henceforth occasionally called a «surprise» or «partitive» achievement verb. These verbs do not confirm the aspectual hypothesis that transitive verbs that refer to events or sentences with perfective aspect should have total objects. Surprise achievement verbs are thus problematic for a purely aspect based understanding of object case since they denote an event and appear in perfective sentences, but they occur with a partitive object. The verb with the partitive case has the entry as in (26), specifying an open scale with a lexically specified measure.

(26)

a. (↑SCALE)=+
(↑SCALE SPECIFICATION)=OPEN
(↑MEASURE)= +
(↑MEASURE SPECIFICATION)=SPECIFIED

9.3.4 *Degree achievement verbs*

There is a class of verbs that displays variable characteristics in referring to events. This is the class of verbs, often referred to as degree achievement verbs (Dowty 1979), gradual completion verbs as in Bertinetto and Squartini (1995), or verbs of gradual change, this term is used in Metslang (1994), such as *widen, lengthen, deepen,* etc. These verbs denote a gradual change of a property, a change of state that does not necessarily terminate with a clear, definite, and unchangeable result state. Degree achievement verbs are transitive or intransitive. Estonian intransitive degree achievement verbs

are typically derived from adjectives by means of the morpheme *-ne-* that denotes gradual change. The meaning of such verb is *become adj-er,* such as *laienema* ‹widen, become wide› in *tee laienes* ‹the road widened›, which can be paraphrased as ‹the road became wider›. There are two aspectually distinct ways of deadjectival verbal derivation by morphemes that are interesting in this discussion. The morpheme (*-ne-*) contributes to the verb's meaning that the property denoted by the base adjective has increased by at least some, minimal extent. The other morpheme (*-u-*) contributes to the meaning of the verb that the property denoted by the adjective occurs to a full, maximal extent. The *-u-* morpheme typically derives base verbs that appear in telic sentences. These verbs may be from an identical base with the *-ne-* verbs, their meaning can be represented as *become adj.* The *-u-* morpheme is not discussed in detail here, but it must be introduced[10]. These two morphemes of intransitive verbs have a counterpart that derives causative transitive verbs from adjectives, the suffix *-nda-* (*laiendama* ‹widen, make wide(r)›). These transitive verbs seem to comprise two aspectual readings: that the property denoted by the base adjective has increased by at least some, minimal extent or that the property denoted by the adjective occurs to a full, maximal extent. Note that the temporality—the temporal borders—of these events are connected to the changes in the properties denoted by the base adjectives. More examples with the degree achievement verbs with morphologically related transitive and intransitive forms follow: *suurenema* ‹grow bigger›—*suurendama* ‹make bigger›, *laienema* ‹widen›—*laiendama* ‹make wider›, *muutuma* ‹change›—*muutma* ‹make change›. Returning to the aspectual characterization of these verbs, it must be noted that regarding them as achievements is problematic. They qualify rather as accomplishments according to their compatibility with both the time frame (27a) and durative adverbials (27b)[11].

(27)

a.	*Firma*	*laienda-s*	*tee*	*ühe*	*tunni-ga.*
	firm[NOM]	widen-PST.3S	road.TOT	one.GEN	hour-COM
	‹The firm widened the road in an hour.›				
b.	*Firma*	*laienda-s*	*tee-d*	*kaks*	*tundi.*
	firm[NOM]	widen-PST.3S	road-PTV	two[NOM]	hour.PTV
	‹The firm was widening, widened the road for two hours.›				

Indeed, Hay, Kennedy and Levin (1999) point out that it is problematic to regard the equivalent English verbs as achievements. On the basis of entailment tests, they discuss why these verbs should be seen rather as referring to either accomplishments or activities. The case marking pattern of Estonian objects in (27a)-(27b) confirms that these authors are right in identifying these two different aspectual types in these verbs.

However, my standpoint is that the two sources, Dowty (1979) and Hay, Kennedy and Levin (1999), are both right. One reading of those verbs emphasizes the temporal protraction of the event (activity); the other two

readings emphasize the occurrence of an increase or a change. Sentences (27a)-(27b) illustrate an accomplishment and activity, but the achievement-like reading, as described above in connection with partitive achievements, is also available for this verb if it appears with a partitive object as in (28).

(28)

Firma	*laienda-s*	*tee-d*	*ühe*	*tunni-ga.*
firm[NOM]	widen-PST.3S	road-PTV	one.GEN	hour-COM

‹The firm widened the road in an hour.›

The classification under the achievement class is problematic from the point of view of the phenomena typically described in connection with the partitive object case in Estonian. The occurrence of partitive objects with achievements is a restricted phenomenon. There is also proof that transitive degree achievement verbs occur with the partitive object naturally, without an iterative or forced effect, exactly as it is the case with activity or accomplishment verbs (e.g. *build*, etc.). These verbs thus occur context-neutrally with partitive objects in the durative sentence (27b). Therefore, the intuitive classification of these verbs under achievements needs justification. Firstly, the sentences with partitive objects primarily denote activities. However, the intuition that is difficult to capture about sentence (28) is that it describes an expired, full event in its own right regardless of the partitive object case. The traditional test with the time frame adverbial is acceptable with this sentence containing the verb and a partitive object (29) and this is the evidence that the verb has indeed also an event (achievement or accomplishment) reading with the partitive object.

(29)

(?)Firma	*laienda-s*	*kahe*	*tunni-ga*	*tee-d.*
firm[NOM]	widen-PST.3S	two.GEN	hour-COM	road-PTV

‹The firm widened the road in two hours.›

However, this sentence may have a context-dependent effect to some speakers. Dependence on context disappears for all speakers with the addition of a phrase expressing (some) extent, such as *mõnevõrra* ‹some extent, somewhat›, as in (30a). Sentence (30b) combines the time frame adverbial and the adverbial specifying the extent of the change or increase in the property.

(30)

a.

Firma	*laienda-s*	*mõnevõrra*	*tee-d.*
firm[NOM]	widen-PST.3S	somewhat.TOT	road.PTV

‹The firm widened the road somewhat.›

b.

Firma	*laienda-s*	*kahe*	*tunni-ga*	*mõnevõrra*
firm[NOM]	widen-PST.3S	two.GEN	hour-COM	somewhat.TOT

tee-d.
road-PTV

‹The firm widened the road somewhat in two hours.›

The unclear question here is the relation between the verb and the extent adverbial: does it indicate compatibility or trigger a different reading? Intuitively, it indicates compatibility, but this is a difficult fact to verify—the change of the property of wide is linked to the temporal progress as well.

Degree achievement verbs allow for several interpretations and are compatible with many tests. One more way to tell whether a sentence with the total object is an achievement or an accomplishment is to test it with cancelling the completion (31a). Accomplishment verbs are positive with the cancelling of the completion, and this verb indeed is acceptable in this test; therefore, the verb has an accomplishment reading. Similarly to surprise partitive achievements, the verb is compatibe with rate adverbials, as in (31b).

(31)

a. *Firma* *laienda-s* *tee-d,* *aga valmis ei saanud.*
firm[NOM] widen-PST.3S road-PTV but didn't finish.
‹The firm has widened the road, but it has not finished it yet.›

b. *Firma* *laienda-s* *tee-d* *aeglaselt/järkjärgult.*
firm[NOM] widen-PST.3S road-PTV slowly/bit by bit
‹The firm widened the road slowly/bit by bit.›

These verbs pass several tests. In sum, these data show that the *-nda*-affixed verbs are not pure achievement verbs, but rather activity-accomplishment verbs and a special sort of achievement verbs, which occur with partitive objects and resemble the surprise achievements that are discussed above. The lexical entries for the different readings are different, depicted in (32).

(32)

a. example (27a), total object, bounded (accomplishment)
(↑SCALE)=+
(↑SCALE SPECIFICATION)

b. example (28), partitive object, bounded (achievement)
(↑SCALE)=+
(↑SCALE SPECIFICATION)=OPEN
(↑MEASURE)=+
(↑MEASURE SPECIFICATION)=SPECIFIED

c. (27b), partitive object, durative, unbounded (activity)
(↑SCALE)=–
(↑MEASURE)=+
(↑MEASURE SPECIFICATION)

As a summary to achievements, Estonian achievement verbs occur basically with the total object. Some achievement verbs occur with the par-

titive object. The degree achievement verbs are different in that they seem to allow for their interpretation as three different Vendler verb types: activity-accomplishment, and the type that is closest to achievement.

9.3.5 *Intransitive verbs*

There are hypotheses that relate a verb's transitivity or unaccusativity and its ability to express telicity and related phenomena («measuring out», «delimitedness»). Intransitive verbs are predominantly process, activity, or stative verbs. However, semelfactive (punctual, momentaneous) verbs are typically intransitive. There are also numerous achievement verbs that lack an object. Instances of intransitive achievement verbs are in (33).

(33)

surema ‹to die›, *jõudma [kuhu]* ‹reach something›, *saabuma [kuhu]* ‹arrive somewhere›

Tamm (1998: 1-2) discusses how some intransitive verbs that express aspect occur with partitive subjects while others do not; the morphologically derived ones tend not to allow partitive subjects. Another issue that needs to be clarified is the exact nature of the possible aspectual opposite readings of intransitive verbs. This question emerges with intransitives that are not unambiguously unaccusative, since they are agentive, such as the verb *tutvuma* ‹get acquainted›. Another intransitive verb that can express aspectual meaning is *loobuma* ‹give up›. According to the durative and time frame adverbial tests, this intransitive verb has only an achievement reading, while *tutvuma* ‹get acquainted› has also a possible durative reading.

Intransitive particled achievement verbs are rarely agentive, but there are some, such as *välja murdma* ‹break out›. Intransitive particle verbs with a theme or patient subject are numerous among achievements; some are listed in (34).

(34)

ära murduma ‹become broken›, *alla jääma* [kellele] ‹to lose (to somebody)›, *üle viskama* [kellel] ‹make someone fed up with something›

9.3.6 *Summary*

The chapter has established that Estonian has clear event structural scalar transitive verb classes. I have provided a discussion of their characteristics in terms of a scalar verb classification, following also the classical Vendlerian classification into accomplishments and achievements. Groups of verbs are identified through their behavior in several tests. Their behavior in terms of the tests shows the types of events and the properties of these events that these verbs can refer to. Object case data confirms largely the hypothesis that the total object case is possible with verbs that denote a scale. However, verbs can refer to different event types in sentences, and

this fact is reflected in object case. The largest group of regular exceptions is the achievement verb class.

Endnotes

[1] <http://www.epl.ee/artikkel/21702> (accessed 6 June 2012).
[2] <http://ww3-parnu.postimees.ee/231107/parnu_perroon/index.php> (accessed 6 June 2012).
[3] <http://www.ohtuleht.ee/index.aspx?id=119867> (accessed 6 June 2012).
[4] <http://www.tallinnapostimees.ee/?id=222807> (accessed 6 June 2012).
[5] <http://ww3-parnu.postimees.ee/231107/parnu_perroon/index.php> (accessed 6 June 2012).
[6] <http://www.epl.ee/news/eesti/taudioht-ehmatas-piirielanikke.d?id=50802174> (accessed 6 June 2012).
[7] <http://www.parnupostimees.ee/?id=290478> (accessed 6 June 2012).
[8] <http://foorum.akvarist.ee/viewtopic.php?p=41577&sid=37e5e6a33afc5becfaed1cff227262b3> (accessed 6 June 2012).
[9] <http://www.militaar.net/phpBB2/viewtopic.php?p=83574&sid=5021f010f38a6d0db21bd36fe3f9281c> (accessed 6 June 2012).
[10] See the studies of Kasik (2004), Pihlak (1992) and Vihman (2003) on more details about the *–u-* morpheme.
[11] Metslang (1993: 31) mentions degree achievements in connection with the progressive: with the *järkjärgulist muutust väljendavad verbid* ‹verbs expressing gradual change›, whereby the situation can be understood as a telic (goal-oriented) process or an achievement (*situatsioon võib olla mõtestatud nii eesmärgistatud protsessina, või saavutusena*). See Tamm (2003a), Metslang (1993) and Erelt (1985) for Estonian progressive construction, which has a reading by which it is similar to Hungarian absentive (de Groot 1995). See also Bertinetto and Squartini (1995) for a discussion on ‹gradual completion verbs› and for tests.

CHAPTER 10

NON-SCALAR VERB CLASSES

10.1 *What are non-scalar verbs?*

Non-scalar verbs in this approach are statives, activities, and atelic processes. There are verbs that cannot denote the completion of gradual changes that can make up a scale in the way described above. These verbs are referred to as lexically nonscalar. In the event of watching TV, there is no natural endpoint encoded in the meaning, and watching TV has no inherent directionality. The same is true for the verbs *love, trust, see/observe, want,* or *visit*. In real life, there comes an end to watching TV, loving and trusting George, seeing three friends, wanting two cars and visiting friends, but the verb meaning does not encode these events with an endpoint. These events do not evolve gradually closer to an endpoint. These verbs are, therefore, crucially not compatible with rate adverbials (1e) and typically not compatible with completive adverbs (1b). They are occasionally compatible with durative adverbials (1a), (1f) and (1g). Non-scalar verbs are also not compatible with time frame adverbials, as in (1c). Example (1d) displays incompatibility with *even more,* which shows that this group of verbs does not represent cumulative and scalar predicates.

(1)

a. *Mati* *vaata-b* *televiisori-t* *tund* *aega.*
M[NOM] watch-3S TV-PTV hour[NOM] time.PTV
‹Matthew watches a/the film, Matthew is watching a/the film for an hour.›

b. *#Mari* *armasta-b* *Jüri-t* *täiesti.*
M[NOM] love-3S J-PTV completely
‹Mary loves George completely.›

d. *#Mari* *näg-i* *tänava-l* *oma* *kolme* *sõpra*
M[NOM] see-PST.3S street-ADE her three.PTV FRIEND.PTV
veel *rohkem.*
even more
‹Mary saw/observed her three friends in the street even more.›

e. *#Mari* *taha-b* *homme* *kahte* *auto-t*
M[NOM] want-3S tomorrow two.PTV car-PTV
järkjärgult.
gradually
‹Mary will want two cars gradually tomorrow.›

A. Tamm, *Scalar Verb Classes. Scalarity, Thematic Roles, and Arguments in the Estonian Aspectual Lexicon,* ISBN (online) 978-88-6655-055-6, 2012 Firenze University Press

f.	*Mari*	*külasta-b*	*oma Tartu*	*sõpr-u*	*kolm*	*päeva.*
	M[NOM]	visit-3S	her Tartu.GEN	friend-PTV.PL	three[NOM]	day.PTV
	‹Mary is visiting her friends in Tartu for three days.›					
g.	*Mari*	*istu-b*	*valve-s*	*kolm*	*päeva.*	
	M[NOM]	sit-3S	guard-INE	three[NOM]	day.PTV	
	‹Mary is sitting as a guard somewhere for three days.›					

10.2 *Stative verbs*

10.2.1 *What are stative verbs?*

Stative verbs describe stative eventualities; they do not denote change over time. They have homogeneous reference, and generally they are not agentive. They are described with the features that are positive for durativity, and negative for dynamicity and endpoint, as in (2).

(2)

statives
+ durative
- dynamic
- endpoint

Here I list some principles that are widely applied for classifying verbs as stative verbs[1]. They are illustrated in (3).

1. They cannot appear in sentences that can be interpreted habitually (*as usual*-test).
2. They typically do not appear in imperatives (3a).
3. They cannot be complements of *persuade, make, force,* etc. (3b).
4. They do not allow modification by manner and instrument adverbs (3c).
5. They are incompatible with agentivity (the *deliberately*-test) (3d)
6. They do not appear in *do*-like pseudo-cleft sentences (that is, *tegema*-based ones) (3e).

(3)

a.	*#Võrdu*		*viie-ga!*		
	equal[IMP.2S]		five-COM		
	Intended to mean: ‹Equal five!›				
b.	*#Stalin*	*sundi-s*	*kahte*	*korda*	*kahte*
	S[NOM]	force-PST.3S	two.PTV	times.PTV	two.PTV
	võrdu-ma	*viie-ga.*			
	equal-M_ILL	five-COM			
	‹Stalin forced two times two to equal five.›				

c. *#Kaks* *korda* *kaks* *võrdu-s* *vastutahmist*
two[NOM] times.PTV two[NOM] equal-PST.3S against.one's.will
/Stalini *käe* *läbi* *viie-ga.*
S.GEN hand.GEN by five-COM
‹Two times two equalled five against their will/as caused by Stalin.›

d. *#Kaks* *korda* *kaks* *võrdu-s* *meelega*
two[NOM] times.PTV two[NOM] equal-PST.3S on.purpose
viie-ga.
five-COM
‹Two times two equalled five on purpose.›

e. *#See,* *mis* *kaks* *korda* *kaks* *teg-i,*
that what two[NOM] times.PTV two[NOM] do-PST.3S
ol-i *viie-ga* *võrdumine.*
be-PST.3S five-COM equaling[NOM]
‹What two times two did was equal five.›

As infinitives, state verbs may be complements of certain inchoative verbs. Assuming a state (if this is possible) is indicated with the inchoative predicates *jääma* ‹turn, become› and the *ma*-infinitive (*jäi uskuma*, from *uskuma* ‹believe›—‹was convinced, started to believe›; *jäi seisma,* from *seisma* ‹stand›—‹stopped, halted›).

As infinitives and in their stative reading, they are not typical complements of the inchoative verb *hakkama* ‹start, begin›. And if the state verbs occur as complements of *hakkama* ‹start, begin›, they cannot denote an incomplete transition to the state denoted by the verb as in (4).

(4)

#Ta *hakka-s* *se-da* *juba* *usku-ma,* *aga*
s/he start-PST.3S this-PTV already believe-M_ILL but
veel *ei* *usku-nud* *se-da* *täielikult.*
yet NEG believe-ACT.PST.PTCP this-PTV completely
‹He started to believe it, but he did not believe it entirely, really.›

Stative verbs in Estonian appear in sentences that have partitive or total objects. In that respect they can be divided into three groups:

a) partitive object statives (10.2.2);
b) total object statives (10.2.3);
c) total and partitive object statives (10.2.4).

These three groups will be discussed in turn in the following three subsections.

10.2.2 *Partitive object stative verbs*

Partitive stative verbs are those stative verbs that denote a stative situation, and these verbs occur with the partitive object in a sentence.

Transitive simple stative verbs. Examples of verbs that fail the above described tests and occur with the partitive object in a sentence, therefore qualifying as partitive stative verbs are *pooldama* ‹to be on the side of, to support›, *mõistma* ‹understand, realize› as in example (5a), *alahindama* ‹underestimate› (5b), or *põdema* ‹suffer from, be sick with› (5c).

(5)

a. *Mari* *mõist-is* *Toomas-t.*
M[NOM] understood-PST.3S T-PTV
‹Mary (has) understood Tom.›

b. *Mari* *alahinda-s* *Toomas-t.*
M[NOM] underestimate-PST.3S T-PTV
‹Mary (has) underestimated Tom.›

c. *Mari* *põde-s* *grippi.*
M[NOM] be.sick.with-PST.3S flu.PTV
‹Mary had the flu.›

Many state predicates are statives only as their main interpretation. For instance, sitting can be understood as a state in a type of position but also as a maintained, deliberate position, an activity. Suffering from a disease can be interpreted as a process that has an end, when the disease has ceased, as in (6).

(6)

Arvatu-st *palju* *enam* *laps-i* *on*
imagined-EL much more child-PTV.PL be.3S
seagripi *läbi* *põde-nud*[2].
swine.flu.TOT PRT suffer-ACT.PST.PTCP
‹Much more children than previously thought have suffered from the swine flu (and recovered).›

Although many if not most of the Klaas's (1999) hard partitive verbs and Rätsep's (1978) or Tauli's (1968) irresultative verbs are stative, not all of them are stative in all of their uses by the tests above. An example is the verb *solvama* ‹insult› as in sentence (7).

(7)

Mari *solva-s* *Toomas-t.*
M[NOM] insult-PST.3S Thomas-PTV
‹Mary insulted Thomas, Mary was insulting Tom.›

Verbs of this type can occur in habitual contexts, in imperatives, they can be complements of *persuade,* they allow modification by manner and instrument adverbs, etc. However, these verbs allow for a stative reading if «Mary», understood as a causer of the offence event, undergoes a metonymic shift to an attitude of Mary, paraphrased as in (8).

(8)

Mari	*hoiak*	*solva-s*	*Toomas-t.*
M.GEN	attitude[NOM]	insult-PST.3S	T-PTV

‹Mary's attitude insulted Tom.›

This sentence (8) above rather describes an attitude of Thomas with regard to the attitude of Mary than any activiy of Mary. In sum, the predicate is about a stative relation. Manner adverbs, even if they have the form that is usually taken to lead to a resultative verb pattern with the total object possibility (as a terminative phrase would in Rätsep), can modify these verbs in their stative occurrences, as seen from example (9).

(9)

Mari	*hoiak*	*solva-s*	*Toomas-t.*
M.GEN	attitude[NOM]	insult-PST.3S	Tom-PTV
südamepõhja-ni/		*kohutavalt.*	
bottom.of.the.heart-TER		terribly.	

‹Mary's attitude insulted Tom deeply/terribly.›

Several perception verbs, such as *nägema* ‹see›, *kuulma* ‹hear›, *haistma* ‹smell›, *tundma* ‹feel›, *aduma* ‹notice vaguely›, *tajuma* ‹feel, understand› combine observing over time and noticing readings; that is, they may express stative and achievement readings. Some of these perception verbs have regular complex verb synonyms that are only stative, for instance *nägema* ‹see› and *kuulma* ‹hear› have *pealt nägema* ‹see, witness› and *pealt kuulma* ‹hear, eavesdrop› as stative complex verb counterparts.

I suggest here a new test for Estonian, based on the temporal qualities of the past and present active participles. The present active participle denotes an ongoing event, at least to the strength of an implicature, while the past active participle is ambiguous. The form of the participle can help disambiguate the two readings. The sentence with the active present participle modifying the object noun ‹traffic accident› as in (10a) entails that the traffic accident was unfolding under Mary's eyes. The aspectual reading of the perception verb can only be that of a state in this case. In contrast, the sentence with the past active participle as in (10b) can be a state as well as an achievement. A synonym, *silmama* ‹notice› has only an achievement reading, and the sentence with the active present participle is slightly infelicitous as in (10c); the sentence with the active past participle describing a result state is felicitous (10d).

(10)

a.

Mari	*näg-i*	*tänava-l*	*toimuva-t*	*liiklusõnnetus-t.*
M[NOM]	see-PST.3S	street-ADE	happening-PTV	traffic.accident-PTV

‹Mary saw the traffic accident in the street.›

b.	*Mari*	*näg-i*	*tänava-l*	*toimu-nud*	*liiklusõnnetus-t.*
	M[NOM]	see-PST.3S	street-ADE	happened	traffic.accident-PTV
	‹Mary saw the traffic accident in the street.›				
c.	??*Mari*	*silma-s*	*tänava-l*	*toimuva-t*	*liiklusõnnetus-t.*
	M[NOM]	see-PST.3S	street-ADE	happening-PTV	traffic.accident-PTV
	‹Mary saw the traffic accident in the street.›				
d.	*Mari*	*silma-s*	*tänava-l*	*toimu-nud*	*liiklusõnnetus-t.*
	M[NOM]	see-PST.3S	street-ADE	happened	traffic.accident-PTV
	‹Mary saw the traffic accident in the street.›				

Achievements are odd with the modifier that is a present participle.

All verbs can be shifted to stative readings, to the extent that is dependent on pragmatics rather than semantics. This concerns mainly generic sentences, as in (11a), regardless of the basic aspectual semantic type of the verb, which can be an accomplishment or an achievement, as in the case of *põhjustama* ‹cause› in (11b).

(11)

a.	*Toiduallergia-d*	*põhjusta-vad*	*puhitus-t*[3].	
	food.allergy-NOM.PL	cause-3PL	bloating-PTV	
	‹Food allergies cause bloating.›			
b.	*Purjus*	*autojuht*	*põhjusta-s*	*pühapäeva*
	drunken[NOM]	driver[NOM]	cause-PST.3S	Sunday.GEN
	lõuna	*ajal*	*Jõhvi-s*	*avarii*[4].
	noon.GEN	time	J-INE	accident.TOT
	‹In Jõhvi, a drunken driver caused a traffic accident on Sunday at noon.›			

Stative particle verbs. Non-stative and stative meanings emerge in sentences with several particle verbs that are transitive. These basically stative verbs occur with the partitive object, on similar conditions with the examples with the verb *solvama* ‹to insult›. Some examples of stative verbs with a particle follow in (12).

(12)

ette heitma ‹reproach (as an attitude)›, *(endast) ette kujutama* ‹imagine to be›, *imeks panema* ‹be surprised at›, *järele aimama* ‹be like something›, *pealt nägema* ‹see (involuntarily)›, *pealt kuulma* ‹hear (involuntarily)›, *silmas pidama* ‹mean sth concrete›, *taga nutma* ‹mourn, cry for sth/sb (in the figurative sense)›, *tähele panema* ‹keep in mind›, *üle hindama* ‹overestimate›, *välja kiirgama* ‹radiate something, emit radiation›, *välja vabandama* ‹serve as an excuse›, *välja lugema* ‹be interpretable, understandable›, *välja lugema* ‹be interpretable, understandable›, *ära juhtima* ‹redirect›, *ära kasutama* ‹use for ones own purposes›.

I have found two stative intransitive verbs with a particle and with an elative and allative complement: *ära elama* ‹make ends meet, survive, live on sth›, *välja tegema* ‹choose to notice, take offence›.

There are some particle verbs that are intransitive and stative, mainly denoting positions, manners of existence, emission. Naturally, there exist simple stative intransitive verbs such as *puuduma* ‹be missing›. Examples are presented under (13).

(13)

välja sopistuma ‹bulge out›, *välja sirutuma* ‹stretch out›, *välja vaatama* ‹stretch, hang out›, *ära jääma* ‹be cancelled›

On the basis of these stative verb-particle combinations it can be concluded that a typically aspectual particle, in combination with a verb, does not necessarily bring about telicity or scalarity. The combination of such a particle with a verb does not result in an achievement or an accomplishment predicate. The compositions are opaque and have their own lexical aspectual characteristics. It can be observed that the particle does not co-occur with the total object case in transitive sentences either. In the stative verb-particle combinations discussed in this section, the object case is invariantly partitive. The aspectual properties and typical case properties of both verbs and verb-particle combinations display a correlation between stative meaning and partitive object case. These examples suggest that the verbs with particles can be regarded as lexical units that have their own aspectual properties such as stativity.

Lexical functional specifications of aspectual stative predicates. Aspectual stative predicates have partitive objects and are nonscalar, but there are two types of temporal measure:

- lexically specified as negative
- underspecified.

Features with negative values cannot be further specified in the unification at f-structure; unvalued features may but need not be specified by other elements in syntax. Being sick has a duration, underestimating is an attitude and even if it persists in time, it cannot be parceled in aspectually relevant temporal periods. This distinction between predicates is referred to as stage vs. individual level predicates. Being sick is a stage level predicate, underestimating is an individual level predicate. The lexical entries of *alahindama* ‹underestimate› and *põdema* ‹be sick, suffer from› reflect this distinction and are represented with the sentences that contain these verbs in (14) and (15) respectively.

(14)

alahindama ‹underestimate›

a. (↑SCALE)=–
(↑MEASURE)=–

b. *Mari* *alahinda-s* *Toomas-t.*
M[NOM] underestimate-PST.3S T-PTV
‹Mary (has) underestimated Tom.›

(15)

põdema ‹be sick, suffer from›

a. (↑SCALE)=–
(↑MEASURE)=+
(↑MEASURE SPECIFICATION)=UNSPECIFIED

b. *Mari* *põde-s* *grippi.*
M[NOM] be.sick.with-PST.3S flu.PTV
‹Mary had the flu.›

10.2.3 *Total object stative verbs*

Total object statives are those stative verbs that give rise to sentences that describe states, and their object case is total. Estonian stative alternations of this kind have not been addressed earlier. There are two groups of the stative total object verbs, those where the verb in the stative meaning occurs only with a total object, and those that have an «alternation» between a nominative case object and a total case marked phrase. Those where the verb in the stative meaning occurs only with a total object are, for instance, *poolitama* ‹divide in two, half› (16), *jagama* ‹divide›[5].

(16)

Jõgi *poolita-s* *linna*
river[NOM] divide-PST.3S town.TOT
kahe-ks *võrdse-ks* *poole-ks.*
two-TRA equal-TRA half-TRA
‹The river divided the city in two equal halves.›

Some members of this group (total object stative verbs) have progressive or actitvity readings. In that case they do have partitive objects (17a); the accomplishment reading of these verbs is illustrated below; the object case is total (17b).

(17)

a. *Mari* *poolita-s* *leiba* *kahe-ks* *võrdse-ks*
M[nom] divide-PST.3S bread.PTV two-TRA equal-TRA
poole-ks.
half-TRA
‹Mary was dividing the loaf of bread in two equal halves.›

b. *Mari* *poolita-s* *leiva* *kahe-ks* *võrdse-ks* *poole-ks.*
M[nom] divide-PST.3S bread.TOT two-TRA equal-TRA half-TRA
‹Mary divided the loaf of bread in two equal halves.›

Those verbs that have an «alternation» between a nominative case objects as in (18a) and a total case marked phrase as in (18b) with sentences with the verb *maksma* ‹cost›. These complements that are more like measures or extents have been shown to behave differently than the usual objects, for instance, with regard to passivization as pointed out by Jackendoff (1990) and Dowty (1991) («*one dollar was cost by the book*» is impossible).

(18)

a. *Raamat* *maksa-b* *vaid* *üks* *dollar.*
book[NOM] cost-3S only one[NOM] dollar[NOM]
‹The book costs only one dollar.›

b. *Raamat* *maksa-b* *vaid* *ühe* *dollari.*
book[NOM] cost-3S only one.TOT dollar.TOT
‹The book costs only one dollar.›

Some of the total object state verbs have additional activity and accomplishment readings, as in (19).

(19)

Keskerakond *moodusta-s* *sotsi-de-ga* *läbirääkimise-ks*
center.party[NOM] form-PST.3S socialist-PL-COM negotiating-TRA
delegatsiooni[6].
delegation.TOT
‹The center party formed a delegation in order to negotiate with the Socialist Party.›

In sum, these verbs with total objects describe measurable extents or configurations, sums, etc. Their ability to express a measure is fixed lexically in the lexical meaning of the verb. These predicates are referred to as measure stative predicates. They have **total objects** as in (20a) and they are **nonscalar**. Their spatial measure is specified lexically as in (20b), e.g., *moodustama* ‹make up, form›.

(20)

a. *kui* *1993 aasta-l* *moodusta-s* *viimas-te* *osakaal*
if 1993 year-ADE comprise-PST.3S latter-GEN.PL proportion[NOM]
kooselu-de-st *terviku-na* *neljandiku*[7] *(24%) …*
family-PL-ELA total-ESS fourth.TOT 24%
‹If in 1993, the proportion of the latter made up one fourth of the total of couples living together…›

b. (↑SCALE)=–
(↑MEASURE)=+
(↑MEASURE SPECIFICATION)= SPECIFIED

10.2.4 *Total and partitive object state verbs*

There is a class of stative verbs that is in transition from spatial, measure-based lexical semantics to aspect-based lexical semantics, from total to partitive object marking. Here I present an object case alternation type of stative transitive verbs that I call extent and property alternation (*piirama* ‹border as obstacle›, *raamima* ‹frame›, *ääristama* ‹border as decoration›, *katma* ‹cover›). This subsection introduces the stative verbs that can appear in sentences with total objects or partitive objects and that seemingly have free variation of object case. This alternation is illustrated in (21) and (22). Sentence (21) represents the *extent stative* alternate of the object case alternation pair.

(21)

Habe	*katt-is*	*mehe-l*	*terve*	*näo.*
beard[NOM]	cover-PST.3S	man-ADE	whole.TOT	face.TOT

‹The beard covered the man's whole face.›
(Tauli 1968)

In sentence (21) with the total object, a state is described. There is a possibility of understanding the state as a result of the beard growing and by slowly covering the parts of the face, reaching the extent of covering the whole face. However, the result interpretation is not the first interpretation of that sentence. The first interpretation of the state is about the extent of the spatial coverage of the object referent; the sentence describes how much of the extent of the face is covered by the beard. The parallel sentence (22) with the partitive object also describes a state, but this sentence does not describe the state of the extent of coverage of the face by the beard but rather a property of the man or the beard. Sentence (22) is an example of a *property stative*.

(22)

Habe	*katt-is*	*mehe-l*	*terve-t*	*nägu.*
beard[NOM]	cover-PST.3S	man-ADE	whole-PTV	face.PTV

‹The beard covered the man's whole face.›

Sentence (22) cannot describe the result of the beard growing and then reaching the extent of covering the whole face. Sentence (22) can contain (total-case marked) durative adverbials such as *terve nädala* ‹for the whole week›, sentence (23a) cannot. The extent state sentences (23a) cannot be bounded whereas the property states are boundable, combinable with measure phrases (23b). Examples (23b) and (21) are represented by the feature structure (24a), and example (22) is represented by the feature structure (24b). In (21), the feature comes from an object and in (23b), from an adjunct.

(23)

a. **Habe* *katt-is* *mehe-l* *terve* *näo*
beard [NOM] cover-PST.3S man-ADE whole.TOT face.TOT
terve *nädala.*
whole.TOT week.TOT
‹The beard covered the man's whole face for a whole week.›

b. *Habe* *katt-is* *mehe-l* *terve-t* *nägu*
beard [NOM] cover-PST.3S man-ADE whole.PTV face.PTV
terve *nädala.*
whole.TOT week.TOT
‹The beard covered the man's whole face for a whole week.›

(24)

a. (↑SCALE)=–
(↑MEASURE)=+
(↑MEASURE SPECIFICATION)= SPECIFIED

b. (↑SCALE)=-
(↑MEASURE)=+
(↑MEASURE SPECIFICATION)= NONSPECIFIED

In sum, some stative verbs, such as those of coverage, have object case alternation. Stative sentences containing verbs that describe an extent have total objects, and those that describe a property have partitive objects. The extent state sentences cannot be temporally bounded while the property states are boundable, combining with measure phrases. The reason may be that two measures are not allowed with one predicate. These verbs are problematic for a purely aspectual account of object case, since they do not denote an event, they occur in an imperfective sentence, but their object case is total. The objecthood of stative verbs cannot be well tested.

10.2.5 *Summary to 10.2*

The results of the study of stative verbs are summarized in Table 10.1. Transitive sentences with stative verbs typically have partitive objects. Stative verbs are not a uniform class with regard to object case, since some stative verbs in Estonian appear in sentences that have partitive or total objects. I divide stative verbs into three groups according to their occurrence with either object case: partitive object statives (*pooldama* ‹to be on the side of, to support›, *mõistma* ‹understand, realize›), total object statives (*poolitama* ‹halve, divide›, *maksma* ‹cost›) and extent as opposed to property alternational, that is, total as opposed to partitive object statives (*katma* ‹cover›). Several stative verbs describing extent have the total object case and these sentences can be analysed as describing measures or extents. The division between the stative verbs is presented in Table 10.1.

Table 10.1 Stative transitive verbs and object case.

Object case	partitive object statives	total object statives	total vs. partitive object statives
Example	*pooldama* ‹to be on the side of, to support›, *mõistma* ‹understand, realize›, some particle verbs	*poolitama* ‹halve, divide›, *maksma* ‹cost›, no particle verbs	*katma* ‹cover›, no particle verbs
Description	These verbs describe attitudes, properties, or relations.	These verbs describe measurable extents of configurations, extents etc.	These are extent state versus property state alternational pairs.

Compared to stative atelic verbs, activity verbs are more uniform in their object case.

10.3 *Activity and process verbs*

10.3.1 *Activity verbs*

Activity verbs are non-scalar and have homogeneous reference; they are described as agentive and atelic. Activity verbs are subsumed under dynamic verbs in many typologies (*jooksma* ‹to run›, *tegelema* ‹to deal with, to be busy›). These verbs are positive in agentivity tests, thus, in most cases, give the opposite result in the tests that diagnose stativity. They are described with the features +durative, +dynamic, -endpoint in several sources. These verbs occur in well-formed sentences with durative adverbials (for an hour/year/minute, etc), they can be modified by *deliberately, slowly*, other manner and also instrument adverbs, or be complements of *persuade,* or *force.*

Simplex activity verbs. Activity verbs are intransitive and transitive (25a)-(25c). Sentences describing activities have invariantly a partitive object when transitive (26).

(25)

a. *Mati* *jooks-is.*
M[NOM] run-PST.3S
‹Matthew was running, Matthew ran.›

b. *Mati* *tegele-s* *voolimise-ga.*
M[NOM] deal.with-PST.3S modeling-COM
‹Matthew was dealing with modeling, Matthew was modeling.›

c. *Mati* *vaata-s* *filmi.*
M[NOM] watch-PST.3S film.PTV
‹Matthew watched a/the film; Matthew was watching a/the film.›

However, the basically intransitive activity verbs can occur with partitive marked distance and temporal measure/extent phrases (26a)-(26c). Temporal measure phrases that appear in the partitive case in sentences with activity verbs are less felicitous than the distance ones (26b), (26c),

but possible. Tamm (2007a) discusses the partitive plural case marking of measure phrases[8], such as in (26c).

(26)

a.	*Mati*	*jooks-is*	*ühte*	*kilomeetri-t.*		
	M[NOM]	run-PST.3S	one.PTV	kilometer-PTV		
	‹Matthew was running one kilometer.›					
b.	*?Mati*	*jooks-is*	*(oma) ühte*	*tundi.*		
	M[NOM]	run-PST.3S	(own/his) one.PTV	hour.PTV		
	‹Matthew was running for one hour, Matthew went for his one-hour run.›					
c.	*Takso*	*sõiduta-s*	*Peetri-t*	*mitme-id*	*kilomeetre-id*	*edasi.*
	taxi[NOM]	drive-PST.3S	P-PTV	many-PL.PTV	km-PL.PTV	further
	‹The taxi was driving/drove Peter many kilometers further.›					

It is a topic of discussion what the aspectual contribution and syntactic status of various measure phrases is. Some aspects of the accusative and partitive alternation in marking temporal adverbials in Finnic are studied by Nelson (2003). She establishes that only one accusative case marked phrase, either the argument or the adverbial, is allowed in Finnish clauses, whereas Inari Saami can have more phrases with accusative marking. Haspelmath (1997: 38) describes measure phrases as representing atelic extent as opposed to telic extent. Fowler and Yadroff (1993) discuss the argument or non-argument status of the measure phrases in Russian; the relation between the argument status and aspectual effects of Russian accusative-marked NPs and *pro*-prefixation is discussed in Fici (1999). Estonian regular case alternation points to the argument-like status of these phrases in the previous examples; Tamm (to appear a, 2007b) contain some discussion on measure phrases and their different syntactic status. Komlósy (1992), followed by Kenesei (2000), tend to treat these phrases as (peripheral) arguments. Komlósy (1992: 317, 451, 457) contains a discussion of some measure phrases in Hungarian and notices the aspectual type-changing properties of these phrases. Depraetere (p.c.) would consider example (26a) telic on condition that Matthew has intended to run one hour (beforehand); in terms of reference to an event with a set endpoint (cf. Krifka 1992), these examples are atelic predicates.

Particle verbs describing activities. Particle verbs are not typically activity verbs, but there are some, such as *maha tegema* ‹disparage›. Among intransitives there are the following verbs: *peale käima* ‹insist›, *peale tungima* ‹attack›, *maha kirjutama* ‹to copy›. Other particle verbs that are activity verbs in one of their readings are listed in (27). Many of these verbs are also listed under stative verbs where these verbs were understood as describing certain states of mind or attitudes. Here, they are understood as concrete activities.

(27)

ette heitma ‹reproach (concretely)›, *järele aimama* ‹mock, play sb or sth, act as sb›, *pealt kuulama* ‹eavesdrop, listen to›, *pealt vaatama* ‹watch (as sth is going on), observe›, *taga nutma* ‹cry for sb.›

In sum, transitive activity verbs, whether simple or with a particle, occur with partitive objects. Measure phrases—objects or adverbials—in sentences describing activities are also marked with the partitive case. Activity verbs can appear with a measure phrase that is marked with the total case, but it is unclear whether the type of event these verbs describe is an activity then. Particled and simple verbs that describe activities are transitive or intransitive.

The representation. Activity verbs such as *vaatama* ‹observe› as in (28a) appear exclusively with partitive objects, as in (28c), and can appear with total case marked measure adjuncts. They are nonscalar, their measure being underspecified as in (28b). In a VP, the feature unification of case and the verbs in the sentence in (28b) is specified as in (28d).

(28)

a *vaatama* ‹observe›

b. (↑SCALE)=-
(↑MEASURE)

c.

Mati	*vaata-s*	*filmi*	*terve*	*tunni.*
M[NOM]	watch-PST.3S	film.PTV	whole.TOT	hour.TOT

‹Matthew watched a/the film; Matthew was watching a/the film for an hour.›

d. (↑SCALE)=-
(↑MEASURE)=+
(↑MEASURE SPECIFICATION)=SPECIFIED

In sum, the scale and measure features determine the verb classes and case marking, the scale feature of activities and processes is negative.

10.3.2 *Process verbs*

In my typology, activity verbs and process verbs are treated as one aspectual class. Process verbs have the negative result in the tests that diagnose stativity and the tests that diagnose agentivity. Process verbs occur in well-formed sentences with durative adverbials (*for an hour/year/minute*, etc.), they can be modified by *slowly*, by other manner and also instrument adverbs, but they cannot be modified by *deliberately*, or be complements of *persuade, force*, etc. They have homogeneous reference and are called atelic in literature, but they are not agentive. There are some morphemes that are typical of process verbs (cf. *EKG II*, Sulkala 1996). Examples of process verbs are *tilkuma* ‹drip›, *voolama* ‹flow, run› (see example 29), *lendlema* ‹fly here and there›, or *pudenema* ‹fall apart, fall down in scattered pieces›.

(29)

Vesi	*tilku-s/voola-s.*
water[NOM]	drip/run/flow-PST.3S

‹(The) water was dripping/running/flowing.›

Process verbs have either nominative or partitive subjects. The following examples (30)-(32) present the possible case alternations of some process verbs *tilkuma* ‹drip› and *voolama* ‹flow, run›. These examples show that the case alternation does not correspond to any aspectual alternation in the case of these process verbs.

(30)

Kraani-st	*tilku-s/voola-s*	*tund*	*aega*	*ve-tt.*
tap-ELA	drip/run/flow-PST.3S	hour[NOM]	time.PTV	water-PTV

‹Water was dripping/running/flowing from the tap for an hour.›

This sentence (30) has an elative and a partitive complement. It describes the process of the substance water (partitive marked) dripping or flowing from the location tap (elative marked).

(31)

Kraani-st	*tilku-s/voola-s*	*tund*	*aega*	*vesi.*
tap-ELA	drip/run/flow-PST.3S	hour[NOM]	time.PTV	water[NOM]

‹Water was dripping/running/flowing from the tap for an hour.›

This sentence (31) has an elative and a nominative complement. It describes the process of the substance water (nominative marked) dripping or flowing from the location tap (elative marked). The following sentence has a partitive and a nominative complement. It describes the process of the substance water (partitive marked) dripping or flowing from the location tap (nominative marked).

(32)

Kraan	*tilku-s/jooks-is*	*tund*	*aega*	*ve-tt.*
tap [NOM]	drip/run/flow-PST.3S	hour[NOM]	time.PTV	water-PTV

‹Water was dripping/running/flowing from the tap for an hour.›

Process verbs are predominantly intransitive verbs, they occur in sentences with partitive or nominative subjects. It must be, however, noted that in Estonian sources it is a subject of discussion what the syntactic function of the nominative and partitive complements here is. The partitive marked theme complement is frequently treated as being between objects and subjects. In sum, the partitive or nominative alternation of what can be considered the subject (or an object) in the sentences with process verbs *tilkuma* ‹drip› and *voolama* ‹flow, run› does not influence the interpretation of the verb as a process verb. The range of frames that are available for verbs of liquid emission is not possible with other verbs of emission.

The partitive/nominative alternation is possible with most intransitive process verbs if the necessary discourse setting is provided and the alternation does not correspond to any aspectual alternation, as in (33a) and (33b).

(33)

a.	*Tuule-s*	*lendle-b*	*leht-i.*
	wind-INE	fly-3S	leaf-PTV.PL
	‹There are leaves flying in the wind.›		
b.	*Tuule-s*	*lendle-vad*	*lehe-d.*
	wind-INE	fly-3PL	leaf-NOM.PL
	‹Leaves are flying in the wind.›		

These sentences describe events with no endpoint. The subject case alternations of these examples are described in more detail in Nemvalts (1996) and (2000). Nemvalts (2000), however, discusses also cases where subject case alternation corresponds to aspectually opposite sentences: *Saabusid külalised[NOM] vs. külalisi.PTV saabus,* ‹guests arrived, were arriving›). In my assessment, both sentences can be imperfective or perfective.

Presently, I am unaware of process verbs that have an aspectual particle. In the context of this book it is worth mentioning that the adverb or particle *edasi* ‹further› can occur with activity and process verbs.

10.3.3 *Conclusion to Section 10.3*

This section establishes that Estonian has non-scalar transitive verb classes. The section provided a discussion of their characteristics in terms of a Vendlerian classification into states and activities-processes. Groups of verbs have been identified through their behavior in several tests. Their behavior in terms of the tests has shown the types of events and the properties of these events that these verbs can refer to. An alternative set of test is presented in Tamm (2003a). Object case data confirms largely the hypothesis that the total object case is not possible with verbs that refer to non-scalar events.

Endnotes

[1] I add some distributional tests that are useful for filtering out Estonian stative verbs.

[2] <http://www.postimees.ee/?id=192430> (accessed 6 June 2012).

[3] <http://www.naistemaailm.ee/?module=forum&action=post&id=14004> (accessed 6 June 2012).

[4] <http://www.autonet.ee/uudised/paevauudised/2400> (accessed 6 June 2012).

[5] The complex structure of verbs such as *hoidma* ‘keep, hold’ and *pidama* ‘keep, sustain’ have an alternation that is partly similar, as in *hoian/pean riided*(NOM.PL) *puhtad*(NOM.PL)/*puhta(i)na*((PL)ESS) ‘I keep my clothes clean’. An alternation with partitive is possible with the essive only. This fact shows that there is obligatory agreement in the syntactic pattern with the total object construction with this verb, and therefore it has a more complex structure than the simple predicates that are the target of this book: *hoian/pean riideid*(PTV.PL) **puhtad*(NOM.PL)/**puhtaid* (PTV.PL)/ OK: *puhta(i)na*((PL)ESS) ‘I am keeping my clothes clean’.

[6] <http://www.tallinnapostimees.ee/?id=177834&redir=> (accessed 6 June 2012).

[7] <http://www.sotsioloogia.ee/vana/esso3/5/aili_kelam.htm> (accessed 6 June 2012).

[8] Further discussion on the syntax, semantics, and pragmatics of the Estonian partitive objects, such as mass and plural partitives, in connection with semantic or pseudo-incorporation, or as in equi and raising constructions can be found in Tamm (2011a, 2011b, 2008, 2007a, 2007b, 1999). Comparisons with other languages are made in Tamm (2006b, 2004a).

CHAPTER 11

CONCLUSION

For decades, linguists have been intrigued by the Finnic partitive and accusative object case alternation. It is an evergreen topic across linguistic traditions and schools. The complexity of semantic, pragmatic, and syntactic phenomena involved has provided challenges and inspiration for generations, and the Finnish object case alternation has become the textbook example of Differential Object Marking (DOM).

This book demonstrates that if formal approaches address the insights of functional approaches and vice versa in the course of finding answers to problems of the Finnic DOM, then there is a way to benefit from a better understanding of any linguistic phenomena for both approaches. There is still considerable crosstalk between the schools, and basic terminology is misunderstood. The lack of dialogue and informed accounts has become more pronounced. Especially, more neutral accounts that combine the insights of formal and functional schools for scholars whose training has excluded adequate access to the terminology, goals, and ideas of the other tradition would be welcome. The discussion of the Finnic phenomena serves as a good example of how a synthesis of formal and functional accounts can be achieved in future research. The strategy of uniting several research agendas where the increase in knowledge would have implications across linguistic schools can be beneficial for integrating various approaches in future. In this case, the issues addressed were the meaning-form match between scalar semantics and explicit morphosyntax, cross-categorial semantics, and verb classifications.

Formal and functional approaches have found it difficult to understand the value or even to refer to the results of the opposite tradition. At closer inspection the pursuit has much common, and it is worth the effort for the linguistic community. Some previous formal approaches have regarded the Finnish objects as evidence for a strong hypothesis about how meaning interacts with form. An influential formal hypothesis links the existence of syntactic objects and the semantics of aspect, an idea that has emerged in functional-typological literature in the course of comparing large samples of languages. The lexicalist line of formal linguistic research suggests that the lexicon accounts for the strong correlations between objecthood, object case marking, and aspect, while the syntactic line typically relies on features in explaining the same phenomena. Functional research has al-

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ready established a direct link between object cases and clausal aspect, but the precise role of the lexicon in the aspectual composition has remained without sufficient elaboration. This research can serve as a model how to provide a more adequate sample and description to address the multiple issues of the role of the lexicon in the relations between form and meaning.

One point where the formal and functional approaches can profit from a joint effort is the empirical data from less known languages. Traditionally, the data sets targeted by the two different approaches have little in common, but there are ways to provide data that can answer more questions and give results that are more resistant to time and fashion. This book has provided new data descriptions, updatable cross-links, indexes, systematized references to previous works and integrated reviews of previous accounts. Because of the theoretically and methodologically broader and combined goals, the book has become the most extensive available scholarly source on Estonian verbs and may serve as a model for other data descriptions. Firstly, one chapter serves as a link between the account of scalar verb classes and various more accessible sources on Estonian aspectual verb classes that are available in English. Secondly, several chapters provide text samples of native produced instances of the Estonian DOM. Thirdly, the most extensive review of the previously inaccessible rich literature on verb classes and their relationship to object case that has been written in Estonian has been given. Fourthly, numerous examples that have stood central in previous literature and that are accessible only in Estonian have been digitalized, segmented, glossed, translated, and described following and explaining the terminology with which they have been described in the original. The book has tried to demonstrate that this broad and deep approach to data is more profitable for the scientific community than a strictly analysis oriented approach to data. Typically, a writing that belongs to a linguistic tradition presents a data set that supports the main argument or the chosen approach. Data that are problematic for the argumentation and the approach in question are avoided. However, avoiding these data is not beneficial for the community, and our general knowledge about language. If more and carefully described data are presented to the public, only then we can compare the coverage of the particular hypotheses and form alternative accounts in the future, when the theories are likely to be more advanced. All linguistic frameworks would benefit from an account of linguistic data that are based on the intuitions of native speakers, the introspection of native speaking linguists, a broad database, cutting-edge theories, diverse methodologies and precise testing. Since the intuitions and introspection of native speaking linguists are crucial for a study that aims at integrating cross-categorial features in the lexicon and at creating a verb classification that is intuitive for native speakers, the literature review has targeted not only the data, but also the main intuitions. How extracting these intuitions is done may belong to one of the most innovative parts of this book, because even if a previous approach aims at being purely descriptive, there is always a history of ide-

as behind the choice of data and the concepts with which they are associated. Much valuable data known to linguists may have been lost because they do not fit well with the main concepts that are there in the air. This book has tried to clarify the underlying ideas of native speaking scholars in the context where they were working, neutralizing them to some extent, and relate them to a wider set of ideas about verb classes and categories in general. The missing data and inconsistencies have been identified and added in a separate chapter with other related observations in a way that does not contradict previous intuitions. The main intuition can be worded as follows: object case alternation is a phenomenon that belongs to aspect, but it interacts closely with the lexicon and shows parallels in the nominal domain, where it originates.

This book has not attacked or rejected any approaches. Instead, it has demonstrated a way to improve the previous results as they were designed to look like ideally, and only then some more conceptual abstraction was carried out until new patterns started to take shape. The available useful theoretical accounts have been examined in detail to achieve this as well. Since previous theoretical approaches avoid sloppiness by strictly covering only the data that strengthens the theoretical point, they are too narrow for getting a broader picture of the data. Reliable NP-related, lexical, or aspectual accounts have been offered separately, but the three components have not been integrated into a coherent whole with syntax. Since these accounts are more restricted than necessary for explaining the data selected by native speaking linguists according to their intuitions about the Estonian phenomena, this book has worded some concrete hypotheses to capture the ideas of previous theoretical approaches. The «quantification hypothesis» about the object case marking in Estonian hypothesizes that quantized NPs are marked by the total case as objects, whereas non-quantized NPs as objects, or parts of a whole NP are marked by the partitive case. The quantification hypothesis has turned out to be too strong. It covers frequent but not all instances of the total case phenomenon and does not cover the partitive case. The «definiteness hypothesis» hypothesizes that definite NP objects are marked by total case, and indefinite NP objects are marked by the partitive case. Again, the data has provided evidence that the definiteness hypothesis covers frequent but not all instances of the total case phenomenon, and it does not cover the partitive case. The «viewpoint aspectual hypothesis» about case has been formulated as follows: the partitive case marking occurs in sentences that describe imperfective viewpoint aspect, and the total case marking occurs in sentences that describe the perfective viewpoint aspect. The «telicity hypothesis» about case has been given the following formulation: the partitive case marking occurs in sentences that describe atelic events, and the total case marking occurs in sentences that describe telic events. Each of these hypotheses has been shown to explain a distinct set of data, but none of them covers the data set provided by native speaking linguists. Therefore, the division of labor between NP semantics, syntax, verb semantics, and aspectual semantics has not been delineated ad-

equately enough to explain the role of lexicon in Estonian aspect. Telic verbs with partitive objects and atelic verbs with accusative-total objects form the most puzzling data groups. Combining the knowledge from diverging approaches, clear aspectual verb classes could be established on the basis of typical clausal aspect and flexibility in occurring with the partitive and the total objects or total measure adverbials.

Lexicalist approaches have provided a better database for accounting for the linguistic data, but compared to the data found in the Estonian sources and additional data identified in the book, it turns out that the lexicalist approaches have still missed out on relevant previously recorded data. This book has highlighted the missing sample for compiling an aspectual verb classification with a wider coverage of data and shown that relating case to verb semantics via a thematic relation cannot account for the data. Even if verbs are lexically restricted in the aspect they express, this restriction cannot be directly related to the thematic role of the object unless an additional innovation is performed, namely, if an aspectual role is added to the role inventory. Even then, a thematic role approach cannot integrate the total adjunct case, since adjunct case is not linked to thematic roles. The phenomena of adjunct and object case are related, as pointed out across various theoretical frameworks, but upon a more systematic examination of native linguists' databases, accounts, and intuitions, the relatedness clearly depends on verb class. The lexicalist approaches can now profit from this book to refine their accounts.

A broad and integrative view on frameworks and sources has proved to be useful for generating new ideas that have a broader appeal than case, verb classes, and aspect. For decades, semantic similarities between categories have been puzzling linguists of various frameworks. For instance, a property of adjectives, referred to as scalarity or gradability, is found to be a feature of grammatical categories other than adjectives as well. Several recent formal approaches to the derivation of verbs have found a way to formalize cross-categorial links. These sources have shown that verbs derived from adjectives share the scalar properties of their base adjectives, and that the scalar properties of participles run parallel with the aspectual properties of the corresponding combinations of verbs and their arguments. This semantic regularity suggests the possibility of languages where the cross-categorial degree properties are expressed in overt morphosyntax. Finnish is a morphologically rich language where cross-categorial degree properties seem to be expressed in overt morphosyntax. Also, Finnish has a sufficient number of trained native-speaking linguists that could perform the necessary introspection and verify the potential correspondences between cross-categorial semantics and morphosyntax. Although there is already previous work available concentrating of Finnish, the intended results are not explicit enough to propose a coherent verb classification. Research on the less accessible but more regular Estonian has offered a more informing picture. This book has shown that the shift to less known languages can be rewarding from a general linguistic viewpoint as well.

Confirming previous results, the book has verified that various scalar properties of lexical items are preserved in Estonian deadjectival derivation. This fact is reflected in the object case marking options and the range of aspectual meanings that are available for the derived verb. However, the study of a less known language has been useful in an unexpected way: the morphological plenitude of derivational suffixes renders the situation more complex than in the previously studied English. Since there is more than one morpheme in the system of Estonian deadjectival derivation, the type of the morpheme influences the tendencies in lexicalizing verbal aspect. In addition, the transparency of the adjectival scalar properties in the derived verb depends on the degree of lexicalization as well. Opacity is not surprising in various derivations that are lexicalized to a greater or lesser degree, but the aspectual similarity of deadjectival and non-derived verbs and the evidence from their morphosyntax points to the cross-categorial nature of the adjectival and verbal semantics. Although more detailed research into the shared semantics and derivation is left for the future, scalar properties can be established as an independent cross-categorial property. This finding can useful for other languages as well while working towards a more adequate verb classification.

A general typological perspective has been chosen for the account, but the verb classes are presented in a stricter formal system that links multiple levels of representation of form and meaning. The advantage of this strategy is retaining perspective but also zooming in on the details. In order to explain the unexpected patterns that defy the rules established by previous aspectual accounts, the concept of aspectual boundability that can be found in native speaking linguists' accounts is split in two: scale and measure. This book has concentrated on the features of scale and measure that are part of the conventionalized meaning of lexical entries. Due to the historical origin of the partitive as a quantification-based case of incremental theme verbs, the Estonian aspectual system conceptualizes aspect as a scale on which events can be realized in different degrees. Verbs constrain the conditions on the existence of a scale and measure in the verbal semantics. Total case marking specifies boundedness. The meaning of a scalar verb encodes a scale; the meaning of non-scalar verbs does not encode a scale and may encode a measure.

Accomplishments, achievements, and degree achievements are scalar verbs, since the event denoted by these verbs progresses in degrees towards its completion, result or endpoint. In an event of widening the road, the changes on the road proceed by degrees of becoming wider and wider. These events can be bounded by boundaries on the scales, by means of total case on the object. States, activities, and atelic process verbs are considered non-scalar in this approach. These verbs cannot denote the completion of gradual changes that make up a scale in the way described above. The evolving of these events before their expiration does not proceed gradually. These events can be bounded by measures, typically by means of measure adverbials if the verb meaning allows for measure.

Combinations of lexical scale and measure features determine the representation for each aspectual verb class in the formal account inspired by previous functional approaches. One major difference from many generative approaches is the treatment of case. Aspectual case is not «assigned»; it has an active role at the interface between syntax and semantics. Aspectual information has been presented as part of the functional specifications associated with lexical entries of verbs as well as aspectual cases. Within the grammar model of Lexical Functional Grammar, functional structure is the syntactic level at which the mutually complementing and partly overlapping aspectual information is encoded. This is the level where the unification of the aspectual features of the cases and verbs takes place.

The book has shown that the relationship between form and meaning encompasses scalar features that are cross-categorial and that are widely described as aspectual features in previous research. The principles of a verb classification, reflecting these features, have been proposed for a language where the scalar properties of verbs are mirrored in morphosyntax. Several new research goals can now be defined on the basis of where this work has stopped. Further studies on scalar and cross-categorical phenomena and verb classes in other languages are likely to be interesting for a wide spectrum of linguistic schools and traditions. For instance, the results of this research suggest that cross-categorial scalar properties emerge in other grammatical categories as well, for instance, modality. The current understanding of aspectual composition will presumably change on the basis of the database presented in this book. Since there are more types of boundedness (as described in e.g. Jackendoff 1996) than were found relevant in the morphosyntactic encoding in this data sample, promising results can be expected from further research into the lexicalization patterns of the dimensions of scalarity and boundedness across languages. Most importantly, this book wishes to serve as a useful source for all scholars aiming at integrating all available knowledge of particular languages in search of better theories.

LIST OF ABBREVIATIONS AND APPENDICES

1. *List of abbreviations*

a-structure	argument structure (as in Lexical Functional Grammar)
ACT	active
ACC/TOT	the morphological genitive or nominative as an aspectual object case
AFF	affectedness
ambires.	ambiresultative, able to appear in resultative as well as irresultative sentences
±ADDTO	a formal feature of aspectual verbs (as referred to in Verkuyl 1993), comparable to lexical durativity
ASP	aspect
±B	boundedness feature
B1, B2	the attribute termed as boundedness 1 (scale), boundedness 2 (measure)
BP	the bounding particle, the aspectual particle that appears without a measure argument (Tamm 2004c)
c-structure	constituent structure (as in Lexical Functional Grammar)
CND	conditional
CP	the completive particle, the aspectual particle that appears with an argument that measures out the event (Tamm 2004c)
CS	Conceptual Structure
De	a phrase denoting source in a construction (the extralocal directional, as referred to in Rätsep 1978)
Di	a phrase denoting direction or a goal in a construction (the intralocal directional, as referred to in Rätsep 1978)
DIM	diminutive

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Dt1	a translocative directional (e.g., along N) in the first position, as referred to in Rätsep 1978)
Dt2	a translocative directional in the second position, as referred to in Rätsep 1978)
DO	Direct Object
DISTR	distributive quantifier clitic
EKG II	Eesti Keele Grammatika II (Erelt et al. 1993)
ELA	elative
Est.	(in) Estonian
f-structure	functional structure (as in Lexical Functional Grammar)
GB	Government and Binding
GEN	genitive
GO_{Poss}	Go as in Jackendoff (1991)
ILL	illative
IPS	impersonal
irres.	irresultative
lat.	lative
LCS	Lexical Conceptual Structure
LFG	Lexical Functional Grammar
Loc	Location, locative
MAX	the value termed as maximal
MIN	the value termed as minimal
M_ILL	m-formative illative non-finite form, the supine (the «*ma*-infinitive»)
M_INE	*m*-formative inessive non-finite form (the «*mas*-infinitive»)
n.a.	not applicable
N	noun
N1	the first nominal, noun phrase in a construction (as referred to in Rätsep 1978)
N2	the second nominal, noun phrase in a construction (as referred to in Rätsep 1978)
N+ngp	the phrase that can be marked with the morphological nominative, genitive, or partitive (as referred to in Rätsep 1978)
N+part	the phrase marked with the partitive (as referred to in Rätsep 1978)

NEG	negation particle or auxiliary
NOM	nominative
NP	noun phrase
n.a.	not applicable
O	object (as referred to in Tauli 1980)
OBJ	Object
Op	partitive object (as referred to in Tauli 1980)
Ot	total object (as referred to in Tauli 1980)
P	perfectivity property (as referred to in Dahl 1981)
Pat	Patient
PA-s	proto-agent properties
PO	partitive object (as referred to by most Estonian sources)
PP	prepositional phrase (often conceptually covering the adposition phrase or morphologically case-marked phrases in descriptions of Estonian)
PP-s	proto-patient properties
PPC	pseudopartitive construction
PRED	predicate (as in Lexical Functional Grammar)
PRS	present
PRT	particle
PST	past
PTCP	total (semantic accusative)
res.	resultative
s	singular
s-structure	semantic structure (as in Lexical Functional Grammar)
±SQA	formal feature of specified quantity (as referred to in Verkuyl 1993)
±STP	set terminal point (as referred to in Krifka 1998)
SUBJ	Subject
T	telicity property (as referred to in Dahl 1981)
±T	formal feature of terminativity (as referred to in Verkuyl 1993)
TER	terminative
TO	total object (as referred to by most Estonian sources)

TRA	translative
v or V	the logical «or»
V	verb
VP	verb phrase
*	grammatically unacceptable, violates a syntactic or a morphological rule
#	semantically unacceptable
%	pragmatically unacceptable, violates a Gricean maxim
??	possible, but not likely to be found in native productive texts
?	odd use, rather context-dependent.
¬	negation

The glossing follows the Leipzig glossing rules. Specific details about additional glossing decisions of this article are provided on the website <glossing.pbworks.com>.

2. *List of Appendices*

These appendices are available only online at <http://verbclasses.pbworks.com>

Appendix 1. Estonian intransitive verbs.
Appendix 2. Estonian transitive verbs.
Appendix 3. Estonian particle verbs.
Appendix 4. Estonian scalar verb classes.
Appendix 5. Estonian basic aspectual verb frame alternation types.

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INDEX OF ESTONIAN VERBS ACCORDING TO THEIR ENGLISH TRANSLATIONS

The Estonian verb index is arranged according to the following principles. It starts with the Estonian verb in italics and in its dictionary entry form, followed by the English translation (*vaatama* ‹watch›). The index indicates verbs that are discussed in the text with pages in regular number (*vaatama* ‹watch› 1). If a verb occurs in a list as part of a verb class, then the identification number is presented in italics (*vaatama* ‹watch› *4.29 5.17a*). The first number in front of the period referes to the chapter and the number or letter behind the period refers to the number of the list in the chapter. The verbs that are illustrated with glossed and translated example sentences are provided with the form in which it appears in the example if it is different from the dictionary entry form. The identification number of the example is in bold numbers and letters, chapter number preceding the example identification (*vaatab* **8.2a 10.1a** *vaatas* **1.1a 1.1b 1.1a**). The inflected forms follow as subentries under the main entry and are indented. Polysemy and homonymy are not represented in the index. Verbs are arranged according to the Estonian alphabet: A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, R, S, Š, Z, Ž, T, U, V, Õ, Ä, Ö, Ü, X, Y. Alternatively arranged indexes and updates can be found at the website <http://pbworks.verbindex.com>.

INDEX OF ENGLISH VERBS

The English verb index is arranged according to the following principles. It starts with the English verb in regular font in its dictionary entry form, followed by only one Estonian verb (watch *vaatama*). The list should not be regarded as a dictionary. The entries are the translations of the Estonian verbs that are discussed in the book, and they represent the translation equivalents of only those senses that are illustraed in the book. Homonyms and senses are treated separately, and an entry word can stand for a concept that is expressed by word combinations.

The index indicates verbs that are discussed in the text with pages in regular number (watch *vaatama* 1). If a verb occurs in a list as part of a verb class, then the identification number is presented in italics (watch *vaatama* 1 *4.29 5.17a*). The first number in front of the period refers to the chapter and the number or letter behind the period refers to the number of the list in the chapter. The verbs that are illustrated, glossed, and translated are provided with the form in which they appear in the example. The identification number of the example is in bold numbers and letters, chapter number preceding the example identification (*vaatab* **8.2a 10.1a** *vaatas* **1.1a 1.1b 1.1a**). Verbs are arranged according to the English alphabet. Alternatively arranged indexes and updates can be found at the website <http://verbindex.pbworks.com>.

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