Finnish A’-movement
Edges and Islands

Saara Huhmarniemi
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Saara Huhmarniemi

COGNITIVE SCIENCE
UNIVERSITY OF HELSINKI

Cognitive Science Unit
Institute of Behavioural Sciences
University of Helsinki, Finland

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Abstract

This thesis investigates Finnish interrogative sentences and similar constructions from the perspective of biolinguistics and the Minimalist Program Chomsky (1995, 2000). Finnish interrogatives display one of the elementary properties of natural language: grammatical movement from one position to another. The movement of the question phrase in an interrogative sentence can be seen as an instance of a more general A′-movement that is typically triggered by discourse factors. The aim of this thesis is to establish an overall view to the A′-movement phenomena in Finnish that functions as a basis for future research on these topics.

The focus of the investigation is on two syntactic phenomena: the syntactic edge position that is the target of A′-movement and island conditions that restrict movement to this position. In Finnish interrogative sentences, the question phrase targets the edge of a finite clause. However, the presence of an edge position can be observed in a variety of phrases in Finnish. A particular emphasis of this thesis is on phrases that undergo pied-piping, that is, movement of a larger constituent that contains the interrogative element. It is argued that the position of the wh-phrase at the edge is a necessary prerequisite for pied-piping in Finnish wh-questions and relative clauses. With this respect, Finnish follows the existing cross-linguistic generalizations on pied-piping. Furthermore, the Finnish recursive pied-piping displays properties of successive cyclic movement via edges of pied-piped phrases, resulting to a form of snowball movement.

As a result of a detailed investigation on the syntactic constructions, this thesis provides an inventory of pied-piped phrase types in Finnish and a discussion on the different mechanisms for obtaining the edge position among phrases. Among the island phenomena investigated are adjunct islands and constraints on subject extraction. One of the main proposals is that Finnish subject extraction is sensitive to the presence of subject-predicate agreement, displaying a form of anti-agreement effect.
Tiivistelmä


Suomen kieliluulu kieliin, joissa kysymyslause muodostetaan tuomalla yksi kysymysansana tai sen sisältävä lauseke lauseen eteen; sanomme, että kysymysansana siirtyy lauseen tai lausekkeen reunalle. Kysymysansojen siirtymä voidaan nähdä osana laajempaa siirtymien luokkaa, niin kutsuttuja A'-siirtymiä. A'-siirtymät liittyvät usein jonkin kontekstualisen tiedon ilmaisemiseen. Siirtymien liittyvyys useita rajoituksia joiden alkuperä voidaan paikantaa lauseen rakenteeseen. Näitä rajoituksia kutsutaan saarekkeiksi. Väitöskirjassani tarkastelen sitä, millaisiin positiioihin kysymysansana voi siirtyä suomen kielessä (reunat), sekä siirtymään liittyvää rajoituksia (saarekkeet); yhtenä tavoitteistani on luoda perusta suomen kielien A'-siirtymien tutkimukselle biolingvistiikan viitekehyksessä.


Biolingvistiikan viitekehyksessä voidaan esittää hypoteesi, jonka mukaan erilaisten siirtymien taustalla on kielityösuhteen operaatio, jonka esiintymiä voidaan havaita eri kielissä eri konteksteissa. Suomen kielen aineisto tukee tästä näkökulmaa: osoitan työssäni että siirtymä ei ole ainoastaan lausetason ominaisuus vaan kysymysansana siirtyy tai muutakin asettuu reunapositiioon myös lausekkeiden sisällä. Lisäksi osoitan, että suomen kielen kysymysansat voivat toteuttaa niin kutsutun lumipallosiirtymän.
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I started writing this dissertation in the Cognitive Science Unit in 2003, and from the first moment, I enjoyed the interdisciplinary and friendly atmosphere there. My supervisor, Pauli Brattico, was working in the unit at the time, and I had already collaborated with him during my Master’s studies. It is safe to say that without Pauli’s work on the generative analysis for Finnish, this dissertation wouldn’t exist. Christina Krause started as a professor of cognitive science around the time I was planning my postgraduate studies. Christina has always given me unreserved support and I have felt appreciated and welcomed at the unit. So I would like to thank her for being a great professor!

From the other personnel, I owe my gratitude to Otto Lappi for helping me with the basics in all subjects and keeping me teaching! Special thanks to Alina Leminen and Jaana Simola for sharing the PhD process, and to everybody who worked at the fifth floor during these years. I would also like to thank the personnel of the Faculty and the Institute of Behavioral Sciences, for being always very helpful and kind.

I am grateful to all the students who attended my classes during 2003-2011, and in particular to Jukka Purma and Taija Saikkonen for attending every research seminar! Last but not least, I will not forget the group of students who took the Cognitive Science courses with me in 90’s, hope to see you soon!

During the development of this dissertation, I worked for several years as a part-time language technologist at the University of Tromsø, in project Sámi giellatekno. I wish to thank Trond Trosterud for offering me this interesting job! Special thanks for the other team members and the Divvûn team for support and good company: Biret-Anne Bals, Børre Gaup, Ciprian Gerstenbergen, Ilona Rauhala, Lene Antonsen, Linda Whiechetek, Sjur Norstebø Moshagen, Thomas Omma, and Tomi Pieski. Keep up the good work! I also had a chance to take part in a cognitive science project, funded by Tekes, with Pauli Brattico, Mikko Määttä, and Jukka Purma. I found working in this project extremely educating and useful, although the biolinguistic language model didn’t end up to commercial production.

Although I was engaged in different projects during most of my postgraduate studies, I had a chance to write this dissertation full-time as well. I received the first financial support (8 months) from the FDK research unit at the Department of Computer Science.
I found this support at such an early phase of the PhD work highly encouraging. Other sources of funding were the graduate school of Cognitive Science (8 months), Finnish Cultural Foundation’s Lapland Regional Fund (6 months), the Jenny and Antti Wihuri Foundation (1 year), and the University of Helsinki (3 months).

I had the possibility to present my ideas and observations in conferences and workshops and discuss them with several people. I would like to thank the organizers and participants of MASL in Budapest (2009), GIST 1 Conference in Ghent (2010), Workshop on Finnic and Uralic languages in Pilicsaba (2010), and the conference on the Syntactic Structure of Hungarian in Lund (2011). Among the other people I have benefitted from discussing are Antti Suni, Juhani Järvi-kivi, Martti Vainio, and Maria Vilkuna. I especially value the comments of the two reviewers, Satu Manninen and Aniko Csirmaz; I felt privileged to receive so many insightful comments on the study.

I met my first supervisor Anne Vainikka in the beginning of 2009. With her help, the dissertation started to really take shape. Her expertise in linguistics and enthusiasm for Finnish syntax have been a powerful motivator, and discussions with her are an endless source of inspiration. Thank you for everything, Anne! My deepest gratitude and admiration goes to my second supervisor Pauli Brattico, and not least for making no compromises on important issues.

This work is dedicated to our daughter Martta, who discovered the rules of language during these years. Special thanks to the ever-present baby-sitters: Sirkka and Juhani Suni, and Martta’s aunt Selja. I am grateful to my parents, Liisa and Seppo Huhmarniemi for all their support and wild berries! Thank you Maria, my dear sister, and my brother Tuomas. And thank you, Antti.
## List of Abbreviations

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<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>$\phi$</td>
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</tr>
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<td>first person plural</td>
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<tr>
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<td>first person singular</td>
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<td>AP</td>
<td>adjective phrase</td>
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Chapter 1

Introduction

1.1 The research question

This doctoral thesis investigates grammatical movement. The type of movement that is of particular interest in this study is provided in the example below. (1) is a basic Finnish transitive clause in a canonical word order. In contrast, example (2) is an interrogative and is otherwise similar to the transitive clause (a) except that the object is a question phrase and occupies a left peripheral position in the sentence. The question phrase obtains this peripheral position via movement, and the gap ( _) in the example sentence marks the empty position that has been left behind.

(1) Pekka korjasi pyörän.
   Pekka,NOM fixed bike,ACC
   ‘Pekka fixed a/the bike.’

(2) Minkä Pekka korjasi _?
   ‘What did Pekka fix?’

The movement of the question phrase in the above sentence (b) is an instance of “wh-movement.” Wh-movement\(^1\) belongs to a more general category of “A'-movement,” which refers to the movement to non-argument positions such as the left peripheral position of the finite clause in (b). This study investigates the grammatical processes and constraints that regulate the A'-movement. In the following, I will outline the properties of A'-movement that are of central concerns for this study.

All languages that display syntactic movement also display constraints on movement. One recurring constraint is illustrated in the examples (3a-b) below. The question phrase in (b) has moved from the canonical object position to the left periphery of the finite clauses. However, an important point is that moving the wh-word alone would result in

\(^1\)The term wh-movement refers to the movement of question words, which in English often contain the material wh-. This wh-movement takes place in content questions, embedded questions, and relative clauses.
an ungrammatical sentence, as illustrated in (3c). This type of syntactic configuration that prevents movement out of it is called an “island.” The noun phrase thus forms an island for the possessor as in the examples below.

(3) a. Pekka korjasi Merjan pyörän.
   Pekka.NOM fixed Merja.GEN bike.ACC
   ‘Pekka fixed Merja’s bike’

b. Kenen pyörän Pekka korjasi _?
   who.GEN bike.ACC Pekka.NOM fixed
   ‘Whose bike did Pekka fix?’

c. *Kenen Pekka korjasi _ pyörän?
   who.GEN bike.ACC Pekka.NOM fixed
   ‘*Whose did Pekka fix bike?’

Furthermore, when the wh-movement targets a larger structure than the single wh-word, such as the whole object phrase in (3b), we say that the wh-phrase “pied-pipes” the containing phrase: it forces its hosting phrase to move. This study contains a detailed investigation of pied-piped phrases in Finnish. The phrases that can be pied-piped in wh-questions include DPs, PPs, APs, AdvPs, and various non-finite clauses (but not regular finite clauses).

One of the main goals of this doctoral thesis is to investigate some of the basic island conditions in Finnish. Island conditions were first identified by Ross (1967), and have received attention in syntactic research ever since. This thesis examines some of the Ross’s constraints in the light of Finnish data; among these constraints are the wh-islands and adjunct islands. In the present analysis, particular attention is paid on to what is called the Left Branch Condition (LBC) (Ross, 1967). This condition states that extraction of possessors is not available in some languages. Examples (3b-c) suggest that Finnish follows the Left Branch Condition. However, the LBC can be viewed as an instance of a more general constraint on the extraction of subjects and subject-like elements. By examining Finnish A′-movement, in particular the properties of non-finite clauses, I propose that the presence of the subject-predicate agreement restricts the extraction of the subject argument (cf. Richards, 2001; Boeckx, 2003).

Another main topic of this doctoral thesis is the landing sites of the A′-movement. The A′-movement targets the discourse-related peripheral position of a clause or phrase. This position is referred to as the “edge.” Finnish displays strong evidence for the proposal that the wh-phrase occupies the edge position not only within the finite clause, but within each pied-piped phrase (cf. Cowper, 1987; Webelhuth, 1992; Grimshaw, 1991, 2000; Heck, 2004, 2008). Let us consider an example of pied-piping: sentence (4) contains an adverbial clause in the canonical VO word order. In the interrogative sentence (5), we observe two
word order changes. First, the adverbial (in brackets) now occupies the edge of the finite clause. Second, the object wh-phrase of the non-finite verb is dislocated and occupies the edge of the adverbial clause.

(4) Pekka korjasi pyörän [ostettuaan kirjan].
   Pekka.NOM fixed bike.ACC bought.INF book.ACC
   ‘Pekka fixed the bike after he had bought a book.’

(5) [Minkä ostettuaan_] Pekka korjasi pyörän _?
   ‘After buying what did Pekka fix the bike?’

The investigation of Finnish pied-piped phrases warrants for two main conclusions. First, the wh-phrase must occupy the edge position within the pied-piped phrase in Finnish wh-questions and relative clauses. Second, in certain contexts, such as those above, the wh-phrase undergoes an “internal wh-movement” to the edges of the pied-piped phrase. The cross-linguistic properties of the edge position and its role on pied-piping have been recently investigated by Heck (2008, 2009) and Cable (2007, 2010).

Finnish finite clauses contain a distinguished discourse-related position for A′-movement, referred to here as FocusP (cf. Kenesei, 1994; Koskinen, 1998). However, the data from Finnish internal wh-movement domains do not support the existence of such discourse-related projections within pied-piped phrases, such as adposition phrases or non-finite clauses. I argue here that in addition to internal wh-movement, the edge position of a pied-piped phrase can be obtained via A-movement or base-generation. Finally, I propose that Finnish internal wh-movement proceeds in a successive cyclic manner, displaying properties of a snowball movement.

The research data on movement is from Finnish, a language which belongs to the Finno-Ugric language family along with, for example, Hungarian, Estonian, and Sámi. Given its rich inflectional morphology, Finnish provides in many ways an ideal source of previously unexplored data of syntactic movement that can be used to test the validity and further development of hypotheses and cross-linguistic generalizations. In this study, the syntactic analyses are performed in the framework of the Minimalist Program (Chomsky, 1995, 2000, 2001).

The research on the syntax of Finnish A′-movement has thus far been limited mainly to the properties of the left periphery of a finite clause (Hakulinen & Karlsson, 1979; Vainikka, 1989; Vilkuna, 1989; Kenesei, 1992, 1994; Vilkuna, 1995; Koskinen, 1998; Holmberg, 2001; Kaiser, 2003b). In addition to these, interrogative sentences are addressed by Toivonen (1995); Holmberg (2001, 2003, 2008); Holmberg & Nikanne (2002); relative clauses by Manninen (2003c); movement of the wh-phrase within non-finite clauses by
Koskinen (1998); and movement of the wh-phrase within an adposition phrase by Manninen (2003a). However, to my knowledge, there are no previous studies that focus on the grammatical constraints of the A’-movement in Finnish. This doctoral dissertation is therefore the first comprehensive study of wh-questions (covering all the relevant structures) in Finnish. In addition, this study extends the Finnish A’-movement research beyond the finite clauses, to the edges and islands in the different syntactic domains such as noun phrases, adposition phrases, and non-finite clauses.

1.2 Outline of the thesis

As for the organization of this thesis, Chapter 2 provides background details on Finnish morphology and grammar. The selected framework of the study, the Minimalist Program, is subsequently introduced in Chapter 3. This chapter also offers a sample derivation of a basic transitive clause in Finnish, and an outline of the implementation of A’-movement in the minimalist framework. Next, Chapter 4 elaborates the concepts and devices introduced in Chapter 3. This chapter contains the relevant theoretical background on the research of discourse-related edge positions as well as island phenomena. A summary of the central findings of the thesis is provided in Section 4.6. After these background chapters, Chapters 5-9 will move on to investigate the A’-movement phenomena in the different phrase types in Finnish. Chapter 10 draws together the relevant data and discusses the implications of the findings to the theory of A’-movement.

Most of the example sentences that appear in this dissertation are collected from different sources, modified for the present purposes, and evaluated by the author and 3-4 informants. Other sources of Finnish example sentences include the Comprehensive Finnish Grammar (Hakulinen et al., 2004), other scientific publications on Finnish, and the Finnish Text Collection (n.d.). The Internet is used as a source of illustrative examples. These other sources are mentioned in connection with each example.

The grammaticality judgements of the example sentences are marked using the following convention: A star (*) marks an ungrammatical expression. A star and a question mark (?) indicate that the expression is highly deviant. One question mark (?) is used for expressions that are found deviant but not ungrammatical. The hash symbol (#) is reserved for situations in which the expression is grammatical but not suitable for the given discourse context. Finally, the grammaticality estimations of certain example sentences are a subject of exceptional variation among Finnish speakers. These examples are marked with the percent sign (%) on the basis of questionnaires administered to native speakers. These questionnaires are included in Appendix.
The next two chapters provide an introduction to Finnish and the minimalist framework, prior to a more detailed introduction to the phenomena and generalizations in this thesis. The next chapter will thus provide the basic background for Finnish morphology and grammar.
Chapter 2

A brief overview of Finnish grammar

2.1 Introduction

Finnish belongs to the Finno-Ugric language group of the Uralic language family, and is related to, among others, Hungarian, Estonian and Sámi. Finnish has approximately 4.9 million speakers in Finland,\(^2\) and approximately half a million speakers living in other countries, among them Sweden, Norway, Estonia, and Russia (Abondolo, 1998). This chapter provides an overview of the basic syntactic properties of Finnish.

Finnish is a highly agglutinative language and has rich derivational and inflectional morphology with 15 cases. The basic, syntactically unmarked word order is SVO (although historically OV) (see Hakulinen & Karlsson, 1979, pp. 301-312, Vilkuna, 1989, pp. 37-42). The word order allows extensive variation but is at the same time strongly determined by several discourse factors (Vilkuna, 1989, 1995; Kaiser, 2006, among others).

Further general information on Finnish syntax can be found (in Finnish): Hakulinen & Karlsson (1979), Vilkuna (1996), the extensive reference volume Hakulinen et al. (2004), and Brattico (2008a). The following publications provide general information on Finnish syntax in English: Vilkuna (1989); Vainikka (1989); Holmberg et al. (1993); Korhonen (1993); Toivonen (1995); Koskinen (1998); Nelson (1998); Manninen (2003b); Nelson & Manninen (2003).

This chapter provides an overview on Finnish morphology and syntax concentrating on the aspects there are relevant for this study. The chapter begins with an overview to finite clauses (Section 2.2) and to the Finnish case system (Section 2.3.2). Section 2.4 offers a discussion of reflexive anaphora and possessive suffixes. Section 2.5 provides an outline to the non-finite verb forms and, finally, Section 2.6 introduces the two discourse-related positions at the left periphery of Finnish finite clause. Those readers who are comfortable with the basic syntax of Finnish may want to browse through to the next

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Chapter (Ch. 3). Chapter 3 provides an analysis for some of these phenomena within the Minimalist Program, which is the theoretical framework adopted for this study.

2.2 Finite clause

Finnish finite clause has four tenses exemplified below: present (6a), past (b), perfect (c), and pluperfect (d). Perfect and pluperfect are expressed with an auxiliary verb *olla* 'be' and the main verb appears in participial form with suffix -nUt (-neet in plural). Finnish has no future tense, but the present tense form is ambiguous between present and future readings.

(6) a. Minä luen kirjan.
    I.NOM read.PRS.1SG book.ACC
    ‘I (will) read a/the book.’

b. Minä luin kirjan.
    I.NOM read.PST.1SG book.ACC
    ‘I read a/the book.’

c. Minä olen lukenut kirjan.
    I.NOM have.PRS.1SG read.PTCP.SG book.ACC
    ‘I have read a/the book.’

d. Minä olin lukenut kirjan.
    I.NOM have.PST.1SG read.PTCP.SG book.ACC
    ‘I had read a/the book.’

The finite verb agrees with nominative subject in both person and number, as in example (7a). In the presence of negation, the complete agreement inflection surfaces on the negation instead of on the main verb, as in (b). In this instance, the main verb inflects in number of the subject.³

(7) a. Minä luin kirjan.
    I.NOM read.PST.1SG book.ACC
    ‘I read a/the book.’

b. Minä en lukenut kirjaa.
    I.NOM not.1SG read.PST.SG book.PAR
    ‘I didn’t read a/the book.’

The Finnish passive is sometimes called ‘impersonal,’ since the passive sentences lack the agent argument and morphology for person agreement, as exemplified in (8). Semantically, the agent is either unknown, or interpreted as ‘they’ or ‘we.’ The object argument

³I have included full tense and agreement inflection to the glosses in all the examples that appear in this chapter. However, in order to restrict the length of the example sentences in the following chapters, the tense and agreement inflection is omitted in examples if it is not directly relevant or evident from the English translation.
of Finnish passive clause is in an object case (partitive or accusative\textsuperscript{4}) (see Blevins, 2003; Manninen & Nelson, 2004; Helasvuo & Vilkuna, 2008, for discussion on the Finnish passive).

\begin{equation}
\text{(8) Taloa rakennettiin.}
\end{equation}
\begin{equation}
\text{house.PAR build.PASS.PST}
\end{equation}
\begin{equation}
‘The house was being built.’ / ‘They were building the house.’
\end{equation}

Finnish is a partial pro-drop language; it allows the omission of subjects in the first and second person, as exemplified in (9) (Vainikka & Levy, 1999; Holmberg, 2005). Nevertheless, the omission of the subjects in the third person is more restricted, as shown in (10a-b). Furthermore, sometimes the absence of a third person pronoun indicates generic referent (Hakulinen & Karttunen, 1973; Hakulinen & Karlsson, 1979, pp. 253-254), as is the case in (11).

\begin{equation}
\text{(9) (Minä) ostin eilen uuden kirjan.}
\end{equation}
\begin{equation}
\text{I.NOM buy.PST.1SG yesterday new.ACC book.ACC}
\end{equation}
\begin{equation}
‘I bought a new book yesterday.’
\end{equation}

\begin{equation}
\text{(10) a. Hän osti eilen uuden kirjan.}
\end{equation}
\begin{equation}
\text{s/he.NOM buy.PST.3SG yesterday new.ACC book.ACC}
\end{equation}
\begin{equation}
‘He/She bought a new book yesterday.’
\end{equation}

\begin{equation}
\text{b. * Osti eilen uuden kirjan.}
\end{equation}
\begin{equation}
\text{buy.PST.3SG yesterday new.ACC book.ACC}
\end{equation}

\begin{equation}
\text{(11) Viidakossa saa varoa nahkaansa.}
\end{equation}
\begin{equation}
\text{jungle.INE get.3SG beware.INF skin.PAR.PX/3SG}
\end{equation}
\begin{equation}
‘In a jungle you have to watch out for your skin.’
\end{equation}

The partial pro-drop phenomenon can be observed in other constructions as well, such as noun phrases (see Section 2.4) and certain non-finite clauses, which will be discussed later in Chapter 9.

\section*{2.3 Nominals}

Nouns, adjectives, numerals, and pronouns are in this chapter grouped under the term ‘nominal,’ mainly because all of them inflect in grammatical cases in Finnish. This section outlines some relevant properties related to this class. First, the basic structure of the Finnish noun phrase is outlined in Section 2.3.1. Section 2.3.2 considers case inflection. Finnish interrogative and relative pronouns are introduced in Section 2.3.3.

\textsuperscript{4}However, the n-accusative form is not available.
2.3.1 Noun phrase

The Finnish noun phrase contains a noun head and optional pre-nominal modifiers. These include a determiner or demonstrative pronoun, a quantificational expression, a numeral, attributive adjectives, and up to two genitive pre-modifiers (Brattico, 2008b). The pre-nominal modifiers may co-exist, as shown in example (12).

(12) ne kaikki kolme naapurin vilkasta koirapentua
those all three neighbour.GEN lively.PAR puppy.PAR
‘all those three lively puppies of the neighbour’

The attributive adjectives and demonstrative pronouns agree with the number of the nominal head, as exemplified under (13). Case agreement is also exhibited on the demonstrative as it is on adjective and noun heads.5

(13) a. se uusi avain
the/that.SG.NOM new.SG key.SG.NOM
‘that new key’

b. ne uudet avaimet
the/those.PL.NOM new.PL.NOM key.PL.NOM
‘those new keys’

c. niillä uusilla avaimilla
the/those.PL.ADE new.PL.ADE key.PL.ADE
‘with those new keys’

Finnish does not have obligatory articles. Nevertheless, the pronouns se/ne ‘it/they’ have article-like uses in spoken Finnish (see the discussion in Laury, 1997 and Juvonen, 2000). Finally, Finnish noun phrases may contain several types of post-nominal modifiers, which are introduced in Section 7.1.2.

2.3.2 Case

Finnish has altogether 15 cases, which are divided here to grammatical cases (nominative (NOM), partitive (PAR) accusative (ACC), and genitive case (GEN)) and semantic cases (see also Hakulinen et al., 2004, §81). Both case types are introduced in the following.

---

5Numerals and quantifiers assign partitive case to their complement, as shown in (1). More information on case distribution inside Finnish NPs is available in Vainikka (1993); Brattico (2008b, 2009, 2011).

(1) kolme uutta avainta
three.SG new.SG.PAR key.SG.PAR
Nominative case is assigned to finite clause subject, as shown below. Nominative is morphologically unmarked in singular; in plural, the case suffix is \(-t\).

(14) a. Pekka lähti kotiin.
    Pekka.NOM leave.PST.3SG home.ILL
    ‘Pekka went home.’

b. Pojat eivät lähteneet kotiin.
    boys.NOM not.3PL leave.PST.PL home.ILL
    ‘The boys didn’t go home.’

The partitive case (suffix \(-(t)A\)) occurs in a variety of syntactic contexts (see Vainikka, 1989, 1993; Brattico, in press). First, the partitive case is assigned to the complement of a verb, as in (15). Examples (16a-b) illustrate that as an object case, the partitive can encode the imperfective aspect, or the unboundedness of the event, whereas the accusative case may be seen to encode the perfective aspect, or boundedness in the same context. For example, in (16b), Pekka has finished eating the bread, and the (piece of) bread was eaten completely. The different analysis for capturing the aspectual variation in the object case marking in Finnish include Heinämäki (1984); de Hoop (1996); Vainikka & Maling (1996); Kiparsky (1998, 2001); Nelson (1998); and Askonen (2001).

(15) Pekka rakastaa Merjaa.
    Pekka.NOM love.PRS.3SG Merja.PAR
    ‘Pekka loves Merja.’

(16) a. Pekka söi leipää.
    Pekka.NOM eat.PST.3SG bread.PAR
    ‘Pekka was eating bread.’ / ‘Pekka ate some bread.’

b. Pekka söi leivän.
    Pekka.NOM eat.PST.3SG bread.ACC
    ‘Pekka ate a/the bread.’ / ‘Pekka ate a/the piece of bread.’

The second context in which the partitive case is used is negated sentences; partitive is the only available object case in the presence of negation (Kaiser, 2002a; Brattico, in press):

(17) a. Pekka ei nähnyt Merjaa.
    Pekka.NOM not.3SG see.PST.SG Merja.PAR
    ‘Pekka didn’t see Merja.’

b. * Pekka ei nähnyt Merjan.
    Pekka.NOM not.3SG see.PST.SG Merja.ACC

Third, a class of adpositions, including \(\text{kohti}\), ‘towards,’ in (18a), assign the partitive case to the complement noun phrase. Vainikkka (1989, p. 143) considers the partitive case as the structural default case for Finnish adpositions.
(18) Pekka käveli [kohtī puistoa].
   Pekka.NOM walk.PST.3SG towards park.PAR
   ‘Pekka walked towards a/the park.’

Finally, the partitive case is used with numerals (19a) and quantifiers (b) (Hakulinen & Karlsson, 1979, pp. 144-151, Vainikka, 1993; Brattico, 2008b).

(19) a. monta autoa
    many car.SG.PAR
    ‘many cars’

b. kolme autoa
    three car.SG.PAR
    ‘three cars’

Due to its wide distribution in complement domains, the partitive can be regarded as being the default complement case in Finnish (Vainikka, 1989, 1993; Kiparsky, 2001).

The Finnish accusative case has three morphosyntactic variants: the t-accusative (glossed as ACC(t)), n-accusative (ACC(n)), and the zero-accusative (ACC(0)).

\[\text{Note that unlike the partitive, the accusative occurs only on object arguments of verbs. First, the t-accusative appears on personal pronouns (20a-b) as well as on plural noun phrases (c).}\]

(20) a. Minä näin hänet.
    I.NOM see.PST.1SG s/he.ACC(t)
    ‘I saw him/her.’

b. Hän näki meidät.
    s/he.NOM see.PST.3SG we.ACC(t)
    ‘He/She saw us.’

c. Pekka lähetti kirjeet.
    Pekka.NOM send.PST.3SG letter.PL.ACC(t)
    ‘Pekka sent the letters.’

The accusative form of singular noun phrases depends on the syntactic configuration (Vainikka & Brattico, 2009). A singular noun phrase may appear in the n-accusative, as in (21a), or in the zero-accusative, as in (b). Whereas the n-accusative is homonymous with the genitive case, the zero-accusative form is identical to the nominative case.

(21) a. Minä löysin avaimen.
    I.NOM find.PST.1SG key.ACC(n)
    ‘I found a/the key.’

\[\text{Although these accusative forms occur in different syntactic contexts, I will use the abbreviation ACC for all three forms in contexts where the exact object case is not directly relevant.}\]

\[\text{The pronouns se, ‘it,’ and ne, ‘those,’ do not take the t-accusative. It should also be noted that with plural full noun phrases, such as (20c), the t-accusative is homophonous with the nominative (with the plural suffix -t).}\]
b. Minun täytyy löytää avain.
   I.NOM must.PRS.3SG find.INF key.ACC(0)
   ‘I have to find a/the key.’

Similarly to the partitive, the genitive case (marked with -n) appears in several phrase types in Finnish. These include the regular possessive noun phrases such as (22), and the adposition phrases such as (23). In addition, the genitive noun phrase may appear within an adjective phrase, as in (24).

(22) Pekan kirja
    Pekka.GEN book
    ‘Pekka’s book’

(23) Pekan kanssa
    Pekka.GEN with
    ‘with Pekka’

(24) Pekan näköinen
    Pekka.GEN looking
    ‘looking like Pekka’

Finally, the subject of a non-agreeing verb occur typically in the genitive case, among others in the nesessive construction, such as (25a). In addition, most of the non-finite clauses in Finnish take a genitive subject, example (b) is from a VA-construction (for more information on the genitive case in Finnish, see Vainikka, 1989, 1993, 2011).

    I.GEN must.PRS.3SG leave.A
    ‘I must leave.’

    b. Pekka kertoi Merjan lähteneen.
       Pekka.NOM tell.PST.3SG Merja.GEN leave.VA/PST
       ‘Pekka told that Merja had left.’

In addition to the four grammatical cases, Finnish has eleven other cases, referred to here as “semantic cases.” Semantic cases can be further divided into locative cases and others. The inner locatives are the inessive, elative and illative cases, exemplified in (26). The outer locatives are the adessive, ablative and allative cases, glossed in (27). In addition, the essive and translative cases in (28) are used in the context of small clauses that involve result or state. The rest of the semantic cases: the abessive, comitative and instructive, are not fully productive (Hakulinen et al., 2004, §1261). An example of abessive case is given in (29).

(26) kaupa-ssa, kaupa-sta, kauppa-an
    shop-INE shop-ELA shop-ILL
    ‘in the shop, from the shop, to the shop’
Several of the semantic cases appear on Finnish non-finite verb forms as well, see Section 2.5.

### 2.3.3 Interrogative and relative pronouns

This section introduces the Finnish interrogative and relative pronouns, beginning with interrogative pronouns in Table 2.1. The pronoun *kuka*, ‘who,’ presupposes a human referent; *kumpi*, ‘which one,’ presupposes a selection between two alternatives, and *mikä*, ‘what,’ is used in other contexts. These three pronouns inflect in case and number and can be used either in place of a noun phrase or a determiner/demonstrative. In addition, Table 2.1 contains example inflection of the pronoun *mikä* in three inner locative cases (see for details in Hakulinen et al., 2004, §734).

<table>
<thead>
<tr>
<th>Pronoun</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>kuka</td>
<td>who</td>
</tr>
<tr>
<td>mikä</td>
<td>what</td>
</tr>
<tr>
<td>kumpi</td>
<td>which one (of two)</td>
</tr>
<tr>
<td>milloin</td>
<td>when</td>
</tr>
<tr>
<td>miten</td>
<td>how</td>
</tr>
<tr>
<td>miksi</td>
<td>why</td>
</tr>
<tr>
<td>millainen</td>
<td>what kind of</td>
</tr>
<tr>
<td>missä</td>
<td>where.INE</td>
</tr>
<tr>
<td>mistä</td>
<td>where.ELA</td>
</tr>
<tr>
<td>mihin</td>
<td>where.ILL</td>
</tr>
</tbody>
</table>

Table 2.1: Finnish interrogative pronouns

Table 2.2 (page 26) presents the Finnish relative pronouns; examples of the three inner locative case forms are included as well. The selection of the pronominal for a relative clause forms a continuum in which the pronoun *joka*, ‘which/who/that,’ refers to individuals, whereas the pronoun *mikä*, ‘what,’ has an abstract referent. In addition, the more rarely used pronoun *kuka*, ‘who,’ may be used for people (for more information, see Hakulinen et al., 2004, §735-736).
Both relative pronouns *mikä* and *joka* replace a noun phrase, but the pronoun *mikä* may sometimes also be used in place of a determiner.

### 2.4 Possessive suffixes and reflexive anaphora

In Finnish possessive constructions, such as (30a-b), the possessed noun receives a possessive suffix in the presence of a personal pronoun (apart from *se*, ‘it,’ and *ne*, ‘they’). Other possessors do not trigger possessive inflection on the possessed noun, as shown in (c). The paradigm of possessive inflection is provided in Table 2.3.

\[
\begin{align*}
(30) & \quad \text{a. } \text{minun kirja-ni} \\
& \qquad \text{I GEN book-PX/1SG} \\
& \qquad \text{‘my book’} \\
& \quad \text{b. } \text{hänen kirja-nsa} \\
& \qquad \text{s/he GEN book-PX/3SG} \\
& \qquad \text{‘his/her book’} \\
& \quad \text{c. } \text{Pekan kirja} \\
& \qquad \text{Pekka GEN book} \\
& \qquad \text{‘Pekka’s book’}
\end{align*}
\]

<table>
<thead>
<tr>
<th>pronoun</th>
<th>possessive suffix</th>
<th>example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG minä ‘I’</td>
<td>-ni</td>
<td>minun kirja-ni ‘my book’</td>
</tr>
<tr>
<td>2SG sinä ‘you’</td>
<td>-si</td>
<td>sinun kirja-si ‘your book’</td>
</tr>
<tr>
<td>3SG hän ‘s/he’</td>
<td>-nsA/Vn</td>
<td>hänen kirja-nsa ‘his/her book’</td>
</tr>
<tr>
<td>1PL me ‘we’</td>
<td>-mme</td>
<td>meidän kirja-mme ‘our book’</td>
</tr>
<tr>
<td>2PL te ‘you’</td>
<td>-nne</td>
<td>teidän kirja-nne ‘your book’</td>
</tr>
<tr>
<td>3PL he ‘they’</td>
<td>-nsA/Vn</td>
<td>heidän kirja-nsa ‘their book’</td>
</tr>
</tbody>
</table>

Table 2.3: Finnish possessive suffixes

One of the functions of the possessive suffix is to occur with the reflexive pronoun *itse* ‘self.’ In Finnish, the reflexive pronoun has to be bound by a local antecedent (Vainikka,
1989, pp. 197-199, van Steenbergen, 1991; Trosterud, 1993). For example, the reflexive pronoun cannot be base-generated at a structurally higher position than its antecedent (31a-b).

(31) a. Pekka rakastaa itseään.
   Pekka.NOM love.PRS.3SG self.PAR.PX/3SG
   ‘Pekka loves himself.’

b. * Itse(-nsä) rakastaa Pekkaa.
   self.NOM(-PX/3SG) love.PRS.3SG Pekka.PAR
   ‘*Himself loves Pekka.’

In addition, Finnish third-person possessive suffixes share the properties of the reflexive anaphor: they have to be bound in a local configuration similar to the reflexives (Vainikka, 1989, pp. 193-199, Trosterud, 1993; Nelson, 1998; Kaiser, 2003a). In (32a), the third-person possessive suffix is bound by the subject *Pekka*. Furthermore, the ungrammatical sentence (b) contains no suitable binder for the possessive suffix.  

   Pekka.NOM sell.PST.3SG bike.ACC-PX/3SG
   ‘Pekka sold his bike.’

   bike.NOM-PX/3SG fall.PST.3SG

Finnish reflexive pronouns and possessive suffixes “reconstruct” in A′-movement. Compare examples (31b) and (32b) to the examples (33a-b) which contain a dislocated anaphoric expression. Although the structural position of the anaphoric expression is now higher than the position of the antecedent, the anaphoric reference can be formed. This means that the anaphoric resolution is based on the structural configuration prior movement.

(33) a. Itseään Pekka rakastaa _.
   self.PAR.PX/3SG Pekka.NOM love.PRS.3SG
   ‘It’s himself that Pekka loves.’

b. Pyörä-nsä Pekka mäi _
   bike.ACC-PX/3SG Pekka.NOM sell.PST.3SG
   ‘It was his (=Pekka’s) bike that Pekka sold.’

---

8The first- and second-person possessive suffixes nevertheless allow a discourse antecedent, as in (1a-b).

(1) a. Pyörä-ni kaatui.
   bike.NOM-PX/1SG fall.PAST.3SG
   ‘My bike fell.’

b. Pyörä-si kaatui.
   bike.NOM-PX/2SG fall.PAST.3SG
   ‘Your bike fell.’
Possessive inflection is not restricted to noun heads alone; in example (34a), the possessive suffix is attached to an adposition head, whereas in (b), it is attached to an adjective head. (Finnish has both prepositions and postpositions, which are here referred to as “adpositions.”)

(34) a. minun lähellä-ni  
   I.GEN near-PX/1SG  
   ‘near me’

b. minun kaltaise-ni  
   I.GEN alike-PX/1SG  
   ‘like me’

Finally, the possessive suffix attaches to non-finite verbs. The following two sentences illustrate the VA-construction and the MATTA-infinitive. These non-finite clause types are introduced in Section 2.5 below.

   I.NOM knew.PST.1SG come.VA/PST-PX/1SG home.ILL  
   ‘I knew I had arrived home.’

b. Minä kaaduin huomaamatta-ni.  
   I.NOM fall.PST.1SG notice.MATTA-PX/1SG  
   ‘I fell without noticing it.’

According to Kanerva (1987), Finnish possessive suffix is an inflectional ending, and it has been analyzed as an agreement marker indicating person and number agreement among others by van Steenbergen (1991) and Nelson (1998, pp. 185-226). The agreement view is adopted here as well (see Sections 6.3.2 and 10.7 for details). While the possessive suffix clearly carries anaphoric properties, the anaphoric status of the suffix is here seen as a reflection of the presence of an unpronounced anaphoric pronominal, a pro-element, as proposed by van Steenbergen (1991). The anaphoric pro-element takes the position of the possessor and agrees with the noun head in (36).

(36) Pekka möi [ pro pyörä-nsä ].  
   Pekka.NOM sell.PST.3SG bike.ACC-PX/3SG  
   ‘Pekka sold his bike.’

In addition, I adopt the proposal by Koskinen (1998) that several of the Finnish non-finite clauses may contain an anaphoric or pronominal pro-subject, which triggers agreement on the non-finite verb, and the agreement surfaces as a possessive suffix, as in examples (35) above.
2.5 Non-finite verb forms

This section provides an outline for Finnish non-finite verb forms. Finnish non-finite constructions have a central role in this thesis; due to the flexible word order, they provide examples of several A′-movement phenomena. Section 2.5.1 concentrates on the non-finite forms that appear in the non-finite clauses, and Section 2.5.2 discusses verb forms in adjectival constructions. Some of the more rarely used non-finite verb forms are left aside.

The basic syntactic properties of Finnish non-finite clauses are described in Hakulinen & Karlsson (1979, pp. 340-345), Vainikka (1989, 1995); Toivonen (1995), and in particular Koskinen (1998), which is an extensive study on the Finnish non-finite forms. The classification of the different non-finite clause types and terminology adopted here follows in central parts the presentation in Vainikka (1995); Vainikka & Brattico (2009); and Hakulinen et al. (2004, §490); however, some of the terminology has been modified for the present purposes. The syntactic details related to the argument structure of the non-finite clauses are provided in Chapter 9.

2.5.1 Non-finite clauses

Some of the non-finite clauses have tense or case variants with different verb forms. This section is arranged so that the verb forms that appear in a particular type of non-finite clause are grouped together.

2.5.1.1 A-infinitive

The citation form of the verb in Finnish is called the ‘A-infinitive.’

The non-finite clause hosting the A-infinitive form typically occupies the complement position in the structure.

(37) The A-infinitive

Minä haluan syö-dä.
I.NOM want.PRS.1SG eat-A
‘I want to eat.’

Unlike in (Hakulinen et al., 2004, §490), the term ‘A-infinitive’ refers here only to the uninflected form, and the form in translative case projects a non-finite clause referred to as “rationale clause.”
2.5.1.2 VA-construction

VA-construction involves two tense variants in both the active and passive. In the present tense, the verb is marked with a \(-VA\) and the genitive case suffix \(-n\), as in (38a) (Vainikka, 1989, p. 302). In past tense, the ending is \(-nee\), as in (b). Passive forms are given in (39a-b).

(38) The VA-construction, active
   a. Minä tiedän Merjan syö-vän.
      I.NOM know.PRS.1SG Merja.GEN eat.VA/PRS
      ‘I know Merja is eating.’
      (lit. ‘I know Merja to be eating.’)
   b. Minä tiedän Merjan syö-neen.
      I.NOM know.PRS.1SG Merja.GEN eat-VA/PST
      ‘I know that Merja has eaten.’
      (lit. ‘I know Merja to have eaten.’)

(39) The VA-construction, passive
      I.NOM know.PRS.1SG cake.PAR eat-PASS-VA/PRS
      ‘I know cake is going to be eaten.’
      (lit. ‘I know the cake to be eaten.’)
   b. Minä tiedän kakkua syö-dyn.
      I.NOM know.PRS.1SG cake.PAR eat-PASS.VA/PST
      ‘I know that cake has been eaten.’
      (lit. ‘I know the cake to have been eaten.’)

The glosses VA/PRS and VA/PST indicate the tense alternation within the non-finite clause. Here the genitive case inflection is omitted in the glosses.

2.5.1.3 MA-infinitives

The MA-infinitives contain the suffix \(-mA\) and a case suffix (Hakulinen et al., 2004, §121). There are five case variants of the MA-infinitive; the three inner locative case variants are exemplified below. These forms share their syntactic properties (Vainikka, 1989), and are typically arguments of the main verb.

---

\(^{10}\)I will keep the two non-finite verb forms that appear in VA-construction separate from the morphologically similar VA-participles, following Vainikka (1989); Koskinen (1998). Hakulinen et al. (2004, §538) refer to the VA-construction as the \(\text{referatiivirakenne}\), the ‘referative construction.’
The MA-infinitive in inner locative cases

a. Merja oli syö-mässä.
   Merja.NOM is.PST.3SG eat-MA/INE
   ‘Merja was eating.’

b. Merja tuli syö-mästä.
   Merja.NOM come.PST.3SG eat-MA/ELA
   ‘Merja came from eating.’

c. Merja meni syö-mään.
   Merja.NOM go.PST.3SG eat-MA/ILL
   ‘Merja went to eat.’

In addition to the three inner locative cases, there are two MA-constructions with properties distinct from the three types in (40). In the ablative case, the MA-infinitive projects a non-finite clause with different syntactic properties compared to the inner locative case variants. The non-finite verb form is here called the “MATTA-infinitive” and the verb form is glossed as MATTA. The same is true for the variant of the MA-infinitive in the adessive case; this non-finite clause type is called the “MALLA-infinitive” and glossed as MALLA.

(41) The MATTA-infinitive

   Merja vahvistui syö-mättä.
   Merja.NOM strengthen.PST.3SG eat-MATTA
   ‘Merja got stronger without eating.’

(42) The MALLA-infinitive

   Merja vahvistui syö-mällä.
   Merja.NOM strengthen.PST.3SG eat-MALLA
   ‘Merja got stronger by eating.’

One of the differences between the inner locative case variants as compared to the MATTA- and MALLA-infinitives is that while the former are typically complements, the latter occupy an adjunct position in the structure.

2.5.1.4 Rationale clause

When the A-infinitival verb form is suffixed with a translative case ending -kse and a possessive suffix, the verb form projects a non-finite clause called the “rationale clause” (Vainnikka, 1989, 1995).
(43) The rationale clause

Minä ostin omenan syödä-kse-ni sen.
I.NOM buy.PST.1SG apple.ACC eat-KSE-PX/1SG ACC

‘I bought an apple for me to eat it.’

Since this verb form is the only context in which A-infinitive receives case inflection, I will omit the A-ending in the glosses and use the gloss KSE to denote the complex verb form.

2.5.1.5 E-infinitive

The E-infinitive takes the morphological suffix -e, with some morphophonological variation (Hakulinen et al., 2004, §120).

(44) The E-infinitive

Minä kaaduin syö-den omenaa.
I.NOM fall.PST.1SG eat-E apple.PAR

‘I fell as (I was) eating an apple.’

As is evident from above, the non-finite clause that projects the E-infinitive typically occupies an adjunct position in the structure.

2.5.1.6 Temporal construction

The final type of non-finite clause introduced here is a temporal construction. This clause involves two tense variants with distinct infinitival forms (Vainikka, 1995; Hakulinen et al., 2004, §543). For example, the present tense variant exemplified in (45a) consists of an E-infinitive form plus the inessive case suffix -ssa (Hakulinen et al., 2004, §120). The past tense variant has the suffix -tUa, as in (b). Both forms may take a possessive suffix.

(45) The temporal construction

   I.NOM fall.PST.1SG eat-ESSA/PRS-PX/1SG apple.PAR
   ‘I fell while eating an apple.’

b. Minä kaaduin syö-tyä-ni omenan.
   I.NOM fall.PST.1SG eat-ESSA/PST-PX/1SG apple.ACC
   ‘I fell after eating an apple.’

Since the morphological material -e and the inessive case (-ssa) always co-occur in temporal constructions, the morphological decomposition will not be repeated in the glosses. Instead, the non-finite forms are glossed with ESSA/PRS and ESSA/PST, as in the examples above.
2.5.2 The adjective participles

This thesis considers two adjective participles, the VA-participle and the agentive participle.\(^1\) In adjectival contexts, the VA-participle can be used in both the present and past tense, and both in the active (46a-b) and passive (c-d) (modified examples from Koskinen, 1998, p. 190).

(46) The VA-participle (active)

a. The present active participle
   \[
   [\text{palloon heittä-}]\quad \text{lapsi}
   \text{ball.PAR throw-V A/PTCP/PRS child}
   \]
   ‘the child (who) is throwing the ball’
   (lit. ‘the ball-throwing child’)

b. The past active participle
   \[
   [\text{pallon heittä-nyt}]\quad \text{lapsi}
   \text{ball.ACC throw-V A/PTCP/PST child}
   \]
   ‘the child (who) threw the ball’
   (lit. ‘the ball-thrown child’)

c. The present passive participle
   \[
   [\text{heitettävää}]\quad \text{pallo}
   \text{throw.PASS.V A/PTCP/PRS ball}
   \]
   ‘a ball which is going to be thrown’

d. The past passive participle
   \[
   [\text{heitetty}]\quad \text{pallo}
   \text{throw.PASS.V A/PTCP/PST ball}
   \]
   ‘a ball which is thrown’
   (lit. ‘a thrown ball’)

Note that the four variants of the VA-participle in (46a-d) are similar to the four variants of the non-finite VA-construction presented in the previous section. However, the VA-infinitive in the verbal VA-construction has the genitive case suffix (-n) and it behaves

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\(^1\)One of the participles omitted from this study is the participle MATON, which is semantically a negated variant of the VA-participle, expressing a lack of property, as in (1a-b).

(1) a. [allergiaa aiheuttavat] aineet
   \text{allergy.PAR cause.V A/PRS.PL substance.PL}
   ‘substances that cause allergy’

b. [allergiaa aiheuttamattomat] aineet
   \text{allergy.PAR cause.MATON.PL substance.PL}
   ‘substances that do not cause an allergy’
   (Hakulinen et al., 2004, §526)
as the main verb of a non-finite clause with a complete argument structure. Here in the participial construction, on the other hand, the VA-forms agree in case and number and exhibit reduced argument structure, consistent with their adjectival status. In addition, VA-construction has the basic SVO word order, whereas the word order within the VA-participle is strictly head-final.

The second participle investigated in this thesis is the agentive participle, which is based on the suffix -mA. The agentive participle may take possessive inflection, as indicated below. The suffix -mA thus occurs in four distinct syntactic constructions: the MA-infinitive in inner locative cases, the MALLA- and MATTA-infinitives, and the agentive participle introduced here.

\[(47) \quad \text{The agentive participle} \quad \text{(Koskinen, 1998, p. 358)}\]

\[
\begin{array}{l}
\text{[ minun kirjoitta-ma-ni] kirje} \\
\text{I.GEN write-MA/PTCP-PX/1SG letter} \\
\text{‘the letter written by me’} \\
\text{(lit. ‘the written-by-me letter’)}
\end{array}
\]

In attributive contexts, one of the argument positions of the participial adjective is unfilled and is represented as the head of the modified nominal projection. For the VA-participle, the nominal head represents the subject argument in the active (46a-b), and the object argument in the passive (46c-d). For the agentive participle in (47), the nominal head represents the direct object.

2.6 Left periphery of Finnish finite clause

Finnish is sometimes characterized as language with a free word order, owing to the excessive amount of word order variation. Nevertheless, the different word orders are not arbitrary, but are regulated by discourse functions. Analyses of the changes in word order and in information structure are offered among others by Vilkuna (1989, 1995); Vallduví & Vilkuna (1998); Holmberg (2000); and Kaiser (2003b, 2006). For example, Vilkuna (1989) argues that the left periphery of the Finnish finite clause contains two discourse-related positions: a position for the sentence subject/topic and a position for contrastively focused elements (Vilkuna, 1989, 1995). I will introduce both of these positions briefly in this section. The left periphery of the Finnish finite clause is discussed in more detail in Section 5.2.

In Finnish, the canonical position of the nominative agreeing subject coincides with the position of the sentence topic (Vilkuna, 1989, 1995; Holmberg & Nikanne, 2002). The role of the topic position can be observed in the sentences below (from Holmberg & Nikanne, 2002). Sentence (a) represents the canonical SVO word order. In sentence (b),
the subject position is inhabited by the direct object, and the object is understood as being
the topic of the sentence.

(48) (Holmberg & Nikanne, 2002, p. 78)

a. Graham Greene on kirjoittanut tämän kirjan.
   Graham Greene.NOM has.3SG write.PTCP.SG this.ACC book.ACC
   ‘Graham Greene has written this book’

b. Tämän kirjan on kirjoittanut Graham Greene.
   This.ACC book.ACC has.3SG write.PTCP.SG Graham Greene.NOM
   ‘This book was written by Graham Greene.’

The topic position can host other topical phrases as well, such as the locative phrase in
(49a), and expletives such as sitä in (b).

(49) (Holmberg & Nikanne, 2002, p. 71)

a. Kadulla leikkii lapsia.
   street.ADE play.PRS.3SG children.PAR

b. Sitä leikkii lapsia kadulla.
   EXPL play.PRS.3SG children.PAR street.ADE
   ‘Children are playing in the street’ /
   ‘There are children playing in the street.’

The position above the topic is associated with contrastive interpretation, as in example
(50a). In contrast, example (b) illustrates head movement to the same position. Whereas
movement to the contrastive focus position does not have a visible trigger in Finnish, it is
typical for the fronted element to receive prosodic emphasis.

(50) a. Merjan Pekka tapasi _.
    Merja.ACC Pekka.NOM meet.PST.3SG
    ‘It was Merja who Pekka met.’

b. On Pekka _ tavannut Merjan!
    have.PRS.3SG Pekka.NOM meet.PTCP.SG Merja.ACC
    ‘Pekka has met Merja!’

The contrastive focus position hosts wh-phrases as well (Vilkuna, 1995). In the Finnish
wh-movement, one element (a wh-phrase or a relative pronoun) moves to the left periphery
of the finite clause, as in (51a-b).^{12}

---

^{12}Finnish makes a distinction between restrictive and appositive relative clauses in terms of the scope of
negative polarity items and quantifiers, see Manninen (2003c). However, the two types of relative clauses
are otherwise very similar (Helasvuo, 1993), and the generalizations made in this thesis on A’-movement
within relative clauses apply to both relative clause types.
In addition to wh-movement and to the movement triggered by contrastive focus, Finnish has a class of ‘second-position’ clitic particles that attach to heads and phrases that occur at the periphery of the finite clause. One of them is the yes/no question particle -kO illustrated below. The -kO-particle and the other second-position clitic particles (-pA, and -hAn) are investigated later in Section 5.2.

(52)  a. Kirjaa-ko Pekka luki _?
book.PAR-kO Pekka.NOM read.PST.3SG
‘Was it a book that Pekka was reading?’

b. On-ko Pekka _ kotona?
is.PRS.3SG-kO Pekka.NOM home.ESS
‘Is Pekka at home?’

This chapter has provided a description of some of the basic properties of Finnish morphology and grammar. The next chapter will proceed to introduce the theoretical framework of this study, the Minimalist Program. The presentation includes example derivations of linguistic expressions, and a description how grammatical operations such as agreement and movement are implemented in the selected framework.
Chapter 3

The framework

3.1 Introduction

The basic assumption adopted in this thesis is that the computational principles of different languages share a common origin traceable to human biology. These principles constitute the research subject of “biolinguistics,” introduced in Section 3.2. The particular technical framework selected for the analysis is the Minimalist Program proposed by Chomsky (1995, 2000, 2001, 2008). The relevant technical details of the minimalist framework, as envisioned in Chomsky (2000, 2001), are described in Sections 3.3-3.9.

First, Section 3.3 provides a brief introduction on how language is assumed to interface other cognitive systems. The next sections continue with a sample derivation of a Finnish finite clause together with an introduction to the basic concepts and tools that are used for the syntactic analysis in the forthcoming chapters. A reader who is familiar with the minimalist framework may want to proceed to the next chapter, which introduces the theoretical background to the main subject of this study, A′-movement.

The basic structure-building operation Merge is introduced in Section 3.4 and adjunction is presented in Section 3.5. Next, the tools for implementing morphosyntactic agreement and Agree are provided in Section 3.6. Syntactic movement is traditionally divided into three classes, which are here described in separate subsections: A-movement in Section 3.7, head movement in Section 3.8, and A′-movement in Section 3.9.

3.2 Biolinguistic perspective

The research questions that emerge from biolinguistics include the following: how the processes related to language production and comprehension are implemented in the brain; what is the relationship between natural language and other cognitive capacities; in what way does the human language relate to the communication systems of other species, and how is natural language acquired. These research questions may be approached from various perspectives, including cognitive science, neuroscience, evolutionary biology, molec-
ular biology, anthropology, theoretical linguistics, language acquisition, psychology, and computer science (Boeckx & Grohmann, 2007). The fundamental assumptions of biolinguistics are not new. According to Fitch (2009), the assumption that language has a biological foundation dates back to Darwin (1871); Chomsky (1965); Lenneberg (1967); and Lieberman (1975).

One central issue in the linguistic tradition has concerned the capacity of children for language acquisition. There are two main schools of thought present in the current research literature on the subject. According to the first position, the acquisition of language is based on the general cognitive abilities, such as learning and the acquisition of culture (Lieberman, 1998; Tomasello, 1999, 2005).

In the second line of thought, adopted here, the capacity of language acquisition involves language-specific processes and representations (Chomsky, 1965; Pinker, 1994; Jackendoff, 2002). The capacities that enter into the use and understanding of language constitute the “language faculty.” This language faculty has a genetic foundation in the biological endowment of human beings. The properties of the language faculty can be investigated by examining and comparing the computational and representational properties that conduct the formation of linguistic expressions in different languages. One particular approach to the theory of the language faculty is the Principles and Parameters (P&P) theory (Chomsky, 1981). The P&P theory proposes that language faculty consists of invariable principles with open parameter values. Whereas the invariable principles are common to all languages, the parameter values are set during the language acquisition phase.

The P&P approach is to a large extent assumed in the Minimalist Program (Chomsky, 1995, and related work). The underlying goal of the Minimalist Program is to investigate to what extent the human linguistic behavior can be explained by relying on other than language-specific factors. The objective is to derive the properties of the language faculty from independently motivated cognitive abilities and from the physiological and biological properties of the brain. Another research focus is whether the linguistic processes are optimized with respect to computational complexity.

The Minimalist Program is not a theory of linguistic behaviour, but rather a research program (Chomsky, 2000, p. 92). The minimalist thesis has given rise to several explicit theoretical assumptions that aim to specify the principles of linguistic computation following the minimalist guidelines. The linguistic analyses of the present study follow the framework introduced in the “Minimalist Inquiries” (Chomsky, 2000) and “Derivation by Phase” (Chomsky, 2001). These articles belong to a series of publications in which Chomsky explores and elaborates the specific proposals established in Chomsky (1995). The assumptions adopted in this study will be outlined in the following sections.
3.3 Syntax and the language faculty

The goal of the Minimalist Program is to investigate whether and to what extent the syntactic computation can be motivated by the requirements of the language-external cognitive systems. Specifically, the language faculty is assumed to interface with two external components: systems of articulation and perception and systems of thought. The overall architecture is illustrated in (53). Representations that the language faculty produces for the two interfaces are referred to as the “phonological form” (PF) and “logical form” (LF). The derivation of the representations proceeds in parallel by combining and modifying lexical items until a point called the “spell-out.” After spell-out, the derivation proceeds in two branches that specialize for the requirements of either interface.

(53) The architecture of the language faculty

```
LEXICON
    |
    |
    |
   SPELL-OUT
    |
    |
    |
PF
    |
    systems of articulation
 LF
    |
    systems of thought
    and perception
```

Linguistic processes are assumed in the Minimalist Program to arise from the need to produce well-formed representations for the two extra-linguistic systems. Moreover, the systems of articulation and perception require that the outcome of the linguistic derivation produces representations that can be pronounced in a language.\(^\text{13}\) On the other hand, the systems of thought anticipate a semantically valid expression. Given these initial conditions, the Minimalist Program attempts to discover the computational processes performed by the language faculty.

3.4 Merge

This and the following sections provide a sample derivation of the Finnish transitive clause in the minimalist framework of Chomsky (2000, 2001). The derivation involves among

\(^{13}\)For example, a linearized phrase structure should not contain isolated bound morphemes.
others the implementation of morphosyntactic agreement, case, and syntactic movement. The specific assumptions concerning the structure of Finnish are provided in parallel.

Consider first the argument structure of a basic transitive clause (54), which contains a subject argument in nominative case and a direct object argument in accusative case. This clause is modified by an adverbial *eilen*, ‘yesterday.’

(54) Minä luin eilen kirjan.
I.NOM read.PST.1SG yesterday book.ACC
‘I read a book yesterday.’

The derivation of a linguistic expression begins with an array of lexical items. These lexical items are either semantically substantive elements, such as nouns (N), verbs (V), and adjectives (A) (also referred to as “lexical elements”), or functional elements. Functional elements form closed lexical classes and are often morphologically and phonologically dependent. Furthermore, they import grammatical and relational properties to the derivation, and therefore form the “skeleton” of the phrase structure (for discussion, see Muysken, 2008, pp. 61-65). Examples of functional elements are T, which expresses tense, and a complementizer C, which expresses force and/or mood.

Lexical items are combined to form complex constituents by the operation “Merge.” Merge takes two linguistic units (lexical elements or phrases) and combines them to form a new linguistic unit. For example, in (55), Merge has been applied to a verb *lukea*, ‘read’ and a noun phrase *kirja*, ‘book,’ producing a verb phrase (VP). This complex constituent VP then becomes available for consecutive Merges.

(55) **Merge**

```
<table>
<thead>
<tr>
<th>VP</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
</tr>
</tbody>
</table>

luke-     kirja
‘read’     ‘book’
```

The noun phrase is marked in the figure above as DP, referring to the determiner phrase. DP is a projection of a functional head D (Hellan, 1986; Abney, 1987; Stowell, 1989; Szabolcsi, 1994). D is Merged with a noun phrase, which in the example involves only the head noun *kirja*, ‘book.’ In Finnish, the D hosts determiner pronouns and articles (Brattico, 2008b). I will assume throughout the thesis that Finnish noun phrases are projections of D even though the D-head does not always have phonological content (the same assumption is made among others by Holmberg & Platzack (1995) and Manninen (2003b, pp. 112-113)). A’-movement within the Finnish DPs is investigated in Chapter 7.
The derivation of sentence (54) continues with the Merge of a functional head $v$ (little $v$) with the verb phrase (VP). The little $v$ expresses among others the transitivity and aspect of the predicate (Chomsky, 1995, 2000), and it may be phonologically empty. Here the transitive clause subject is Merged with the constituent headed by the little $v$; the resulting structure is given in (56) (see also Manninen, 2003b, for an analysis of Finnish verb phrase in terms of the little $v$).

$$vP$$

$$\begin{array}{c}
\text{DP} \\
\text{Minä} \\
\text{‘I’} \\
\text{v} \\
\text{VP} \\
\text{V} \\
\text{DP} \\
\text{luku-} \\
\text{kirja} \\
\text{‘read’} \\
\text{‘book’}
\end{array}$$

The argument structure of a finite clause, such as (54), is established within the verb phrase (Koopman & Sportiche, 1991); the object argument occupies the “complement” of $V$ and the subject argument resides in the “specifier” of $v$.

Lexical items have two types of features: semantic features and phonological features. Semantic features are relevant for the systems of thought (see figure (53)), and one function of these features is to regulate the application of Merge. Phonological features, on the other hand, control the pronunciation of the lexical item and are passed to the phonological interface.

In addition to phonological and semantic features, lexical items may have syntactic features, or “formal features.” These formal features can be either interpretable or uninterpretable at the semantic interface (Chomsky, 1995, pp. 203-231). To illustrate, the finite verb in Finnish receives both person and number agreement inflection from the finite clause subject. However, the person and number agreement are irrelevant for the semantic interpretation of the verb and are therefore treated as being uninterpretable properties of the verb. On the other hand, the tense and mood of the verb contribute to the semantic interpretation and are therefore viewed as being interpretable at the semantic interface. Moreover, the uninterpretable formal features induce grammatical processes such as agreement and movement, as will be explained in Sections 3.6, 3.7, and 3.9.
3.5 Adjunction

The previous section described how a complete argument structure for a transitive clause (54)/(57) is established within a vP. However, the expression may contain additional elements that are not part of the argument structure or selectional relations, such as the adverbial modifier *eilen*, ‘yesterday,’ in the example sentence.

(57) Minä luin eilen kirjan.
1.NOM read.PST.1SG yesterday book.ACC
‘I read a book yesterday.’

Like arguments, adjuncts modify the phrase they are attached to. However, adjuncts differ from arguments in several respects. First, adjuncts are optional; an expression is well-formed even if the adjunct would not be present. In addition, there is no obvious limit for the number of adjuncts; it would be possible to add more adjuncts such as *nopeasti*, ‘quickly,’ and *väsyneenä*, ‘being tired,’ to the sentence (57), whereas the number of arguments is generally limited to two or three.

I follow the traditional approach from X*-theory that argues that adjuncts are adjoined to the structure (Jackendoff, 1977; Stowell, 1981; Chomsky, 1986). In addition, I assume that the adjunction targets a maximal projection XP (Chomsky, 1986). For example, in (58), the adverbial *eilen*, ‘yesterday,’ is adjoined to vP.$^{14}$

(58)

```
vP
  AdvP
    v
      DP
        minä
        ‘I’
      vP
        V
        kirja
        ‘book’
    eilen
    ‘yesterday’
```

A variety of implementations exist for the adjunction operation in the Minimalist Program at the moment, but I will not consider them in this thesis. However, adjoined phrases form a central class in movement research by restricting movement out of them as explained in Section 4.5.2.

$^{14}$See, however, Manninen (2003b) for the placement of manner adverbials at the specifier of the vP in Finnish.
3.6 Agree

In addition to the operations that combine elements, the language faculty involves an operation “Agree,” which establishes a relation between elements and allows them to share features. One instance of such a feature sharing is subject/predicate agreement; in Finnish, the finite verb agrees with the nominative subject in both person and number (Finnish does not have gender), as in (54)/(59).

(59) Minä luin eilen kirjan.
    I.NOM read.PST.1SG yesterday book.ACC
    ‘I read a book yesterday.’

The person and number features are called “ϕ-features”. I assume that ϕ-features are intrinsic semantic properties of the functional head D, which takes the noun phrase as its complement. In other words, the ϕ-features of the subject DP are assumed to be present in the beginning of the derivation. Under the minimalist assumptions adopted here, the finite verb receives the ϕ-inflection via the functional head T(ense). The head T expresses temporal relations with values present, future and past. Moreover, T assigns a nominative case to the subject argument. To outline this process, the next step in the derivation of the example sentence is Merge of a T(ense) head with the vP. T enters into Agree with the subject argument, as illustrated in (60); the discussion of the mechanism follows.

(60) **Agree(T, subject)**

First, the T head is assumed to carry ϕ-features, but these ϕ-features do not have a value. In the minimalist framework, a feature without a value is uninterpretable at the semantic interface (Chomsky, 2001, p. 5). An uninterpretable feature of a lexical item
is called a “probe.”15 Probe features are “active” elements in the derivation; they initiate syntactic processes in order to be assigned a value, or alternatively, to be deleted from the derivation.

An unvalued feature of the probe can be assigned a value if an interpretable counterpart feature is found downstream of the structure. The element bearing the matching feature is called a “goal.” As for the subject/predicate agreement, the goal element is the subject argument with interpretable $\phi$-features.

The probe thus searches for a goal in order to eliminate the problematic uninterpretable feature. The search for the goal is performed in the “c-command domain” of the probe. The c-commanding domain covers the sister of the probe and the structure below it. For example, the c-commanding domain of the probe T is the whole vP in Figure (60). When a suitable goal is encountered, the probe T enters into Agree with the goal DP. As a consequence, the unvalued $\phi$-features of T are assigned a value. The nominative case is also assigned in tandem: the DP has an unvalued case feature, which receives a value (nominative) from T.

Uninterpretable features thus initiate syntactic processes, such as grammatical agreement. Along the same lines, the accusative case is assigned by $v$ to the object via Agree (Chomsky, 2000, pp. 123-124). However, this process will not be addressed here.16

3.7 A-Movement

In Finnish, Agree between T and the subject DP is followed by the movement of the subject argument to the specifier of T. This movement is illustrated in (61).

---

15In other words, the uninterpretable feature carried by a lexical item is the active element that probes syntactic processes. However, I use the term “probe” to refer to the lexical item that carries the feature as well.

16See Vainikka & Brattico (2009); Brattico (in press) for object case assignment in Finnish.
According to Chomsky (1995, 2000), phrasal movement is triggered by a requirement of certain heads to have a filled specifier position. This requirement is called the “Extended Projection Principle” (EPP). Here the finite T has an EPP-feature that triggers movement of the nominative subject to the specifier of T. Movement associated with case assignment or ϕ-agreement is called “A-movement.”

The final lexical item Merged to the structure of the example sentence is the Complementizer (C) head, which encodes force and/or the mood of the sentence. This C-head is not included in the figure (61), but discussed in detail later in Section 3.9; C has a special role in initiating movement, such as wh-movement in interrogative sentences.

3.8 Head movement

To summarize the derivation of the example sentence (54)/(62) thus far: the argument structure has been established within the vP. As a consequence of the Merge of T(ense)-projection, the subject argument has received the nominative case and the subject agree-
ment inflection has been valued to T. The next step is to bring the tense and agreement inflection to the finite verb.

(62) Minä luin eilen kirjan.
    I.NOM read.PST.1SG yesterday book.ACC
    ‘I read a book yesterday.’

In Finnish, the finite verb receives the inflectional endings via “head movement” of the verb (cf. Holmberg et al., 1993). First, the finite verb raises to $v$ and collects causative inflection if present. Next, the verb proceeds to T to implement the tense and agreement inflection. This head movement process is illustrated in (63).

(63) **Head movement**

The Finnish T-domain has been proposed to include several other projections that encode verbal morphology (Vainikka, 1989; Mitchell, 1991; Holmberg et al., 1993; Nelson, 1998, among others).\(^{18}\) In this thesis, I will use only a minimal number of functional pro-

\(^{18}\text{Among the proposals for functional heads for the Finnish finite clause are PERF for the present and past participle AUX for auxiliaries, and PASS for the passive voice (cf. Holmberg et al., 1993). In addition, Holmberg (2001) proposes a Pol head above TP that encodes polarity and hosts the negation.}\)
jections in the analyses. In addition, the structure may contain an optional Neg head for negation (Mitchell, 1991; Holmberg et al., 1993; Brattico & Huhmarniemi, 2006).19

### 3.9 A’-movement

Section 3.7 outlined the mechanism of the A-movement that was triggered by an EPP-feature on an element that assigns case. In this section, let us move to other types of phrasal movement. For example, consider the following pair of Finnish sentences (64a-b). Sentence (a) is a basic transitive finite clause in the canonical SVO word order. In a comparable interrogative sentence (b), the object phrase has been replaced with a wh-phrase. However, instead of occupying the canonical object position, the object wh-phrase occupies a position at the left periphery of the finite clause. I assume at the moment that this position is the specifier of C; the structure of Finnish C-domain is discussed in Chapter 5.

(64) a. Pekka tapasi Merjan.
    Pekka.NOM meet.PST.3SG Merja.ACC
    ‘Pekka met Merja.’

b. Kenet Pekka tapasi _?
    who.ACC Pekka.NOM meet.PST.3SG
    ‘Who did Pekka meet?’

The movement of the wh-phrase in (b) is an instance of “A’-movement,” which is a cover term for phrasal movement other than A-movement. Whereas A-movement is connected to case and ϕ-agreement, A’-movement is often associated with semantics and discourse. As seen in (64b), wh-movement appears to break down the core semantic selectional relations by moving the object element out of its base position.20 However, dislo-

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19 In the presence of negation, the complete agreement inflection surfaces on the negation instead of on the main verb, and the main verb inflects for number of the nominative subject, as in (1b).

(1) a. Minä luin kirjan.
    I.NOM read.PST.1SG book.ACC
    ‘I read a book.’

b. Minä en lukunut kirjaa.
    I.NOM not.1SG read.PST.SG book.PAR
    ‘I didn’t read a book.’

To account for the distribution of agreement inflection in Finnish, Mitchell (1991) has proposed that Finnish finite clauses contain an Assertion phrase that combines negation and agreement morphology. Holmberg et al. (1993); Holmberg & Nikanne (2002) propose that a projection F(initeness) hosts the elements that agree with the full set of ϕ-features of the subject.

20 According to the earlier GB-theory (Chomsky, 1986), the moved element was assumed to leave a “trace”. In contrast, the “copy theory of movement” (Chomsky, 2000) stipulates that phrases do not ac-
cation of the wh-phrase is associated with the systems of thought as well: wh-movement reflects logical scope and discourse properties of the wh-expression.

A′-movement is implemented in the Minimalist Program by the same mechanism as A-movement: Agree and EPP. Let us recall that finite clauses, such as the example sentence (64a), are instances of C(omplementizer) projections (CPs); the C-head contains information of the force and mood of the finite clause.

In Chomsky (2001), the interrogative force is encoded with a formal feature [Q]. The wh-phrase contains an interpretable feature [Q], and the C-head has an uninterpretable counterpart feature [uQ]. C is therefore a probe for the [Q] feature on the wh-phrase. If the probe-goal relation between C and the wh-phrase can be successfully formed, the wh-phrase enters into Agree with C, as illustrated in (65). As a consequence of Agree, the uninterpretable [uQ]-feature is deleted and not visible at the semantic interface.21

(65) \[\text{Agree}(C, \text{wh})\]

From this point forward, languages vary as to how the derivation of the wh-question continues. In wh-movement languages, one (or several) wh-phrases move to the periphery of C, as in the Finnish example (66a). However, in what is referred to as “wh-in-situ” languages, such as Mandarin Chinese, the wh-phrase does not undergo overt wh-movement (Huang, 1982b), as the following example (66b) illustrates:

(66) a. Mitä Pekka haluaa _?
   what.PAR Pekka.NOM wants
   ‘What does Pekka want?’

   b. Chéngcheng yào shénme?
   Chengcheng want what
   ‘What does Chengcheng want?’ (Yang, 2006, p. 136)

21In addition, the process involves a [wh]-feature, which is introduced later in Section 4.3.
This cross-linguistic variation suggests that the presence of interrogative force, hence the uninterpretable [uQ], does not alone necessitate wh-movement. In wh-movement languages such as Finnish, the uninterpretable [uQ] is paired with an EPP-feature which triggers syntactic movement to the specifier of C, as illustrated in (67).

(67) \textbf{Move(wh)}

\[
\text{Move(wh)}
\]

\[
\begin{array}{c}
\text{CP} \\
\text{kenet [Q] } C' \\
\text{‘whom’} \\
\text{C} \\
\text{TP} \\
\end{array}
\]

To summarize, according to Chomsky (2000, 2001), A’-movement is implemented as a combination of the Agree and Merge operations. First, Agree is established between the probe and the goal, such as the interrogative C and the wh-phrase. Second, the EPP-feature of the probe triggers the Merge of the goal wh-phrase with the phrase headed by the probe C. This section has described the basic mechanism, which is used as a tool in the analysis in forthcoming chapters. Further details of A’-movement and additional assumptions are provided in the following chapter.
Chapter 4

Relevant background on edges and islands

4.1 Introduction

This chapter provides the relevant background information on the A′-movement phenomena that are investigated in the following chapters for Finnish: among these phenomena are pied-piping, internal wh-movement within pied-piped phrases, and island phenomena. This chapter begins by examining the surface position and interpretation of the wh-questions in wh-movement languages (Section 4.2). The focus of the analysis then shifts to the basic assumptions of A′-movement within the minimalist framework and to some extensions of the present implementation. It was postulated in Section 3.9 that Finnish A′-movement targets the specifier of C.

In traditional generative grammar, the landing cite of wh-movement has been the specifier of C. However, I will refer to this peripheral discourse-related position (or positions) as the “edge” of C (Chomsky, 2000, p. 121). This usage has the added advantage that it does not predetermine the syntactic role of this position: the element at the edge may be a head, a phrase at the specifier, or an adjoined element. In addition, generalizations can be made about the edges of phrases in general (not just the CP), as will be necessary in this thesis. For instance, the movement to edge positions is a necessary property of certain pied-piped phrases in Finnish. The term “edge” refers also to the left peripheral positions of syntactic derivational units called “phases.” Phase-edges are not necessarily discourse-related and are therefore not the primary concern of this thesis. An overview of the phase-theory and successive cyclic movement phenomenon is presented in Section 4.3.

Having established a basic account for movement to the edge positions, Section 4.4 will offer an investigation of the role of the edge position in pied-piped phrases cross-linguistically, introducing the edge generalization by Heck (2008). This section continues by describing the implementation of internal wh-movement to the edges of the pied-piped phrases and by introducing recursive pied-piping.
Section 4.5 provides some basic background information on the second main target of this study, the island phenomena. The term “island” refers to a syntactic configuration that restricts movement out of it. This section presents a short summary and some historical background on the basic island conditions with the main focus on wh-islands, adjunct islands and on the constraints on subject extraction. Finally, Section 4.6 includes a summary of the central findings of this thesis.

### 4.2 Logical scope of the wh-phrase

From the typological point of view, languages can be divided into three classes with respect to the possibilities of wh-movement (see also Bošković, 2002, for French as a fourth class). The first group includes the wh-in-situ languages, such as Chinese (example (68)), where none of the wh-phrases undergo wh-movement (Huang, 1982b; Lasnik & Saito, 1984). The second group consists of languages such as Finnish and English, where one of the wh-phrases occupies the edge of CP, as in (69) (see Section 5.2 for relevant discussion for Finnish). The third group is referred to as “multiple wh-fronting” languages; this includes languages such as Bulgarian, in which all the wh-phrases move overtly to the left periphery of the finite clause (Rudin, 1988). The multiple wh-fronting in Bulgarian is illustrated in (70).

(68) Chinese (Bošković, 2002, p. 352)

```
John gei-le shei shenme?
John give-PERF who what
‘What did John give to who?’
```

(69) Finnish

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Mitä Pekka antoi kenelle?
what.PAR Pekka.NOM gave who.ILL
‘What did Pekka give to who?’
```

(70) Bulgarian (Bošković, 2002, p. 352)

```
Na kogo kakvo dade Ivan?
to who what gave Ivan
‘What did Ivan give to who?’
```

In the wh-movement languages such as English, the surface position of the first wh-phrase reflects the logical properties of the sentence. For example, the wh-phrase in sentence (71) can be understood as a logical operator which encodes scope. In (71), the scope of the wh-phrase is the embedded clause and only the reading (a) is available. In example (72), the scope is over the matrix clause, providing reading (b). Thus, if the wh-phrase is
understood as a Fregean quantifier, the landing site of the wh-phrase encodes its scope (cf. Keenan, 1992).

(71) John guessed who Mary met _.
   a. John guessed {for which x:} Mary met x
   b. #{For which x:} John guessed that Mary met x.

(72) Who did John guess that Mary met _?
   a. #John guessed {for which x:} Mary met x
   b. {For which x:} John guessed that Mary met x

In wh-movement languages, the surface position of the wh-phrase therefore contributes to the semantic interpretation of the sentence. In contrast, the wh-in-situ languages, such as Chinese, do not require an overt movement of the wh-phrase to the scope position (Huang, 1982b).

In wh-movement languages, a single in-situ wh-phrase typically receives a different interpretation than a moved wh-phrase. For example, the wh-phrase occupies the edge of CP in example (73a), and the sentence forms a content question. However, if the wh-phrase does not occupy the left peripheral position and remains in-situ, as in (b), the sentence is an echo question. A typical echo question repeats the previous utterance, replacing an unclear or questioned portion with an interrogative word or phrase. However, in-situ wh-phrases in multiple questions such as (74) form an exception: they are normally not interpreted as being echoed wh-phrases and obtain the same scope over the sentence as the wh-phrase at the edge of CP.

(73) a. What did John buy?
    b. John bought what?

(74) Who bought what?

I assume that in echo questions, the finite C does not bear the uninterpretable [uQ]-feature that is responsible of the interrogative force of the sentence. Recall from Section 3.9 that the feature [uQ] is associated in wh-movement languages with an EPP-feature that triggers movement. However, if the [uQ]-feature is not present, movement is not required. The same observations likewise hold for Finnish wh-movement, Finnish echo questions and multiple questions are discussed in Section 5.2.

4.3 Successive cyclic movement

Chomsky (2000) assumes that the derivation of a complex linguistic expression, such as a finite clause, proceeds by “phases,” which are traditionally taken to be the vP and CP.
A phase forms a complete derivational unit; after the phase is completed, the elements within the phase cannot function as probes or as goals for forthcoming operations. This constraint is referred to as the “Phase Impenetrability Condition” (PIC) (Chomsky, 2000, 2001). In brief, this condition states that an element in the complement domain of a phase head is inaccessible for syntactic operations outside the phase. Nonetheless, an element can escape the otherwise closed derivational unit by moving to the edge of the phase before its completion. This means that the phase edge functions as an “escape hatch” for elements that take part in syntactic operations later.  

Let us consider an example that illustrates how the phase edge functions in the derivation of the example (75). The wh-phrase is base-generated at the object position of the embedded clause, as in (76a). Assuming that the CP forms a phase, it forms a closed unit once it is finalized. In addition, for the wh-phrase to be accessible in the matrix clause, it must move to the edge of the embedded CP. This is illustrated in (b) (movement via the phase edge of vP is not included here).

(75) What does John think that Mary bought _?

(76)  
a. \[TP \text{Mary bought what}\]

b. \[CP \text{what CP TP Mary bought _}\]

When the matrix C is merged to the structure, it is able to trigger the movement of the wh-phrase that resides at the edge of the embedded CP, as in (77).

(77) What does John think \[\text{CP that Mary bought _}\]?

The Phase Impenetrability Condition thus leads to a situation in which, for example, a wh-phrase embedded in a finite complement clause must occupy an intermediate landing site at the edge of that embedded CP. This movement via intermediate landing sites is referred to as a “successive cyclic movement.” The concept of this successive cyclic movement has its roots in early generative grammar, dating back to the subjacency condition proposed by Chomsky (1973) and to an earlier A-over-A principle (Chomsky, 1964; Ross, 1967). One of the predictions of the subjacency condition was that the movement out of a finite CP proceeds through an intermediate landing site at the edge of the CP, as was illustrated in (77). Apart from CPs and vPs, the successive cyclic movement has been argued to target the edges of several other phrase types (Manzini, 1994; Takahashi, 1994; Manzini, 1994; Takahashi, 1994;

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22 However, I will continue to use the term “edge” to refer to the discourse-related edge position that is under investigation in this thesis. Phase edges are not dedicated to A’-properties, although they may host discourse-related elements as well, see Boeckx (2010), for a discussion on the different usages of the term “edge.” The possible unification of the phase edges and the edges of, for example, the pied-piped phrases remain open questions.
I adopt the successive cyclic wh-movement approach here and investigate the intermediate landing site at the edge of Finnish CP in Section 5.6.1. However, I remain neutral about the existence and nature of the phases in Finnish: the aspects of Finnish wh-movement considered in this study do not directly address the phase theory.

Assuming that wh-movement proceeds cyclically, a single wh-word can undergo several A′-movement steps during the derivation of a wh-question. This assumption requires that some changes are made to the formalism of A′-movement as described in Section 3.9. To recapitulate the assumptions from Section 3.9: C has an uninterpretable feature [uQ], which is a probe for the [Q]-feature in its c-commanding domain. The wh-phrase bearing an interpretable [Q]-feature is suitable goal and enters into Agree with C. The Agree between C and the wh-phrase is illustrated in (78a). In wh-movement languages, the finite C contains an EPP-feature that triggers wh-movement to the edge of CP, as illustrated in (b).

\[ (78) \]

(a) Agree(C, wh) \hspace{1cm} (b) Move(wh)

\[
\begin{array}{c}
\text{CP} \\
\text{C} \\
[\text{uQ}] \\
\text{TP} \\
\text{… what [Q] …} \\
\text{Agree} \\
\end{array}
\quad \quad \quad
\begin{array}{c}
\text{CP} \\
\text{what [Q]} \\
\text{C} \\
[\text{uQ}][\text{EPP}] \\
\text{TP} \\
\text{…_…} \\
\end{array}
\]

As we saw in (77), if another C with a probe [uQ]-feature is merged to the structure, it may be able to trigger movement of the wh-phrase at the edge of the embedded CP. However, sometimes the wh-movement stops at the edge of an embedded clause, as in (79).

\[ (79) \]

John wonders \[ \text{[CP what Mary bought _ ?} \]

The above mechanism for A′-movement does not prevent the wh-phrase from leaving the scope position at the edge of the embedded CP (Lasnik & Saito, 1984, 1992; Rizzi, 2006). In order to stop movement once the scope position has been reached, the wh-phrase is accompanied by an uninterpretable [uwh]-feature (Chomsky, 2000, 2001). This uninterpretable [uwh]-feature causes the wh-phrase to be “active” and available for syntactic operations (see also Bošković, 2007; Stroik, 2009). As illustrated in (80), the probe at the scope position contains an interpretable counterpart feature [wh]. As a consequence, the Agree between the probe and the goal deletes both the [uQ]-feature of the probe and
the [uwh]-feature of the goal. Moreover, as soon as the uninterpretable [uwh]-feature is deleted, the wh-phrase becomes inactive and incapable of further Agree-relations and movement.

(80) The inactive wh-phrase is not a goal for movement

The intermediate landing site differs from the scope position in that the intermediate probe does not have the [wh]-feature that would render the wh-phrase inactive. In this way, the wh-phrase at the intermediate landing site may enter into new Agree relations and continue movement.23

This section has described the phenomenon of successive cyclic movement. The next section will turn to investigate the pied-piping and the movement to edges of pied-piped phrases. The successive cyclic movement outlined in this section will serve as a partial analysis of the pied-piping phenomenon.

### 4.4 The edge position and pied-piping

In addition to the successive cyclic movement in the form presented in the previous section, the edge positions play an important role of serving as landing sites for movement within pied-piped phrases. This section considers the edges in pied-piping contexts. First, Section 4.4.1 provides some cross-linguistic data that illustrate the role of the edge position in pied-piping. Section 4.4.2 subsequently discusses A'-movement to the edge of a

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23 However, it should be noted this implementation of successive cyclic movement is only one of the possible alternatives offered in the literature on this phenomenon. For example, it is possible to approach the problem from the viewpoint of the Phase Impenetrability Condition (e.g. Stjepanović & Takahashi, 2001; Bošković, 2007). In fact, the probe-goal mechanism has even been questioned in terms of its suitability for implementing the successive cyclic movement (Bošković, 2002; Boeckx, 2003; Chomsky, 2008). In this thesis, I will use the minimalist apparatus as a tool for analysis and as a way of describing syntactic processes. In other words, I will not attempt to offer a new account for successive cyclic movement or pied-piping: any formalism that implements successive cycllicity in a suitable manner is sufficient.
pied-piped phrase, called “internal wh-movement.” Finally, Section 4.4.3 addresses pied-piping through embedded phrase layers and introduces the snowball wh-movement.

4.4.1 The edge generalization

A simple instance of wh-movement involves a single wh-element, such as the object argument in (81a). However, wh-movement frequently targets phrases larger than the wh-word, as in (b). The parallel examples for Finnish are given in (82a-b). This phenomenon was first identified by Ross (1967) and is called “pied-piping.”

(81) a. Who do you admire _?
   b. Whose friend do you admire _?

(82) a. Ketä sinä ihailet _?
    who.PAR you.NOM admire
   b. Kenen ystävää sinä ihailet _?
    who.GEN friend.PAR you.NOM admire

In pied-piping, a single wh-word entices a larger constituent into moving to a higher structural position. Pied-piping can therefore be seen as an alternative wh-movement strategy in island contexts in which it is not possible to move a single wh-word or a smaller wh-phrase. On the other hand, only a subset of phrases undergo wh-movement or pied-piping; this thesis aims to capture the pied-piped phrase types for Finnish.

Pied-piped phrases have certain structural requirements. One of the requirements is that in wh-movement languages, the wh-element cannot pied-pipe if it is not at the edge of the pied-piped phrase, apart from some exceptions (for different proposals, see Cowper, 1987; Webelhuth, 1992; Grimshaw, 1991, 2000; Heck, 2004, 2008). For example, the possessor is often assumed to occupy the edge of D in English (Abney, 1987). Example (83a) illustrates possessor pied-piping that occurs in a relative clause. In contrast, the wh-phrase cannot pied-pipe from the complement of a noun in (b).

(83) a. a man [DP whose deck chair] you spilled coffee on _
   b. * a man [DP the deck chair of whom] you spilled coffee on _

Another example of the importance of the edge position for pied-piping is provided by Hungarian possessives. Hungarian has two types of possessors: one in the dative case and one in the nominative. The dative possessor can occupy the position at the edge of DP, as in (84a), whereas the nominative possessor is located inside the NP, as in (b-c).

(84) (Szabolcsi, 1994, p. 198)

a. Marinak a kalapj-a
   Mary.DAT DET hat-PX3/SG
   ‘Mari’s hat’
b. (a) Mari kalap-ja
DET Mari.NOM hat-PX3/SG
‘Mari’s hat’
c. * Mari a kalap-ja
Mari.NOM DET hat-PX3/SG

Example (85a) shows that the dative possessor can pied-pipe its host DP to the edge of CP. Nevertheless, the possessor in the nominative case cannot trigger pied-piping; this is illustrated in example (b). According to Szabolcsi (1994), the Hungarian possessor has to occupy the edge of D in order to pied-pipe the DP.

(85) (Cable, 2007, p. 288)

24

Heck (2004, 2008, 2009) investigates the properties of the pied-piped constituents in different languages and proposes an edge generalization (86) for pied-piped constituents.

This edge generalization states that pied-piping may take place only when the constituent that triggers movement occupies the edge of the pied-piped phrase.

(86) Edge generalization (Heck, 2008, p. 88)

If a wh-phrase $\alpha$ pied-pipes a constituent $\beta$, then $\alpha$ has to be at the edge of $\beta$.

According to Heck (2008), “It is quite appropriate to conceive of the ‘edge of $\beta$’ as a position that is not dominated by any maximal projection except for $\beta$” (p. 88).

Although the edge generalization applies well to Finnish wh-movement, as will be shown in the later chapters, this generalization is challenged by some counterexamples from other wh-movement languages, such as by English prepositional phrases. In English, a DP is able to trigger the pied-piping of a PP even though it does not occupy the edge position within the phrase:

(87) a. [ To whom] did you talk _?
   b. [ In what manner] did he die _?

According to Grimshaw (2000), pied-piping past a lexical category is not possible (see also Cowper, 1987; Webelhuth, 1992), but being a functional head, the P does not prevent pied-piping. Heck (2008) accounts for the cross-linguistic variation by proposing a

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24Similar conditions on pied-piping have been proposed by Webelhuth (1992, Ch. 4), Kayne (1994), Horvath (1997, pp. 547-549), and Koopman & Szabolcsi (2000, p. 41).
framework in which the edge generalization can be violated in some contexts where alternative mechanisms are not available for forming the wh-question.25 I will demonstrate in this thesis that examples such as (87) do not exist in Finnish wh-questions or in relative clauses.

The argument proposed here is that the edge position is a necessary condition for the pied-piped phrases in Finnish wh-questions and relative clauses.26 In other words, I propose that the edge generalization (86) by Heck (2004, 2008) holds for Finnish. Furthermore, I will argue that the edge position can be obtained via base-generation, A-movement or A′-movement in Finnish. The A′-movement to the edge of a pied-piped domain is called “internal wh-movement” (van Riemsdijk, 1985); it is introduced in the next section.

4.4.2 Internal wh-movement to the edge

Internal wh-movement is the phenomenon in which a wh-phrase undergoes A′-movement to the edge of a phrase and transforms the constituent into a complex wh-phrase. For example, according to Manninen (2003a), wh-phrase moves to an edge of an adposition phrase in Finnish wh-questions,27 as illustrated by the examples below. The canonical word order in (a) has the DP-argument occupying the complement of the adposition head. However, in a wh-question (b), the wh-DP occupies the edge of the adposition phrase. Thus, instead of moving alone all the way to the edge of CP, the wh-DP moves to the edge of the adposition phrase, transforms the PP into a complex wh-phrase, and moves together with the PP. However, if the wh-phrase fails to occupy the edge of P, the sentence is an echo question, as in (c). The wh-DP in (c) is thus interpreted like the in-situ wh-phrase in (d).28

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25 In this thesis, I adopt Heck’s descriptive generalization (86) on pied-piping. However, I will not adopt the theoretical framework proposed by Heck in the analyses.

26 A descriptive generalization of the position of the wh-word within the fronted wh-phrase in Finnish can be found from Hakunilnen et al. (2004, §1682)

27 Manninen (2003a) is the only previous approach that addresses the internal wh-movement in Finnish. However, she examines only Finnish PPs. Manninen proposes that internal wh-movement can be motivated by the Phase Impenetrability Condition (PIC): movement to the edge of the adposition phrase is required in order for the wh-phrase to be visible for the syntactic operations later in the derivation. I will not adopt Manninen’s proposal here, for the following reasons: I will propose in this thesis that several phrase types, among them DPs, APs, and non-finite clauses have an discourse-related edge position in Finnish. However, further research is needed to establish that these phrases qualify as phases. For example, Vainikka & Brattico (2009); Brattico (in press) propose that Finnish long-distance case marking systematically proceeds through among others the DP-boundary, thus violating the PIC.

28 What triggers A′-movement in (173c)? As will be discussed later in Section 10.5, the edge generalization does not necessarily hold for all discourse-related movement in Finnish.
According to Szabolcsi (1994), the Hungarian possessor pied-piping that was examined in the previous section also involves an internal wh-movement of the dative possessor. To take another example, internal wh-movement is observed in Tzotzil (Mayan) (Aissen, 1987, 1996). In Tzotzil, a possessor wh-phrase is able to trigger the pied-piping of the DP, as in (89a). Example (b) shows that similarly to the Finnish PP above, pied-piping is not possible if the wh-phrase occupies a post-nominal position.

It is interesting that the DP-internal word order in (89a) is not available in declarative sentences: the possessor usually follows the head noun, as in (90a). The example (b) below indicates that the pre-nominal position for this type of possessor argument is ungrammatical.
The examples from Finnish and Tzotzil suggest that pied-piped phrases involve word order changes that can be motivated by assuming that the element that triggers movement has to occupy the edge position. Further examples of possessor pied-piping with internal wh-movement can be found from the other Mesoamerican languages, such as San Dionicio Zapotec (Broadwell, 2001) and Chol (Mayan) (Coon, 2009) (see also Heck, 2008). In addition, Heck (2008) provides further examples from other languages, such as German and Polish, where the genitive argument may occupy the post-nominal position but pied-piping is only available from the pre-nominal position.

I will next turn to the implementation of the internal wh-movement in the minimalist framework. From the point of view of a single wh-word, such as Tzotzil wh-possessor, wh-movement involves two A'-movement steps. During the first step, the wh-DP moves to the edge of the pied-piped phrase, and during the second step, the wh-DP moves with the pied-piped phrase to the edge of the finite clause. In this respect, internal wh-movement shares the properties of the successive cyclic movement discussed in Section 4.3: the moving phrase occupies edge positions other than the scope position on its way to the final landing site. As outlined in Section 4.3, the minimalist framework of Chomsky (2000) includes a basic implementation of the successive cyclic movement, which I will adopt here.

To recapitulate the assumptions from Section 4.3, an intermediate probe X contains an uninterpretable [uQ]-feature which enters into Agree with an interpretable [Q]-feature of the wh-phrase. The EPP-feature of the probe then triggers the movement of the wh-phrase to the edge of XP, as illustrated in (91). However, the edge of XP is not the scope position for the wh-phrase, and we want the wh-phrase to remain active and available for future movement operations. The wh-phrase contains an additional uninterpretable [uwh]-feature that makes it active goal for grammatical operations. The intermediate probe X is thus not able to delete this [uwh]-feature.

(91) Internal movement to the edge of XP

When a finite C with a [uQ]-feature is Merged to the structure, the wh-phrase enters into Agree with it. The EPP-feature on the C triggers wh-movement to the edge of CP, as
illustrated in (92b). However, in contrast with the successive cyclic movement in which the wh-phrase moves alone, here the whole XP moves.

(92) Agree(C,wh) and movement of the XP

If the edge of C is the scope position for the wh-phrase, it contains an interpretable [wh]-feature. As a consequence of Agree, the uninterpretable feature [uwh] on the wh-phrase is deleted and the movement of the wh-phrase stops.

The question now remains as to why the movement of the wh-phrase to the edge of an XP is sometimes followed by the subsequent movement of the same wh-phrase and sometimes by the pied-piping of the full XP. I will not attempt to address this question in this thesis, but briefly outline three alternative accounts proposed in the literature (see Cable, under review). One alternative is the “feature percolation” approach put forward among others by Chomsky (1973); Cowper (1987); Webelhuth (1992); and Grimshaw (2000). According to feature percolation, the features of the wh-phrase are transferred to higher nodes, ending up at the XP, so that the XP constitutes a goal for wh-movement. It has also been proposed that feature percolation is available only if the wh-phrase occupies the edge (Kayne, 1994; Horvath, 1997; Koopman & Szabolcsi, 2000). However, restricting the percolation to the correct domains has been demonstrated to be difficult (see Heck, 2009; Cable, 2010, among others). According to second alternative, pied-piping applies only if movement of a smaller constituent is not possible. This view is adopted by Heck (2009, p. 92), among others. Finally, it has been proposed that the XP is the target of wh-movement because it contains an operator that necessarily accompanies the wh-phrase (Horvath, 2007; Cable, 2007, 2010). In this approach, the wh-phrase is not in itself the goal for wh-movement, but the operator on the XP is.
4.4.3 Recursive pied-piping and snowball wh-movement

When pied-piping takes place across several phrase layers, the phenomenon is called “recursive pied-piping.” Below is an example of recursive pied-piping; the possessor wh-phrase pied-pipes the containing DP through several phrase boundaries to the edge of the relative clause.

(93) \[\text{a man } \left[\text{DP whose sister’s] deck chair}\right] \text{you spilled coffee on}\]

The properties that regulate pied-piping in the simple case apply to recursive pied-piping as well. Heck (2004, 2008) proposes the generalization (94) on recursive pied-piping:

(94) **Generalization on Recursive Pied-Piping** (Heck, 2008, p. 76)

If a wh-phrase \(\alpha\) can pied-pipe a constituent \(\beta\), and if \(\beta\) is in a canonical position to pied-pipe \(\gamma\), then \(\alpha\) can also pied-pipe \(\gamma\).

To illustrate the generalization with an example, let us consider the DP (94a) in which the possessive pronoun occupies the edge position, and therefore obeys the edge generalization. When this DP is in (b) Merged to the edge of another DP, the pied-piping of the larger constituent is available because both DPs obey the edge generalization (94).

(95) a. \[\text{DP whose sister}\]

b. \[\text{DP whose sister’s] deck chair}\]

What happens if recursive pied-piping involves internal wh-movement? I will argue in this thesis that in Finnish, recursively embedded wh-phrases may display a “snowball” phenomenon.\(^{29}\) The snowball movement is best exemplified by Finnish non-finite clause constructions, inspected in detail in Chapter 9. Let us consider sentence (96a) which involves an adverbial clause (referred to as “temporal construction”), which contains an adposition phrase in a canonical word order. I would like to propose that the wh-question (96b) involves three A’-movement steps, which are marked with the indices \(i\), \(j\), and \(k\). First, the wh-phrase moves to the edge of the adposition phrase (index \(i\)). Second, the adposition phrase moves to the edge of the non-finite clause (index \(j\)). Finally, the non-finite clause moves to the edge of CP (index \(k\)).

\(^{29}\)The term “snowball movement” is often used to refer to cumulative remnant movement from complement to specifier. This type of movement captures, for instance, the head-final word orders (e.g. Julien, 2000; Cinque, 2005; Aboh, 2004a; Travis, 2006). According to Alexiadou et al. (2007, p. 49, fn 18), the term “snowballing XP movement” is credited to Chris Collins.
(96) a. Pekka näki Merjan [kävellessään [kohti puistoa]]
   Pekka.NOM saw Merja.ACC walk.INF towards park.PAR
   ‘Pekka saw Merja when he was walking towards a/the park.’

b. [Mitä kohti _[kävellessään _]k Pekka näki Merjan _k?]
   what.PAR towards walk.INF Pekka.NOM saw Merja.ACC
   ‘What was Pekka walking towards when he saw Merja?’

A schematic presentation of the wh-movement in (96b) is offered in (97). While moving upwards in the structure, the wh-phrase gathers more and more phrase structure around it. The Finnish type of recursive pied-piping combined with internal wh-movement will herein be called “snowball wh-movement.”

(97)

Finnish internal wh-movement seems to proceed in a successive cyclic manner; it therefore provides an interesting viewpoint to the theory of edges and intermediate landing sites. It will be established in Section 10.4 that recursive pied-piping in Finnish takes place without any principal limit to the level of embedding. In addition, the edge position is required at every level of pied-piping, thus obeying the generalization on recursive pied-piping by Heck (2008).

4.5 Islands

Previous sections have addressed the pied-piping phenomenon. This section will now turn to a closely intertwined phenomenon: extraction. For example, Ross (1967, p. 118) discussed pied-piping as an alternative to extraction for English preposition phrases: in (98a), the whole preposition phrase moves, whereas in (b), the wh-phrase moves alone, leaving the preposition stranded.
Example (b) is an instance of an “extraction” from a preposition phrase. However, many languages do not allow an extraction from a PP and the PP forms an “island.”

Extraction islands were first investigated by Ross (1967) and have received attention in the syntactic research ever since. One of Ross’s constraints was the Complex NP Constraint (Ross, 1967, p. 70), which accounts for the ungrammaticality of the extraction from relative clauses, see examples (99a-b). This constraint is not examined further in this thesis, but I have included a Finnish example for the sake of illustration. First, extraction from a finite CP that occupies the complement of a verb is possible, as in (100a). Example (b) contains a CP in the complement of a noun, and example (c) shows that extraction is not available in this context.

(99)  

a. What do you believe [CP that John bought _]?  

b. * What do you believe [NP the [CP that John bought _]]?  

(100)  

a. Mitä uskot että Pekka osti _?  

what.PAR believe.PRS.2SG that Pekka.NOM bought  

‘What do you believe that Pekka bought?’  

b. Uskon [DP väitteen [CP että Pekka osti auton]] .  

believe.PRS.1SG claim.ACC that Pekka.NOM bought car.ACC  

‘I believe the claim that Pekka bought a/the car.’  

c. * Minkä uskot [DP väitteen [CP että Pekka osti _]]?  

what.ACC believe.PRS.2SG claim.ACC that Pekka.NOM bought  

‘*What do you believe the claim that Pekka bought?’

Ross’s work was followed by a search for a unified explanation of the island conditions in structural terms, an important one being the “Conditions on Transformations” by Chomsky (1973). For example, Chomsky (1973) accounted for the Complex NP Constraint by proposing the subjacency condition, which was mentioned in connection with the successive cyclic movement in Section 4.3. The intuition behind the subjacency condition is that island effects arise when the wh-phrase has to cross too many nodes of a certain type, such as both the finite clause and the noun phrase boundaries in example (99).

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30 The distinctions of the syntactic operations such as the above are assumed in generative theory to follow from the structural properties of phrases. There are nevertheless accounts that attempt to explain the island conditions in terms of performance factors (e.g. Pritchett, 1991; Kluender, 2004), see also the references in Boeckx (2008a, p. 154).
The subjacency condition was followed by approaches in which certain nodes in the structure restrict syntactic dependencies. These approaches include the barriers framework of the Government and Binding theory (Chomsky, 1986), successive cyclicity (Chomsky, 2000), and the phase-theory in minimalism (Chomsky, 2001). On the other hand, a central research task in the minimalist theorizing has been the motivation for the presence of such critical points in the derivation. For instance, Uriagereka (1999) has proposed an account for islands that relies on the linearization order of phrases. For a survey of alternative approaches, see Boeckx (2008b).

The introduction of empty positions, such as gaps (or traces) that result in movement, gave rise to the formulation of the Empty Category Principle (ECP) (Chomsky, 1981), which seeks to capture the licensing conditions for the empty positions. The ECP formed a background for several alternative approaches on islands, an important one being the Condition on Extraction Domain (CED) by Huang (1982a). According to the CED, movement out of a domain is possible only if the domain is properly governed. The properly governed domains are the complement positions of lexical heads such as N, V, A, or P (but not T or C). However, since adjuncts and subjects are not governed by lexical categories, they are extraction islands.

Ross (1967) proposed several generalizations for the configurations that resist extraction, such as the Complex NP Constraint outlined above; the Coordinate Structure Constraint, which captures the ban on the extraction from a coordinated constituent; and the Sentential Subject Constraint, which predicts that subjects are extraction islands. These constraints are not addressed further in this thesis. The following sections will now turn to the three types of constraints that are most relevant for this thesis. These are the wh-islands (corresponding to Ross’s embedded interrogatives) that are introduced in Section 4.5.1, the adjunct islands (Section 4.5.2), and the constraints on subject extraction (Ross’s Left Branch Condition) introduced in Section 4.5.3.

### 4.5.1 Wh-islands

A phrase that hosts a wh-phrase at its edge is typically a movement island for other wh-phrases. For example, extraction from an embedded interrogative clause is not possible, as example (101) shows. These islands are referred to as “wh-islands.”

(101) *? What do you wonder [\_CP where I bought \_] ?

The approaches to wh-islands often attempt to proportion the movement restrictions to the type of the moved element. One such proposal is the superiority constraint (Kuno & Robinson, 1972; Chomsky, 1973), which states that a wh-movement cannot cross another wh-phrase. The superiority condition may be seen as a subcase of a more general
theory, Relativized Minimality (Rizzi, 1990; Kitahara, 1997), which characterizes movement restrictions in terms of intervening elements. According to Relativized Minimality, a syntactic operation cannot reach across an element having the same feature specification. In example (101), the wh-phrase *where* at the edge of the embedded CP is an intervening element that prevents the Agree between the matrix C and the object of the embedded clause.

In Finnish, an embedded CP forms a wh-island when its edge position is filled, as will be shown in Section 5.6.2. I will propose that an element at the edge of an embedded CP prevents the successive cyclic movement through the phrase edge, and in this way, prevents an extraction from the CP.

### 4.5.2 The Adjunct Island Condition

The Condition on Extraction Domain (CED) by Huang (1982a, p. 505) predicts that subjects and adjuncts are extraction islands. For example, the contrast between wh-questions (102a) and (b) shows that a wh-phrase cannot be extracted from an adjoined phrase. Another example of the unavailability of extraction from an adjoined phrase is given in (103).

(102)  
\[
\begin{align*}
\text{a. Who cried after John hit Mary?} \\
\text{b. *? Who did Mary cry [ after John hit _ ] ?} \\
\end{align*}
\]

(Huang, 1982a, p. 503)

(103)  
\[
\begin{align*}
\text{* About which topic did you leave [ because Mary talked _ ] ?} \\
\end{align*}
\]

(Szabolcsi, 2006, p. 481)

The observation that the phrases at the adjunct positions are extraction islands is known as the Adjunct Condition (Chomsky, 1986). I will use the following formulation for adjunct islands:31

(104) **Adjunct Island Condition** (Johnson, 2002)

If an XP is in an adjunct position, nothing may move out of it.

The Adjunct Island Condition will be examined in the following chapters for the different syntactic configurations in Finnish. I will demonstrate that if a phrase occupies an adjunct position, it is an extraction island. In other words, condition (104) is valid for Finnish.

The discussion includes an examination of certain counter-examples for condition (104), similar to English examples (105a-b). Due to the existence of examples such as those presented below, adjunct islands are sometimes characterized as being “weak islands,” allow-

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31Johnson (2002) discusses also subject islands. However, I will limit the discussion here to Finnish adjunct islands.
ing the extraction of certain elements in specific contexts (see Chomsky, 1986; Truswell, 2007; Boeckx, 2008b; Szabolcsi, 2006).

(105) (Truswell, 2007, p. 1356)

a. What did John arrive [ whistling _] ?
b. What did John drive Mary crazy [ trying to fix _] ?

It turns out that some Finnish speakers accept extraction from non-finite clauses that typically occupy an adjunct position in the structure. Nevertheless, I will propose in Section 9 that certain Finnish non-finite clauses that typically occur in adjunct positions can also occur in complement positions where they allow extraction.

4.5.3 Constraints on subjext extraction

The third island condition examined in this thesis relates to the traditional Left Branch Condition proposed by Ross (1967). The Left Branch Condition captures the phenomenon that noun phrases resist extraction of possessors:

(106) **Left Branch Condition (LBC)** (Ross, 1967, p. 144)

No NP which is the leftmost constituent of a larger NP can be reordered out of this NP by a transformational rule.

The examples under (107) illustrate the Left Branch Condition for English and pied-piping as an alternative strategy. Examples (108a-b) show the the pattern that is similar for Finnish.

b. [ Whose book] did you buy _ ?

(108) a. * Kenen sinä ostit [ _ kirjan] ?
   who.GEN you.NOM bought book.ACC
b. [ Kenen kirjan] sinä ostit _ ?
   who.GEN book.ACC you.NOM bought

However, LBC is not universally valid; for example, most Slavic languages permit the extraction of left branches, as noted already by Ross (1967). For instance, Serbo-Croatian allows possessor extraction, as illustrated in (109). According to Corver (1990), the cross-linguistic differences between the possessor extraction can be accounted for by the presence/absence of the functional category D in a language.\(^{32}\) (Let us recall, that the D hosts articles in languages with overt articles (Section 3.4.).) Corver proposes that the

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32The role of D in the possessor extraction has been examined by Uriagereka (1988) and Gavruseva (2000), each from a different viewpoint.
extraction of left branches is possible in languages without articles, whereas the category D blocks the left-branch extraction in languages with overt articles.33

(109) Ćijeg, si vidio [ t, oca] ?
whose are seen father
‘Whose father did you see?’ (Bošković, 2005, p. 2)

Finnish does not have obligatory articles although the colloquial spoken Finnish has some article-like elements (Laury, 1996, 1997; Juvonen, 2000). I will show in Section 7.2.1 that possessor extraction is not permitted in Finnish regardless of the presence/absence of an overt article.

On the other hand, the edge of D may provide an intermediate landing site for movement out of a noun phrase, and therefore enable extraction (Cinque, 1980; Stowell, 1989; Giorgi & Longobardi, 1991; Szabolcsi, 1994). In Hungarian, the dative possessor is able to move to the edge of D (as we witnessed in examples (85) earlier), and can be extracted. In contrast, the nominative possessor, which does not take the intermediate step to the edge of D, cannot be extracted (Szabolcsi, 1994). This is illustrated in examples (110a-b) from Szabolcsi (1994, pp. 180-181).

(110) (Szabolcsi, 1994, p. 180)

Mari(NOM) black was the hat-POSS(-3SG-NOM)
‘Mari’s hat was black.’

Mari-DAT black was the hat-POSS(-3SG-NOM)
‘Mari’s hat was black.’

Boeckx (2003, pp. 43–44) proposes that the distinction between the extraction conditions for the Hungarian nominative and dative possessors can be accounted for by relying on the possessor agreement. In brief, Boeckx proposes that the noun head agrees with the nominative possessor, and this agreement ultimately prevents the nominative possessor from moving.34

In this thesis, I will examine the possibility that φ-agreement is a general restriction for Finnish subject extraction. It is important to note that the LBC can be related to a more

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33Corver (1990) accounts for this distinction in terms of the ECP within the Government and Binding framework.
34Boeckx (2003) develops the proposal by Richards (1997); Richards (2001) that a strong feature must be pronounced in the position in which it is checked (Richards, 1997, p. 119). The checking of a strong feature requires movement to the specifier of the checking head. This means that if an element moves to check its feature (φ-feature in this context), it must be pronounced in that position.
general restriction on the movement of subjects and possessors. Various languages display subject/object extraction asymmetries in different configurations. One instance of such an asymmetry is the “that-trace effect” in English: extraction of the subject is not available in the presence of an overt complementizer, while no such constraint is placed on the object argument. The that-trace effect is illustrated in examples (111a-b).

(111)  
a. Who do you think [ (*that) _ wrote the book] ?  
b. What do you think [ (that) Bill wrote _ ] ?

Finnish displays an asymmetry between the subject and object extraction in a similar context. Example (112a) demonstrates that extracting a nominative agreeing subject is impossible (irrespective of the presence/absence of a complementizer). However, the object argument can be extracted in (b) (see also Section 5.6).

(112)  
a. * Kuka Pekka luuli (että) _ tapasi Merjan? 
   who.NOM Pekka.NOM think.PST.3SG that meet.PST.3SG Merja.ACC 
   ‘Who do you think met Merja?’

b. Kenet Pekka luuli että Merja tapasi _ ? 
   who.ACC Pekka.NOM think.PST.3SG that Merja.NOM meet.PST.3SG 
   ‘Who did Pekka think that Merja met?’

The asymmetries of subject/object extraction have been approached from different theoretical viewpoints. In the minimalist framework, the constraint on subject extraction has been attributed, for instance, to feature checking (case, \( \phi \)) (Bošković, 2008; Boeckx, 2008a, p. 167), the EPP-movement (Pesetsky & Torrego, 2001), PF-interface conditions (Richards, 1999; Ackema, 2010), and criterial positions (Rizzi, 2006, 2010).

Finnish non-finite clause constructions offer an interesting perspective on the constraint of subject extraction and LBC. Many of the Finnish non-finite clause constructions display nominal properties, inflecting in the semantic cases and taking the possessive suffix. On the other hand, the possessive suffix can be analyzed as a \( \phi \)-agreement marker indicating the presence of agreement (see Section 2.4 for details). I will assume in this thesis that the possessive suffix is a \( \phi \)-agreement marker and concentrate on investigating the correlation between the presence of subject-predicate agreement and the availability of subject extraction in different contexts.

I will propose that Finnish syntactic constructions can be divided into two classes depending on whether or not they allow an extraction of the subject. The contexts that do

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\(^{35}\)Within GB-theory, the that-trace effect was approached in terms of government (Chomsky, 1981; Rizzi, 1990). On the other hand, subject extraction can be captured by the Condition on Extraction Domain (CED) suggested by Huang (1982a) by relying on government relations. The CED predicts that the extraction of subjects is more restricted than the extraction of complements.
not permit subject extraction include DPs, PPs, AdvPs, several types of non-finite clauses, and the finite complement clauses with an agreeing nominative subject. Yet, the contexts that allow the extraction of the subject include certain non-finite clauses and marginally, the finite complement clauses without agreement. I will argue for the following constraint for subject extraction in Finnish:

(113) The $\phi$-agreement constraint on subject extraction
The extraction of a subject from a $\phi$-agreement phrase is not possible.

A $\phi$-agreement phrase is a phrase that can display an overt $\phi$-feature agreement with an overt pronoun. The role of agreement in the extraction from the finite CP is examined in Section 5.6, and the $\phi$-agreement constraint is introduced in more detail in connection with adposition phrases in Section 6.3.

4.6 Central findings of this thesis

Having now introduced some theoretical background for the research subject of this thesis, this section will provide a brief summary of the major research topics. The following major findings emerge from the Finnish data explored here.

1. The edge position is required for pied-piping in Finnish wh-questions
Finnish wh-questions and relative clauses obey a cross-linguistic edge generalization (86) on pied-piping, which was proposed by Heck (2004, 2008). The edge generalization states that pied-piping may take place only when the constituent that triggers movement occupies the edge position inside the pied-piped phrase.

2. Inventory of pied-piped phrases in Finnish
The pied-piped phrases with a discourse-related edge position include DPs, PPs, APs, and AdvPs. In addition to these phrase types, several non-finite clause types have an initial discourse-related edge position that allows internal wh-movement to the edge and they undergo pied-piping.

3. Different ways of obtaining the edge position
Finnish data suggest that the edge position can be filled in three ways; (i) base-generation; (ii) A-movement; and (iii) A’-movement. Once the edge is filled, future internal wh-movement to the edge is not possible. The different phrase types display the three strategies to a varying extent. However, all the three strategies are evident in the Finnish PPs.
4. **The $\phi$-agreement constraint on subject extraction**

Agreement blocks the extraction of the subject from the specifier position in Finnish. This holds for the finite CPs, PPs, and non-finite clauses. Constructions that show subject-verb agreement (or its equivalent, the possessive suffixes), do not allow extraction, whereas equivalent constructions without agreement (or with default agreement) allow extraction.

5. **Finnish obeys the Adjunct Island Condition**

The syntactic complement position allows extraction (regardless of the type of the head), while the adjunct position is an extraction island (Ross, 1967; Huang, 1982a). This is especially clear for phrases that can occur in either position (certain PPs and nonfinite clauses): when it can be shown independently that the phrase occupies the adjunct position, extraction is not available, while the contrary is true for the complement position.

The investigation of the $A'$-movement properties of Finnish now begins by examining finite clauses in the next chapter. We return to a discussion of these findings, with a summary of the critical pieces of data, in Chapter 10.
Chapter 5

A′-movement and the finite CP in Finnish

5.1 Introduction

This chapter examines the left periphery of the Finnish finite clause.\(^\text{36}\) The Finnish declarative sentence contains (at least) two positions that carry information-structural content: a position for topic/theme and a higher contrastive focus position, which can host also other discourse-related elements, such as wh-phrases (Vilkuna, 1989, 1995; Vainikka, 1989; Vallduvi & Vilkuna, 1998; Holmberg & Nikanne, 2002; Kaiser, 2006). These positions were briefly introduced in Section 2.6. Whereas the topic is associated with T(ense)-projection, contrastively focused elements occupy a higher position in the C-domain. This chapter concentrates on the properties of this higher position, which has been referred to as the “edge” of C.\(^\text{37}\)

As outlined in Section 3.9, the finite C(omplementizer) head encodes the mood and the force of the sentence and probes, for example, wh-movement. However, following the split CP-hypothesis by Rizzi (1997), the CP-layer may be split into several projections, which encode scope-discourse properties. The examination of the Finnish left periphery provides evidence for more than one functional projection in the CP-layer as well. In this chapter, I will argue that the structure (114) provides an analysis for the left periphery of a finite clause in Finnish. In this figure, the C-projection is split into two projections: an optional Focus projection on the top of T and a Force head above the FocusP (see Kenesei, 1992, 1994; Koskinen, 1998, p. 55, for a similar split analysis).

\(^{36}\)In writing this chapter, I have benefited from the seminar Universal Grammar and Finnish syntax, organized by the Cognitive Science unit at the University of Helsinki during 2010 and 2011.

\(^{37}\)Traditionally, the landing cite of A′-movement has been the specifier of C, or the specifier of some other functional projection, such as the FocusP. However, I will here refer to the peripheral position(s) as edges, following Chomsky (2000, p. 121)
In the structure (114) above, the FocusP corresponds to the traditional contrastive focus position. The specifier of the Focus hosts the A'-moved elements, such as the wh-phrase, and the Focus head is a landing site for discourse-related head-movement. Furthermore, the structure above allows for the analysis of certain finite complements (indirect questions and other parallel constructions), which involve both an A'-moved element to the specifier of the FocusP and an overt complementizer on Force. I will nevertheless continue to use the term “edge of C” in parallel with the FocusP to denote the discourse-related position(s) at the periphery of the Finnish finite clause.

As mentioned in Section 2.6, the position of the sentence topic coincides with the canonical position of the nominative agreeing subject in Finnish. I will assume that this position is the specifier of T. In addition, I adopt the proposal by Holmberg & Nikanne (2002) that this position is occupied by the nominative subject or, if the subject is focused or not present, by some other referential element. The discourse-properties of the topic position will not be discussed further in this study.

This chapter begins with an examination of the discourse properties at the left peripheral positions of Finnish finite clauses (Section 5.2). Section 5.3 investigates the discourse features associated with movement to the left periphery, and the functional projections at the left periphery are discussed in Section 5.4.

In addition to the analysis of the left periphery of the Finnish finite clause, this chapter includes an investigation of the other A'-movement properties of finite clauses. Section 5.5

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38In Holmberg & Nikanne (2002), the finite clause topic occupies the specifier of the FinP on the top of the TP. See also Koskinen (1998, p. 48), who subsumes the T projection under a Topic/Agr projection.
demonstrates that although a whole CP may move in Finnish, it does not undergo pied-piping in wh-questions. Finally, Section 5.6 explores extraction from finite complement clauses. In brief, Finnish finite complement clauses are weak islands in that they allow extraction of complements and adjuncts but extraction of subjects is more restricted. In particular, Finnish CPs provides support for the $\phi$-agreement constraint on subject extraction (113) that is found on page 70: extraction of an agreeing nominative subject is more restricted than extraction of the object argument, adjuncts, and subjects that do not trigger full agreement on the finite verb. Section 5.7 summarizes the topics covered in this chapter.

5.2 Discourse-scope properties at the edge of C

Movement to an edge of a phrase can convey different discourse-related information in different languages. Examples of such information include topic-comment, presupposition, focus, and specificity (Chomsky, 2000). This and the following sections investigate the type of discourse-related information that can be associated with the left periphery of the finite clause in Finnish. At this point, let us restate the types of $A'$-movement that target the edge of C in Finnish. These types include the wh-movement in wh-questions and in relative clauses under (115); the $A'$-movement of phrases hosting one of the “second-position” clitic particles -kO, -hAn, and -pA under (116); and the $A'$-movement triggered by contrastive focus in (117). In Finnish, the contrastive focus movement is not triggered by any of the morphologically overt properties of the contrasted element. Assuming the structure in (114), all of these examples involve $A'$-movement of an element to the specifier of FocusP.

(115) a. Kenet Pekka tapasi _?
   who.ACC Pekka.NOM met
   ‘Whom did Pekka meet?’

   b. Merja tieisi, kenet Pekka tapasi _.
   Merja.NOM knew who.ACC Pekka.NOM met
   ‘Merja knew whom Pekka met.’

   c. mies, jonka Pekka tapasi _.
   man who.ACC Pekka.NOM met
   ‘a/the man whom Pekka met’

(116) a. Merjan-kO Pekka tapasi _?
   Merja.ACC-kO Pekka.NOM met
   ‘Was it Merja whom Pekka met?’

   b. Merjan-hAn Pekka tapasi _.
   Merja.ACC-hAn Pekka.NOM met
   ‘It was Merja whom Pekka met.’
c. Merjan-pa Pekka tapasi _!
   Merja.ACC-pA Pekka.NOM met
   ‘It was Merja whom Pekka met!’

(117) Merjan Pekka tapasi _.
   Merja.ACC Pekka.NOM met
   ‘It was Merja whom Pekka met.’

The Focus head is also a target of the discourse-induced head movement, as is evident in (118a-c). In (a), the auxiliary verb has been cliticized to the question particle -kO; in (b), the fronted negation attaches to the -hAn-particle. Finally, in (c), the negation receives the contrastive focus. Although the main concern of this thesis is phrasal movement, this section will investigate head movement as well.

(118) a. Oli-ko Pekka _ tavannut Merjan?
    had-kO Pekka.NOM meet.PTCP.SG Merja.ACC
    ‘Had Pekka met Merja?’

b. Ei-hän Pekka _ tavannut Merjaa.
    not.3SG-hAn Pekka.NOM meet.PST.SG Merja.ACC
    ‘Pekka didn’t meet Merja, did he?’

c. Ei Pekka _ tavannut Merjaa!
    not.3SG Pekka.NOM meet.PST.SG Merja.ACC
    ‘Pekka did not meet Merja!’

Finnish clitic particles form an interesting research question on their own: they interact with each other and can be stacked on a fronted phrase. Section 5.3 will outline some basic semantic and syntactic properties of the clitic particles.

Finally, I will consider briefly the head movement associated with imperative force illustrated in the sentences (119a-b) below. The imperative is in Finnish formed by fronting the imperative verb. In figure (114), the imperative verb would target the Focus head.

    you.NOM move.PRS.2SG city.ILL
    ‘You will move to the city.’

b. Muuta (sinä) _ kaupunkiin!
    move.IMP.2SG you.NOM city.ILL
    ‘(You) move to the city!’

In addition to the discourse-properties, the edge of C is associated with the logical scope of the fronted element, as was discussed earlier in Section 4.2. The scope changes of the wh-phrases can be observed in sentences (120a-b). In (a), the object of the embedded clause occupies the edge of the embedded clause, forming an indirect question. In (b), the object wh-phrase occupies the position at the edge of the matrix clause, forming a content question.
(120) a. Pekka arvasi [kenet Merja tapasi _].
Pekka.NOM guessed who.ACC Merja.NOM met
‘Pekka guessed who Merja met.’
Pekka guessed {for which x:} Merja met x

b. Kenet Pekka arvasi [että Merja tapasi _]?
who.ACC Pekka.NOM guessed that Merja.NOM met
‘Who did Pekka guess that Merja met?’
{For which x:} Pekka guessed that Merja met x

On the other hand, a single in-situ wh-phrase receives an echo question interpretation, as illustrated below. It is typical that the echoed wh-phrase receives prosodic emphasis.

(121) a. Mitä Pekka osti?
what.PAR Pekka.NOM bought
‘What did Pekka buy?’

b. Pekka osti mitä?
Pekka.NOM bought what.PAR
‘Pekka bought what?’

These observations, together with the contrast between the moved wh-phrase and the echo-reading of the in-situ wh-phrase in the example (121b), show that to assure a correct interpretation in Finnish, a single wh-phrase has to move overtly to the edge of C.39 However, multiple questions form an exception. For Finnish multiple questions, only one of the wh-phrases moves to the edge of C (Hakulinen & Karlsson, 1979, p. 283). This is illustrated for a single-pair question in (122a) and for a pair-list question in (b).40 Furthermore, if none of the wh-phrases occupies the edge of C, as in (c), the sentence is not a wh-question.

(122) a. Kuka osti mitä?
who.NOM bought what.PAR
‘Who bought what?’

b. Mitä Pekka osti milloinkin?
what.PAR Pekka.NOM bought when.kin
‘What did Pekka buy when?’

c. Pekka osti mitä tavaraita milloinkin.
Pekka.NOM bought which.PAR things.PAR when.kin
‘Pekka bought various things at various times.’

39Note that a wh-phrase with echo interpretation can occur at the edge of C in Finnish. The word order of an echo question often repeats the word order of the previous utterance and therefore, it is possible that the echoed element resides at the edge of C.

40The -kin-particle in Finnish has a special role of introducing a pair-list interpretation to a multiple question such as (123b). Without the -kin-particle, the multiple question is answered by using a single pair. In declarative sentences, the -kin-particle functions as a focus particle with the meaning ‘also’ or ‘too.’
It is possible that Finnish multiple questions involve an Agree between C and the in-situ wh-phrases, or some form of “covert movement” (movement without a phonological outcome) (Huhmarniemi & Vainikka, 2010). However, an analysis of multiple questions is beyond the scope of this thesis.

Finally, the examples under (123) indicate that the second wh-phrase cannot move overtly to the edge of C (see also Koskinen, 1998, pp. 57-58). The discussion in this section therefore illustrates that Finnish is a single wh-fronting language, as opposed to wh-in-situ languages, such as Chinese and the multiple wh-movement languages such as Bulgarian (see Section 4.2 for the relevant examples).

(123) a. *? Kuka mitä osti _?  
    who.NOM what.PAR bought  
    ‘Who bought what?’

b. * Kenelle kuka osti kirjan _?  
    who.ALL who.NOM bought book.ACC  
    ‘Who bought a book for whom?’

The ban on the multiple wh-movement in (123a-b) is discussed in connection with the fine structure of the Finnish left periphery in Section 5.4. The conclusion is that the left periphery of C contains only one position that is available for A’-movement or for a discourse-related head movement. I will propose later that the wh-phrase also encodes scope in edges other than C (see Section 10.2).

5.3 Clitics and features at the edge of C

As mentioned in Section 5.2, Finnish has three second-position clitic particles that occur in the left periphery of a finite clause. These particles trigger both phrasal and head movements to the edge of C. Section 5.3.1 provides a short characterization of each clitic particle. Previous research on the syntax of Finnish second-position clitic particles includes Hakulinen (1976); Vainikka (1989); Nevis (1986); Holmberg (2000); and Holmberg (2008).

The clitic particles interact with each other as well as with other A’-moved elements at the left periphery. Section 5.3.2 describes this interaction and provides a feature specification for the elements at the edge of C.

5.3.1 Introduction to Finnish second-position clitic particles

The three particles that trigger movement to the edge of C are the question particle -kO and the focus particles -hAn and -pA. In addition, Finnish has two other peripheral clitics, -ka and -s, which have more restricted distributions.
First, the interrogative -kO-particle appears in yes/no questions. This particle introduces phrasal movement, as in example (124a), as well as head movement, such as the movement of the auxiliary in (b).

(124) a. Sä kirjaa-ko Pekka luki _?  
    that.PAR book.PAR-kO Pekka.NOM read.PST.3SG  
    ‘Was it that book that Pekka.NOM was reading?’

b. On-ko Pekka _ kotona?  
    is.PRS.3SG-kO Pekka.NOM home.ESS  
    ‘Is Pekka at home?’

One of the meanings of the -hAn-particle is to express that the sentence conveys meaning that is already shared by the speakers (Hakulinen, 1976; Hakulinen et al., 2004, §830) (for other functions, see Nevis, 1986, p. 18 and Hakulinen et al., 2004, §830). The examples below show that the -hAn-particle attaches to both heads and phrases.

(125) a. Sä kirjaa-han Pekka luki _.  
    that.PAR book.PAR-hAn Pekka.NOM read  
    ‘It was that book that Pekka was reading.’

b. Tulee-han Pekka _ mukaan matkalle?  
    come.PRS.3SG-hAn Pekka.NOM along trip.ALL  
    ‘Pekka is coming along on the trip, isn’t he?’

The third clitic particle examined here is -pA, which expresses an additional emphasis on a contrastive or an otherwise unexpected meaning. In the sentences below, the usage of -pA is related to exclamative force; see Hakulinen et al. (2004, §833) for other functions of the -pA-particle.

(126) a. On-pa kylmä!  
    is.3SG-pA cold  
    ‘It sure is cold!’

b. Minä menen ensin. – Minä-pä(-s)!  
    I.NOM go first I.NOM-pA(-s)  
    ‘I’ll go first. – No, me!’

Finnish has two other clitic particles that attach to the first constituent of the sentence, but are more restricted in their usage: -s and -ka. The particle -s is attached to the other clitic particles such as to the -pA-particle in imperative in (127a). In addition, -s-particle can appear on a fronted wh-phrase, as in (b) (Hakulinen et al., 2004, §837-838).

(127) a. Tule-pa-s tänne!  
    come.IMP-pA-s here  
    ‘(Come on,) come here!’
b. Mikä-s hänelle tuli?
   what.NOM-s s/he.ALL came?
   ‘What’s wrong with him/her?’

The -s-particle differs from the other particles in that it cannot alone license movement to the edge. For example, it cannot attach to a fronted main verb in (128b). On the other hand, it does not target contrastively focused elements, as in (c). I will return to these properties of the -s-particle in the next section.

(128) a. Pekka oli kirjoista kiinnostunut.
   Pekka.NOM is.PST.3SG books.ELA interested
   ‘Pekka was interested in books.’

b. * Oli-s Pekka kirjoista kiinnostunut.
   is.PST.3SG-s Pekka.NOM books.ELA interested

c. * Kirjoista-s Pekka oli kiinnostunut _.
   books.ELA-s Pekka.NOM is.PST.3SG interested

The final clitic particle, the particle -ka, attaches to a fronted negation, such as the imperative form in (129). In complement clauses, the -ka-particle functions as a conjunction ja, ‘and’ (Korhonen, 1993, p. 67), as in examples (130a-c). However, the -ka-particle does not attach to other constituents apart from negation.

(129) Et-kä tule!
   not.2sg-ka come.PRS.SG
   ‘You are not coming!’

(130) a. Pekka tuli toisiin ajatuksiin, ja ei ostanut autoa.
   Pekka.NOM came second.thoughts.ILL and not.3SG buy.PST.SG car.PAR
   ‘Pekka had second thoughts and didn’t buy a/the car.’

b. Pekka tuli toisiin ajatuksiin, ei-kä ostanut autoa.
   Pekka.NOM came second.thoughts.ILL not.3SG-ka buy.PST.SG car.PAR
   ‘Pekka had second thoughts and didn’t buy a/the car.’

c. * Pekka tuli toisiin ajatuksiin, ei ostanut autoa.
   Pekka.NOM came second.thoughts.ILL not.3SG buy.PST.SG car.PAR

In most existing analyses of the second-position clitic particles, the particle is placed on the C-head or on some other head in the C-domain and cliticized to the element as a consequence of movement. However, syntactically, the clitic particles are able to target a subconstituent of the fronted phrase, such as the argument DP within a fronted PP in example (131) (Hakulinen et al., 2004, §134). Holmberg (2008) investigates the placement of the clitic particle -kO within a A′-moved phrase and proposes an analysis in which
the -kO-particle is base-generated within the constituent that undergoes movement.\footnote{Another approach in which the data in (131) is taken into account is proposed by Nevis (1986). He places the particles into the C-domain and offers a syntactic approach for the placement of the clitic particle within the fronted phrase.} I will adopt Holmberg’s proposal here; the placement of the clitic particle within a fronted constituent will be further discussed in Section 10.5.

(131) [Pekkaa-han varten] Merja osti pyörän!
     Pekka.PAR-hAn for Merja.NOM bought bike.ACC
     ‘It was for Pekka that Merja bought the bike!’

Finally, it should be noted that certain clitic particles that display similar properties as the second-position clitic particles do not trigger movement to the left periphery. These particles are -kin and its polarity counterpart -kAAn, which are illustrated under (132) below. These particles can be translated as ‘too, also’ and ‘either.’ They belong to the class of “focus particles” provided in Hakulinen et al. (2004, §839). According to Holmberg (2008), the particle -kin is associated with a focus feature that may license the prosodic focus within a phrase.

(132) a. Pekka osti leipää-kin.
     Pekka.NOM bought bread.PAR-kin
     ‘Pekka bought some bread as well.’

b. Pekka ei ostanut leipää-kään.
     Pekka.NOM not.3SG buy.PST.SG bread.PAR-kAAn
     ‘Pekka didn’t buy any bread either.’

c. Pekka oli-kin ostanut leipää.
     Pekka.NOM have.PST.3SG-kin buy.PST.SG bread.PAR
     ‘Pekka had bought some bread after all.’

The next section will introduce some central properties of the placement and interaction of the clitic particles within the moved elements.

5.3.2 Discourse features at the left periphery

This section examines the distribution of Finnish second-position clitic particles within a finite clause. First of all, these particles cannot occur in-situ, as illustrated in (133). Second, only one particle of each type is allowed inside a clause (Hakulinen & Karlsson, 1979, p. 330); this is illustrated in (134a). Nevertheless, example (134b) shows that sometimes the different clitic particles co-occur on a fronted constituent.

(133) *Merja osti pyörän Pekkaa varten-han.
     Merja.NOM bought bike.ACC Pekka.PAR for-hAn

(134) a. Pekkaa-han varten Merja osti pyörän.
     Pekkaa-hAn.PAR for Merja.NOM bought bike.ACC
     ‘It was for Pekka that Merja bought the bike!’

b. Merja osti pyörän Pekkaa-han.
     Merja.NOM bought bike.ACC Pekka.PAR-hAn
     ‘Merja bought the bike for Pekka.’
The distribution of the clitic particles on various types of words is summarized in Table 5.1 on page 83; the table includes some colloquial forms, but some rarely used combinations have been omitted. Only the possible clitic combinations are shown.\textsuperscript{42} The distribution of the clitic particles occurring on a wh-word are presented later in Table 5.2. Relative clauses are not included in the tables because the clitic particles do not normally attach to relative pronouns.

Table 5.1 reveals two basic patterns of clitic combinations. First, the particles -kO and -pA do not co-occur. In the minimalist framework, the complementary distribution can be accounted for by assuming that the -kO and -pA-particles represent the different values of one syntactic feature. Assuming that -kO expresses an interrogative force, I will refer to this feature as [force].

Second pattern evident from Table 5.1 is that the -hAn-particle can either occur alone on a lexical item or be attached to any of the other clitic particles, except for the particle -s.\textsuperscript{43} In fact, -hAn and -s are in a complementary distribution in Table 5.1. This suggests that, like the particles -kO and -pA, they also represent different values of the same discourse feature. In addition, these two particles have one important common property: unlike -kO and -pA, they are also frequently attached to other particles and wh-phrases, as we will see presently. Finally, the particle -ka has a more restricted distribution than the other

\textsuperscript{42} The distribution of the particles presented in Table 5.1 is in line with the distribution provided in Hakulinen et al. (2004, §131). Hakulinen et al. (2004) present a table with less details. In the clitic combinations, -kO, -ka, and -pA form a “middle group” and -hAn and -s form a second group. The elements in the two groups never co-occur, except in some lexicalized forms.

\begin{tabular}{ccc}
1. & 2. & \\
\hline
-kO & -hAn & \\
\textit{word} & -pA & -s \\
-ka & & \\
\end{tabular}

\textsuperscript{43} This restriction is not phonological: forms such as (1) can sometimes be encountered in colloquial speech.

(1) mikä-s-hän, ketä-s-hän
what.NOM-s-hAn who.PAR-s-hAn
particles. However, an in-depth discussion of this particle is beyond the scope of the present analysis.

We will now turn to the distribution clitic particles on a wh-phrase presented in Table 5.2. This distribution is similar to that of the plain DP in Table 5.1 and the differences relate to the usage of the -s-particle. In the following, I will discuss some example sentences that involve both a wh-phrase and a clitic particle.

First, discourse contexts such as (135) illustrate that the -kO-particle can attach to a wh-word. Even so, these forms are restricted to echo questions (Kenesei, 1994).

(135) – Mitä Pekka osti?
what.PAR Pekka.NOM bought
‘What did Pekka buy?’

– Mitä-kö Pekka osti?
what.PAR-kO Pekka.NOM bought
‘Did you ask what Pekka bought?’

On the other hand, when the -hAn-particle attaches to a wh-phrase, the interpretation of the sentence changes from an interrogative to an indirect question or a request. This is indicated by the English translations for the sentences below.

(136) a. Mitä Pekka osti _?
what.PAR Pekka.NOM bought
‘What did Pekka buy?’

b. Mitä-hän Pekka osti _?
what.PAR-hAn Pekka.NOM bought
‘I wonder what Pekka bought?’

‘I would like to know / Could you tell me what Pekka bought?’

The presence of the -hAn-particle in (136b) does not seem to cause the sentence to lose its interrogativity. Nonetheless, syntactically, the type of the clause has changed. Let us consider the examples under (137). Whereas the verb can select an interrogative complement directly in (a), the presence of a -hAn-particle prevents the selectional relation in (b). However, the sentence can be rescued by using a complementizer että, ‘that,’ as in (c), which is obligatory in declarative sentences. I will demonstrate later in Section 5.4 that the insertion of että is not caused by the structural properties of the complement CP: in all the examples below, the phrase at the edge occupies the same position. The presence of the -hAn-particle therefore affects the sentence type, which is here expressed by the feature [force].

(137) a. Pekka mietti mitä Merja osti _.
Pekka.NOM wondered what.PAR Merja.NOM bought
‘Pekka wondered what Merja bought.’
<table>
<thead>
<tr>
<th>Plain DP</th>
<th>Merja</th>
<th>-\textit{hAn}</th>
<th>Merjahan</th>
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<tr>
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<td>Merjako, Merjahan</td>
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<td>Merja</td>
<td>-\textit{pA} -\textit{hAn}</td>
<td>Merjapa, Merjapahan</td>
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</tr>
<tr>
<td>Merja</td>
<td>-\textit{pA} -\text{s}</td>
<td>Merjapa, Merjapas</td>
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</tr>
<tr>
<td>Merja</td>
<td>-\textit{kO} -\text{s}</td>
<td>Merjakos, Merjakohan</td>
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<table>
<thead>
<tr>
<th>Auxiliary/ main verb ‘is’</th>
<th>on</th>
<th>-\textit{hAn}</th>
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<tr>
<td>on</td>
<td>-\textit{kO} -\textit{hAn}</td>
<td>onko, onkohan</td>
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<tr>
<td>on</td>
<td>-\textit{pA} -\textit{hAn}</td>
<td>onpa, onpahan</td>
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<td>on</td>
<td>-\textit{pA} -\text{s}</td>
<td>onpa, onpas</td>
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<tr>
<td>on</td>
<td>-\textit{kO} -\text{s}</td>
<td>onko, onkos</td>
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<td>ei</td>
<td>-\textit{pA} -\textit{hAn}</td>
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<tr>
<td>ei</td>
<td>-\textit{ka} -\textit{pA} -\textit{hAn}</td>
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<th>Imperative verb ‘come.IMP’</th>
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<th>Adverbal ‘then’</th>
<th>silloin</th>
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<tr>
<td>silloin</td>
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<td>silloin</td>
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<tr>
<th>Conjunctions ‘because, although, if’</th>
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<th>koskapa, ?koskapahan</th>
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<td>-\textit{pA} -\text{s}</td>
<td>jospa, jospas</td>
<td></td>
</tr>
<tr>
<td>jos</td>
<td>-\textit{kO}</td>
<td>Josko</td>
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</tbody>
</table>

| Other words ‘maybe’ | ehkä | -\textit{pA} | ehkäpä |

Table 5.1: The order of sentential clitic particles inside a word
Table 5.2: The clitic particles on a wh-word

<table>
<thead>
<tr>
<th>wh-word</th>
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<td>-kO</td>
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<tr>
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<td>-hAn</td>
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<td>mitä</td>
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<td>-pA</td>
<td>-hAn</td>
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<td>-pA</td>
<td>-hAn</td>
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<tr>
<td>mitä</td>
<td></td>
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<tr>
<td>-s</td>
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</tbody>
</table>

Table 5.2: The clitic particles on a wh-word

b. * Pekka mietti mitä-hän Merja osti _.
   Pekka.NOM wondered what.PAR-hAn Merja.NOM bought

c. Pekka mietti että mitä-hän Merja osti _.
   Pekka.NOM wondered that what.PAR-hAn Merja.NOM bought
   ‘Pekka pondered on what it was that Merja (had) bought.’

However, in other contexts, the -hAn-particle may have other functions. As example, (138a) illustrates, the -hAn-particle can attach to an imperative clause without altering the imperative interpretation. In this case, the -hAn-particle softens the tone of the imperative, much in the same manner as the particle -s in (b). Furthermore, a similar softening effect can be observed when the -pA-particle attaches to the imperative clause in (c).

(138)  Tulkaa-han (te) _ tänne!
       come.IMP.3PL-hAn 3PL _ here.ILL
   ‘Come (over) here (please)!’

Tulkaa-s (te) _ tänne!
   come.IMP.3PL-s 3PL _ here.ILL
   ‘Come (on over) here!’

a. Tulkaa-pa (te) _ tänne!
   come.IMP.3PL-pA 3PL _ here.ILL
   ‘(Why don’t you) come (over) here!’

The -pA-particle also softens the tone of the question in example (139a). I proposed earlier that the -pA-particle gives rise to an exclamative interpretation. However, when the -pA-particle attaches to a wh-phrase, the exclamative use is not available at all; this is illustrated in (b). The example (a) is thus an instance of a different discourse function of the -pA-particle apart from exclamative force.

(139)  a. Mitä-pä Pekka osti _?
       what.PAR-pA Pekka.NOM bought
       ‘Tell me, what did Pekka buy?’

b. * Mitä-pä Pekka osti _!
       what.PAR-pA Pekka.NOM bought
The above examples (138) and (139) suggest that the particles \(-pA\) and \(-hAn\) have a dual function in a sentence: to encode the sentence type in some context and alter the tone of the expression in others.

I will now summarize the properties of clitics and offer a proposal concerning the formal features associated with each clitic. Two properties that appear to function in the background of the second-position clitic phenomena. The first of these is sentence force (declarative, interrogative, imperative, and exclamative) that is encoded with a feature \([\text{force}]\). The second property is the particles that alter the tone of a particular sentence force, as was illustrated in examples (138a-c).

Whereas the feature \([\text{force}]\) triggers movement of the hosting phrase to the edge of a C, the particles that encode only a tone are not alone able to induce movement (recall that the \(-s\)-particle cannot trigger movement alone). This means that these particles merely attach to the constituents that encode some sentence force at the left periphery, as was shown in examples (138). In addition to the movement associated with the second-position clitic particles and wh-phrases, \([\text{force}]\) triggers the head movement in imperative sentences. The distribution of these properties on other fronted elements is provided in Table 5.3. The relative pronouns are not included in the table.

<table>
<thead>
<tr>
<th></th>
<th>Sentence force [force]</th>
<th>Tone</th>
<th>Trigger movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-kO)</td>
<td>Interrogative</td>
<td>–</td>
<td>✓</td>
</tr>
<tr>
<td>(-pA)</td>
<td>Exclamative</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(-hAn)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(-s)</td>
<td>–</td>
<td>✓</td>
<td>–</td>
</tr>
<tr>
<td>Wh-phrase</td>
<td>Interrogative</td>
<td>–</td>
<td>✓</td>
</tr>
<tr>
<td>Imperative verb</td>
<td>Imperative</td>
<td>–</td>
<td>✓</td>
</tr>
<tr>
<td>Contrastive element</td>
<td>–</td>
<td>–</td>
<td>Optionally</td>
</tr>
</tbody>
</table>

Table 5.3: Formal properties associated with left periphery of C in Finnish

Table 5.3 shows that if a particle expresses sentence force, it moves. One movement type, however, is left without a trigger in Table 5.3 – contrastive focus. First, contrastive focus is not associated with force. Second, contrastive focus movement is optional; it

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44Hakulinen et al. (2004, § 793) refer to this usage of the second-position clitic particles as “sävypar-tikkeli”, particles that express the tone of the expression, comparable to German modal particles (‘Abtö-nungsartikel’) (see Hakulinen et al., 2004, §821 and §829).
can also be implemented in situ via the prosodic emphasis, as shown in the examples below (Hakulinen & Karlsson, 1979, p. 308).\textsuperscript{45}

\begin{enumerate}
\item Sokeria Pekka halusi \_.
\begin{flushright}
sugar.Par Pekka.Nom wanted
\end{flushright}
'It is sugar that Pekka wanted.'
\item Pekka halusi sokeria.
\begin{flushright}
Pekka.Nom wanted sugar.Par
\end{flushright}
'It is sugar that Pekka wanted.'
\end{enumerate}

To account for this type of optional movement, I will assume here that contrastive focus is associated with an uninterpretable \[ufocus\]-feature on the moved constituent and this renders the element active and available for movement. However, focus can be licensed-in situ as well, as the examples from contrastive focus in (140a-b) suggest. Echoed wh-phrases and \(-kin\)-particles (examples (132a-b)) can be seen as other instances of licensing the focus-feature in situ (see Holmberg, 2008, for the focus-feature on the \(-kin\)-particle).

In other words, movement to the left periphery of C can be triggered by the feature \[force\] or the feature \[focus\]. However, only movement triggered by \[force\] is obligatory. This proposal can now be examined in the light of the implementation of wh-movement that was presented in Sections 3.9 and 4.3. It was stated that the derivation of a wh-question involves feature \[Q\] that encodes interrogative force and \[wh\]-feature that makes the wh-phrase active and available for movement. It is possible to maintain the same basic mechanism for \(A'\)-movement in terms of the features proposed here. The \[Q\]-feature is replaced with \[force\]. In parallel, the \[uwh\]-feature of the wh-phrase is replaced with \[ufocus\]. The uninterpretable \[ufocus\]-feature renders the wh-phrase active and available for movement. Focus has been proposed to underlie movement to the edge of C in several languages (Rochemont, 1986; Horvath, 1986, 1995; É. Kiss, 1995; Bošković, 2002). Discussion for the Finnish focus movement to C-domain can be found in Kenesei (1992, 1994); Vilkuna (1995); and Koskinen (1998, p. 50-55). To summarize, I propose that the focus-feature does not alone necessitate movement in Finnish; movement is obligatory only when the structure contains an uninterpretable \[uforce\]-feature. Finally, the left periphery of C can involve particles that alter the tone of the expression, but these features do not themselves trigger movement. Instead, they always co-occur with a movement triggered by \[force\] (or as base-generated on the complementizer).

Having now established a proposal for the feature constellation of the Finnish C-domain, I will move to examine the structural configuration and the functional heads that host these features.

\textsuperscript{45}Nevertheless, in-situ type focus and contrastive focus have some differences, see Vallduví & Vilkuna (1998).
5.4 The structure of C-domain in Finnish

The order of the discourse-related functional projections in Finnish may be seen to belong to a universal hierarchy of the functional projections in the CP-layer proposed by Rizzi (1997). I will briefly present Rizzi’s model here.\(^{46}\) The CP-layer in Rizzi (1997) includes a Force head on the top of the clause structure (which encodes how the sentence relates to the speech act), and a Finiteness head in the bottom of the CP-layer. In between these two heads are two Topic layers and a Focus layer, which may host discourse-configurational elements. This structure is illustrated in (141). Rizzi’s proposal for the split CP-layer was originally designed for the analysis of the Italian left periphery. However, the existence and order of the functional projections has received support from other languages.\(^{47}\)

\(^{46}\)Rizzi’s proposal is part of a larger shift in the analysis of functional projections. Starting from the work of Pollock (1989), the functional IP-projection was split into a number of functional projections such as tense and agreement. Similarly, the VP-layer was split into a number of separate heads (Larson, 1988; Hale & Keyser, 1993; Pesetsky, 1995). Various proposals arose to split the CP-layer as well (Culicover, 1992; Rizzi, 1997; Cinque, 1999).

\(^{47}\)Rizzi’s fine structure of the CP-layer started a line of research known as the “cartographic approach” to syntactic structures (Cinque, 2002; Rizzi, 2004; Belletti, 2004). The cartographic approach strives to determine a universal order and occurrence of the different functional projections in the left periphery of different types of phrases. For instance, it has been suggested that the D-domain of nominals is similar to the clausal C-domain in containing discourse-related functional heads such as topic, focus and illocutionary force (Abney, 1987; Giusti, 2002; Haegeman, 2004; Aboh, 2004b, among others). The cartographic approach has also been extended to other phrases, such as PPs (Asbury et al., 2008; Cinque & Rizzi, 2010). I will suggest in the forthcoming chapters that even though there is evidence of a specific discourse-related projection in Finnish C-domain, the same does not hold for other phrase types with a discourse-related edge.

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As can be seen in Figure (141), the Focus projection is attached to the top of the Topic projection. In this section, I will not address the higher Topic projection, but concentrate on a subpart of the hierarchy. Furthermore, the lower Topic Phrase corresponds to the Finnish Tense Phrase, as we have seen. I argue for a structure (142) for the Finnish C-domain. The highest projection ForceP relates the finite clause to the speech act and it is the ForceP that is selected by the finite verb in case of finite complement clauses.
As already mentioned, the Finnish C-domain contains at most one projection that is the target of both the discourse related head movement and A'-movement (Vilkuna, 1989, 1995; Vainikka, 1989; Kenesei, 1994; Koskinen, 1998); the projection is here referred to as FocusP. I assume that the Focus head contains an uninterpretable unvalued [uforce] feature which acts as a probe for an interpretable counterpart feature in its c-commanding domain. If the goal element is, for example, a wh-phrase with an interpretable feature [force], as in Figure (143), the wh-phrase enters into Agree with the Focus-head. As a consequence, the uninterpretable feature [uforce] of the probing Focus-head is deleted. In addition, the Focus head has an EPP-feature that triggers the movement of the wh-phrase to the specifier of Focus.

(143) Agree and A'-movement to the Focus-projection

The Focus-head thus bears an uninterpretable feature [uforce] that is in Finnish always associated with an EPP-feature. In Finnish, head movement and phrasal movement to the Focus-projection are mutually exclusive. This is predicted if both movement types are triggered by the same feature.\footnote{Traditionally, there have been proposals that only one element can be moved to the C-projection in Finnish (Vilkuna, 1989; Vainikka, 1989).} Let us now review the relevant data on this topic.

First, if the left periphery of the finite clause contains a focused phrase with a second-position clitic particle, the wh-movement to the same position is not available. Example (144b) shows that the wh-phrase cannot occupy a position below a fronted phrase that hosts the -hAn-particle. Example (c) illustrates the ungrammaticality of the wh-movement past a constituent that occupies the specifier of FocusP.\footnote{Vilkuna (1989, p. 37) shows that contrasted elements and wh-phrases cannot co-occur at the edge of C. This restriction can be accounted for by assuming that wh-elements and contrasted elements compete for the same position (cf. Manninen, 2003b, p. 65).}
Examples (145a-c) show that crowding the left periphery of the finite clause with head movement prevents the A′-movement to the edge in exactly the same way as phrasal movement (see also the examples in Koskinen, 1998, pp. 56-57).

This phenomenon receives a rationalization if we assume that movement is feature-driven: only one element enters into Agree with the Focus-head and moves to the FocusP. As a consequence, the uninterpretable [uforce]-feature is deleted and the movement of other constituents is not probed.

Having considered the movement to FocusP, we will now continue with the properties of the overt complementizer että, ‘that.’ The usage of a complementizer is obligatory in declarative complement clauses, as in (146a). In addition, the presence of an overt complementizer että is commonplace in indirect questions, especially in colloquial speech, as examples (b-c) indicate (see also Manninen, 2003b, pp. 66-67). As is evident, the complementizer appears to co-occur with the fronted wh-word.
On the other hand, examples (147)-(148) are evidence that the overt complementizer is obligatory in the declarative complement clauses involving other types of A′-movement to the specifier of the FocusP. This is shown for the A′-movement induced by the -hAn-particle in (147a-b) and by the contrastive focus in (148a-b). This suggests that the word *että* has a role in introducing declarative clauses and the optional insertion of *että* is restricted to indirect questions.50

(147) a. Pekka arvasi, että kirjan-han Merja oli ostanut_.
     Pekka.NOM guessed that book.ACC-hAn Merja.NOM had bought
     ‘Pekka guessed that it was a book that Merja had bought.’

     b. * Pekka arvasi, kirjan-han Merja oli ostanut_.
        Pekka.NOM guessed book.ACC-hAn Merja.NOM had bought

(148) a. Pekka arvasi, että Merjan Juha tapasi_.
     Pekka guessed that Merja.ACC Juha.NOM met
     ‘Pekka guessed that it was Merja who Juha had met.’

     b. * Pekka arvasi, Merjan Juha tapasi_.
        Pekka guessed Merja.ACC Juha.NOM met

Thus, whereas indirect questions take *että* optionally (examples (146b-c)), declarative complements require it regardless of whether the left periphery contained a focused element, as in (147)-(148) or not, as in (146a). I propose that the complementizer *että*, ‘that’, complementizer occupies a higher functional projection, referred to as ForceP in Figure (142)/(149) (for similar proposals for Finnish, see Kenesei, 1992, 1994; Koskinen, 1998; Brattico & Huhmarniemi, 2006).51

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50 Note, that examples (1a-b) do not contradict with this restriction. If we assume, following the account for -kO-particles by Holmberg (2008), that the particles are base-generated on the elements that they are attached to. This means that the -hAn-particle is attached to the wh-phrase in an early phrase of the derivation and [force]-feature of the -hAn-particle in the end determines the force of the finite clause and triggers movement. The same is true for the particle sequence on the auxiliary verb in (b).

(1) a. Pekka pohti että mitä-hän Merja on tekemässä_.
     Pekka.NOM wondered what.PAR Merja.NOM is-hAn do.MA/INE
     ‘Pekka wondered what Merja was doing.’

     b. Pekka pohti että on-ko-han Merja _ lähdössä.
     Pekka.NOM wondered that is-kO-hAn Merja.NOM leave.MA/INE
     ‘Pekka wondered if Merja was leaving.’

51 Kenesei (1994) proposes the analysis below:

(1) [ CP että [ FP F(ocu) [ AgrP Agr [ NegP Neg [ TP Tense [ VP ... ] ] ] ] ] ]
Having now established the basic structure for the C-domain, I will assume that the Force-projection is present in all finite clauses in Finnish. I will use the remainder of this section to demonstrate that the Focus-projection is not obligatorily present in Finnish declarative clauses. In the following, I will provide examples of contexts in which there are reasons to doubt that the Focus projection is present.

The first piece of evidence for the optionality of the FocusP comes from the complement clauses introduced with the complementizers *kun*, *jos* or *vaikka* (‘when,’ ‘if,’ ‘although’) do not co-exist with the wh-movement to the edge of FocusP, as illustrated in examples (150) and (151).

remember.PRS.1SG when meet.PST.1PL first time  
‘I remember when we met first time.’

remember.PRS.1SG when where meet.PST.1PL first time

(151) a. Kysy Maijalta, jos hän tietää asiasta jotain.  
ask.IMP.2SG Maija.ABL if s/he.NOM knows matter.ELA something.ACC  
‘Ask Maija if she would know something about it.’

ask.IMP.2SG Maija.ABL if who.NOM knows matter.ELA something.ACC

In the above examples, the embedded clause can be interpreted as being an argument of the verb and as a consequence, taking the complement position. Among the other complementizers that introduce adverbials are *kun*, ‘when,’ and *jotta*, ‘in order to’ (Hakulinen et al., 2004, §1111). For example, the complementizer *vaikka*, ‘although,’ introduces an adverbial clause in (152a). Example (b) shows that *vaikka* cannot co-exist with the wh-phrase at the edge. In examples (153a-b), a finite adverbial clause is introduced with the
complementizer *että*, ‘that’ (although the main function of *että* is to introduce a sentential complement). Here the A’-movement is not available, as shown in (b). Finally, example (c) illustrates the unavailability of pied-piping of the adverbial in this context.

(152) a. Pekka pettyi [vaikka hän sai lahjan].
Pekka.NOM was disappointed although s/he.NOM got present.ACC
‘Pekka was disappointed although he got a present.’

b. * Pekka pettyi [vaikka minkä hän sai _].
Pekka.NOM was disappointed although what.ACC s/he.NOM got

(153) a. Pekka osti puhelimen [että Merja voisi kertoa uutisen].
Pekka.NOM bought phone.ACC that Merja.NOM could tell.A news.ACC
‘Pekka bought a phone so that Merja could tell the news.’

b. * Pekka osti puhelimen [että minkä Merja voisi kertoa _].
Pekka.NOM bought phone.ACC that what.ACC Merja.NOM could tell.A

c. * [ (Että) minkä Merja voisi kertoa _] Pekka osti puhelimen?
that what.ACC Merja.NOM could tell.A Pekka.NOM bought phone.ACC

Another example that supports the optionality of the FocusP in Finnish is the optional cliticization of negation to the complementizer. Consider example (154a) in which the negation has been cliticized to the complementizer *että*. I follow the argument by Kenesei (1994) that negation has undergone a head movement to the projection that hosts the complementizer; this projection is here referred to as ForceP. However, head movement to the Force does not seem to proceed through the Focus-projection. For example, negation does not necessarily have the contrastive interpretation in (154), which would be expected if it had moved through the Focus head without any other visible trigger.

(154) Pekka uskoi ett-ei Merja ostanut kirja.
Pekka.NOM believed that-not.3SG Merja.NOM buy.PST.SG book.PAR
‘Pekka believed that Merja did not buy the book.

The examples below provide the context in which the cliticized negation in fact cannot express contrastive focus. First, example (155b) shows that negation cannot be contrastively focused in this context. However, cliticization of the negation to the complementizer is possible, as in (c).\textsuperscript{52}

\textsuperscript{52}Kaiser (2006, p. 343) argues that the landing site of the fronted negation is below the projection that hosts wh-phrases and contrastive focus (here FocusP). However, this position does not also seem to be available in example (155b).
Neither in sentence (155a) above, nor sentence (b), is the negation interpreted as bearing contrastive focus. In fact, the meaning of (a) and (c) are very close, if not identical. Therefore, it is unlikely that (b) was an intermediate step of (c). This example thus suggests that the FocusP is not present in examples (155a-c), and I therefore conclude that the presence of FocusP is optional in Finnish.

Finally, the head-movement analysis for the negation is supported by the example below, which shows that an intervening wh-element that occupies the FocusP prevents cliticization. Similar arguments in favor for head movement of the negation can be found from Kenesei (1994).

(156) * Pekka tiesi ett-ei mitä Merja ostanut_.
    Pekka.NOM knew that-not.3SG what.PAR Merja.NOM buy.PST.SG
    ‘Pekka knew (that) what Merja did not buy.’

Why would the presence of a wh-phrase in the FocusP prevent the head from adjoining a higher Force head? If the Focus-head is present, the negation cannot undergo a head movement to ForceP without bypassing the Focus-head (Travis, 1984; Rizzi, 1990). Yet, the wh-phrase at the FocusP has already deleted the uninterpretable [ufocus] feature of the probe. As a consequence, the Focus-head cannot act as a probe for the head movement of the negation.

The data from Finnish clearly provide evidence for a split analysis of the C-domain. I have proposed in this section that one of the projections at the C-domain is a ForceP; Force encodes the force of the sentence (declarative, interrogative, imperative, and exclamative). In addition, ForceP may select a FocusP, which hosts A′-moved elements, such as a fronted wh-phrase or a relative pronoun. Moreover, it seems that the Focus-projection is not by default present in all finite clauses. Instead, Focus is projected when some discourse-related information needs to be spelled out. If the FocusP is absent, the Force head selects the TP. The chapter will now continue with the other A′-movement properties of the CP, such as the extraction from a finite complement clause in the next section.
5.5 CPs do not undergo wh-pied-piping in Finnish

Finnish finite clauses do not undergo pied-piping in the same sense as the internal movement domains do, although they are able to move as a whole. Examples (157a-b) show that the Finnish CP can undergo topicalization movement to the front of the matrix clause.

(157) a. Pekka ajatteli [CP että Merja leipoo leipää].
   Pekka.NOM thought that Merja.NOM bakes bread.PAR
   ‘Pekka thought that Merja bakes bread.’

   b. [CP (Että) Merja leipoo leipää], Pekka ajatteli _.
   that Merja.NOM bakes bread.PAR Pekka.NOM thought
   ‘(That) Merja bakes bread, Pekka thought.’

However, when the CP contains a wh-phrase at its edge, similar movement does not result in a content question. Whereas pied-piping by a wh-phrase introduces scope changes for the wh-phrase, the scope change is absent when the finite clause has been topicalized. For example, compare sentences (158a-b) to sentence (159). In example (158b), the object wh-phrase has undergone a long-distance movement to the edge of the matrix clause, thereby taking the scope over the matrix clause. However, when the whole CP moves, as in (159), the scope of the wh-phrase remains inside the embedded clause.

(158) a. Pekka ihmetteli [CP (että) mitä Merja leipoo _].
   Pekka.NOM wondered that what.PAR Merja.NOM bakes
   ‘Pekka wondered what Merja bakes.’

   b. Mitä Pekka ihmetteli [CP että Merja leipoo _]?
   what.PAR Pekka.NOM wonder that Merja.NOM bakes
   ‘What did Pekka wonder that Merja bakes?’
   i. # Pekka wondered for which x: Merja bakes x
   ii. for which x: Pekka wondered whether Merja bakes x

(159) [CP Mitä Merja leipoo _], Pekka ihmetteli _.
    what.PAR Merja.NOM bakes Pekka.NOM wondered
    ‘Pekka wondered what Merja bakes.’

   a. Pekka wondered for which x: Merja bakes x

   b. # for which x: Pekka wondered whether Merja bakes x.

Let us recall from Section 5.2 that in Finnish, the first wh-phrase obtains scope over an A′-movement domain via the wh-movement to the edge of the domain. However, there is no scope change in (159), even though the clause has moved. I conclude that Finnish finite CPs do not undergo pied-piping triggered by the wh-phrase at the edge.
5.6 Extraction conditions

This section investigates the extraction conditions for finite clauses in Finnish. As discussed in Section 5.4, the Finnish CP has an edge position (FocusP) which may function both as a final landing site for the wh-phrase and as an intermediate landing site for the successive cyclic movement out of the CP. Extraction from finite complement clauses is examined in Section 5.6.1. Finite complement clauses normally allow the extraction of an object argument and of adjuncts. Nevertheless, the extraction of the nominative subject is more restricted. If the edge position is filled, the CP forms what is referred to as the wh-island (Section 5.6.2). Finally, the finite clauses also form islands in adjunct positions (Section 5.6.3).

5.6.1 Extraction from a finite complement clause

The A′-movement out of a finite complement clause is often called “long-distance movement,” since the fronted wh-phrase passes a possible final landing site at the embedded clause on its way to the front of the matrix clause. In Finnish, the long-distance movement of objects and adjuncts is possible, as in examples (160a-b) and in examples (161a-b).53

\[(160)\]
\[
a.\text{ Kenet Pekka luuli että Merja oli tavannut _?}\\
\quad\text{who.ACC Pekka.NOM thought that Merja.NOM had met}\\
\quad\text{‘Who did Pekka think Merja had met?’}\\
b.\text{ [Mihin tarkoitukseen] Pekka luuli että Merja osti}\\
\quad\text{what.ILL purpose.ILL Pekka.NOM thought that Merja.NOM bought}\\
\quad\text{shovel.ACC}\\
\quad\text{lapion _?}\\
\quad\text{‘For which purpose did Pekka think that Merja bought the shovel?’}\\
\]

\[(161)\]
\[
a.\text{ Miltä luulisin, että näyttäisin _, jos kasvattaisin}\\
\quad\text{what.ABL think.COND.2SG that look.COND.1SG if grow.COND.1SG}\\
\quad\text{viikset?}\\
\quad\text{moustaches.ACC}\\
\quad\text{‘What do you think I would look like if I grew a moustache?’}\\
\]

---

53However, not all speakers of Finnish allow long-distance wh-movement in an experimental situation. I performed an informal test on the long-distance wh-movement in Finnish. Approximately 10% of the test subjects rejected the extraction of arguments and adjuncts. It is nevertheless possible to find examples of long-distance movement from different sources, such as sentences (161). I return to the other results of the test later in this section.
b. Miten arvelette että Suomen ja Venäjän suhteet hevittävät tämän jälkeen?
develop this.GEN after
‘How do you believe that the relations between Finland and Russia will develop after this?’

Note that in the above examples, the successive cyclic movement through the edge of the CP proceeds via an intermediate landing site at the edge of the FocusP and the complementizer että, ‘that,’ occupies the Force position above the intermediate landing site.

The long-distance movement of subjects is, in turn, more restricted, as the example (162) illustrates. However, the traditional that-trace filter (Ross, 1967) does not hold for Finnish in that an extraction of the subject is not possible even in the absence of the complementizer.54

(162) * Kuka, Pekka luuli (että) _ tapasi Merjan?
who.NOM Pekka.NOM thought that _ met Merja.ACC
Who did Pekka think (that) met Merja?’

The extraction of the subject is sensitive to the presence of subject-verb agreement, as noted in Huhmarniemi (2009): For example, the extraction of a genitive subject is marginally available in those constructions that do not display agreement between the main verb and the subject. Examples (163a-b) illustrate the subject extraction from a necessive construction and (164a-b) from an adjectival raising construction. In both cases, subject argument is in the genitive case and the main verb has default singular 3rd person agreement.55

54Limited extraction may be possible in colloquial speech, in examples such as (1a-b).

(1) a. ? Kuka sä luulet että _ siivoaa tämän sotkun?
who.NOM you.NOM believe.PRS.2SG that clean.PRS.3SG this.ACC mess.ACC
‘Who do you think will clean this mess?’

b. ? Minä-kö sä luulet että _ siivoan tämän sotkun?
I.NOM-kO you.NOM believe.PRS.2SG that clean.PRS.1SG this.ACC mess.ACC
‘Do you think it’s me who cleans this mess?’

55The grammaticality estimations on long-distance extraction are based on a questionnaire administered to 13 native speakers. This questionnaire is included in Appendix. The test included 30 declarative sentences; the test subjects were asked to complete an interrogative sentence, and to evaluate the grammaticality of the resulting sentence. The statistics are based on these grammaticality estimations. The sentences ranged from grammatical sentences that involved the wh-movement within a finite clause to the ungrammatical examples of extraction from relative clauses. Approximately 80% percent of the sentences that involved
To summarizes, long-distance extraction from finite complement clauses is possible in Finnish and the only exception is the subject argument. It was found that one of the factors that affect the extraction conditions for subjects was $\phi$-agreement. The data form $\phi$-agreement provide support for the $\phi$-agreement constraint on subject extraction (113), introduced in section 4.5.3.

5.6.2 Wh-islands

Extraction from finite complement clause becomes impossible if the edge of the embedded CP hosts a fronted wh-phrase (165) or a relative pronoun (166a-b). For these phrases, the embedded CP forms an wh-island (Chomsky, 1986). Furthermore, also other A′-moved phrases that occupy the edge of the CP prevent wh-extraction. This is illustrated for phrases hosting the second-position clitic particle in (167) (see Koskinen, 1998, pp. 58-59 and 202, for examples of contrastively focused elements). It thus seems that the wh-

the long-distance extraction of adjuncts and complements were evaluated as beig grammatical. On the other hand, 50% of the sentences that contained the long-distance extraction of non-agreeing subjects were found to be grammatical, and the percentage for the extraction of agreeing subjects was 24%. Although more research is needed to verify these results, they provide support for a more general tendency that elements that enter into $\phi$-Agree resist A′-movement.
islands extend in Finnish to any type of element that occupies the edge of the complement CP.

(165) *Mitä Pekka kertoi [CP (että) kenelle Merja lainasi _]? what.PAR Pekka.NOM told (that) who.ALL Merja.NOM borrowed ‘*What did Pekka say to whom Merja lent _?’

(166) a. Pekka näki miehen, [CP joka lainasi sanomalehteä]. Pekka.NOM saw man.ACC who.NOM borrowed newspaper.PAR ‘Pekka saw a man that borrowed the newspaper.’
b. *Mitä Pekka näki miehen [CP joka lainasi _]? what.PAR Pekka.NOM saw man.ACC who borrowed

(167) *Mitä Juha kertoi [CP että Merjalle-han Pekka lainasi _]? what.PAR Juha.NOM said that Merja.ALL-hAn Pekka.NOM borrowed ‘*What did Juha say that it was to Merja that Pekka lent _?’

I propose that the unavailability of extraction in these types of construction can be accounted for by assuming the successive cyclic movement approach to extraction. In other words, the A’-movement out of the finite complement clause must proceed through an intermediate landing site at the edge of the complement clause. This successive cyclic movement via an intermediate landing site at the specifier of FocusP is illustrated in (168).

(168) Movement through an intermediate landing site

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This approach accounts for the unavailability of extraction in examples such as (165), (166b), and (167). Moreover, similarly to the A′-movement to the edge, examples (169a-b) show that the head movement triggered by the second-position clitic particles also blocks extraction. Thus, filling in the Focus projection prevents A′-movement out of a finite clause (see Koskinen, 1998, pp. 58-62, for additional examples of contrastively focused elements).

(169)

\[\begin{align*}
  \text{a. Pekka} & \text{ pohti on-ko Merja} & \text{tavannut Juhan.} \\
  \text{Pekka.NOM} & \text{ wondered have.PRS.3SG-}kO \text{ Merja.NOM met Juha.NOM.} \\
  \text{‘Pekka wondered if Merja had met Juha.’} \\
  \\
  \text{b. * Kenet Pekka pohti on-ko Merja} & \text{tavannut }_? \\
  \text{who.ACC Pekka.NOM wondered have.PRS.3SG-}kO \text{ Merja.NOM met} \\
  \text{Similar to the wh-movement to the final landing site that was discussed in Section 5.4, head movement to Focus thus prevents an A′-movement to the intermediate landing site.} \\
  \text{Let us recall that } & \text{että occupies the Force position above the Focus-projection that functions as the intermediate landing site inside the finite complement clause. The presence of the word } & \text{että, ‘that,’ is commonplace in Finnish long-distance movement constructions, such as (170a-b). Long-distance movement constructions are therefore parallel with the declarative embedded CPs: they prefer the presence of a complementizer, as in (c).} \\
\end{align*}\]

(170)

\[\begin{align*}
  \text{a. Kenet Pekka luuli että Merja oli tavannut }_? \\
  \text{who.ACC Pekka.NOM thought that Merja.NOM had met} \\
  \text{‘Who did Pekka think that Merja had met?’} \\
  \\
  \text{b. *? Kenet Pekka luuli Merja oli tavannut }_? \\
  \text{who.ACC Pekka.NOM thought Merja.NOM had met} \\
  \text{‘Who did Pekka think Merja had met?’} \\
  \\
  \text{c. Pekka tiesi (*että) Merja oli tavannut veljensä.} \\
  \text{Pekka.NOM knew (that) Merja.NOM had met brother.ACC.PX/3SG} \\
  \text{‘Pekka knew that Merja had med her brother.’} \\
\end{align*}\]

However, when the negation adjoins to että, the extraction is blocked, as in the example (171a). It was shown in Section 5.4 that movement to the Focus projection cannot coexist with cliticization of the negation to the complementizer. In the same way, the cliticization of the negation to the complementizer prevents A′-movement to the intermediate landing site. Furthermore, when negation is dissociated from the complementizer as in (171b), the A′-movement through the FocusP is possible.

(171) (Ross, 1967, p. 132)

\[\begin{align*}
  \text{a. * Mitä} & \text{ hattua uskoit ett-ei hän koskaan käyttänyt }_? \\
  \text{which.PAR hat.PAR believed.2SG that-not.3SG s/he.NOM ever used} \\
\end{align*}\]
b. Mitä hattua uskoit että hän ei koskaan käyttänyt _?  
which.PAR hat.PAR believed.2SG that s/he.NOM not.3SG ever used  
‘Which hat do you believe (that) he/she never wore?’

This means that the data from Finnish wh-islands support the successive-cyclic movement analysis in which long-distance movement out of an embedded finite clause is possible only through an intermediate landing site at the edge of the embedded clause. In addition, the presence of the Focus projection within the embedded clause is required for long-distance movement. Furthermore, if the FocusP has been filled with some other element, long-distance movement out of the finite clause is not available.

5.6.3 Adjunct Island Condition

Having now considered extraction from finite complement clauses, this section will provide a brief look at finite adjunct clauses. Contrary to finite complement clauses, extraction from finite adjuncts clauses is not available (172a-b). For example, the finite clauses headed with complementizer _jotta_, ’so that,’ are generally found adverbials (Hakulinen et al., 2004, §1111).

(172)

a. Pekka toi silmälasit, _jotta_ / että Merja voisi _lukea_  
Pekka.NOM brought glasses.ACC so that that Merja.NOM could read  
newspaper.PAR  
‘Pekka brought the glasses so that Merja could read the newspaper.’

b. * Mitä, Pekka toi _silmälasit_ , _jotta_ / että Merja _voisi_ _lukea_ _?_  
what.PAR Pekka.NOM brought glasses.ACC so that that Merja.NOM could read _?_

Recall that when the complementizer _että_, ‘that’, heads an embedded complement clause, extraction of objects and adjuncts is possible. However, when the _että_-clause is an adverbial, extraction is blocked, as in (172b).

5.7 Summary

The first part of this chapter was dedicated to the structure of the Finnish C-domain. The left periphery of Finnish finite clause provides evidence for two discourse-related projections: FocusP and ForceP. Whereas A’-movement and discourse-related head movement target the FocusP, the ForceP encodes sentence force and hosts the complementizer if present. Movement to FocusP was implemented using features [focus] and [force].

The rest of the chapter considered pied-piping and extraction. In general, extraction from Finnish finite complement clauses is possible. Exceptions are the subject arguments
and especially the nominative subject that agrees with the finite verb. Finnish CPs thus provide support for the $\phi$-agreement constraint on subject extraction (113), which was introduced on page 70. In addition, if the edge of the embedded CP is filled with some element, the embedded CP is an island. Finally, CPs are extraction islands in adjunct positions, on par with finding 5 on page 71.

In the following chapters, I will investigate the pied-piping and extraction in various phrase types beyond the CP. This investigation will concentrate mostly on wh-movement. It should be noted that the split analysis in terms of discourse-related functional projections will not be proposed for other phrase types (such as PPs or DPs), because the examined A′-movement data does not support the existence of such projections. In addition, the features [focus] and [force] are not carried over to the analysis of the other phrase types, although the extension would be possible in principle. Instead, I will adhere to the [Q] and [wh]-features in the forthcoming chapters. Finally, I will continue to refer to the A′-movement position at the left periphery of the C as the edge of C.
Chapter 6

Adposition phrases (PP)

6.1 Introduction

Various phrase types in Finnish undergo pied-piping in wh-questions and one of them is the adposition phrase. The term “adposition” refers to a category that in Finnish includes both prepositions and postpositions, and the head of the adposition phrase is referred to here as P. Before turning to A'-movement, I will first introduce some central syntactic properties of Finnish adpositions phrases. Finnish adpositions are traditionally divided into two classes: those that assign the partitive case and those that assign the genitive case. Here the adpositions that assign genitive case are further divided into two classes. Partitive case assigning adpositions therefore form class (1), as in example (173) (Vainikka, 1989, 1993). Class (2a) consists of adpositions that assign the genitive case and show fixed word order DP-P, as in (174a-b) (with and without the possessive suffix). Class (2b) adpositions display properties of both classes (1) and (2a): they assign the genitive case but show a more relaxed word order, as exemplified in (175).\(^\text{56}\)

(173) **Class (1)**

<table>
<thead>
<tr>
<th>kohti</th>
<th>taloa</th>
<th>/</th>
<th>taloa</th>
<th>kohti</th>
</tr>
</thead>
<tbody>
<tr>
<td>towards</td>
<td>house.PAR</td>
<td>/</td>
<td>house.PAR</td>
<td>towards</td>
</tr>
<tr>
<td>‘towards a/the house’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(174) **Class (2a)**

a. Pekan edellä / * edellä Pekan  
   Pekka.GEN before before Pekka.GEN  
   ‘before Pekka’

b. hänen edellä-än / * edellä-än hänen  
   s/he.GEN before-PX/3SG before-PX/3SG s/he.GEN  
   ‘before him/her’

\(^{56}\)In addition, some adpositions may belong to both classes (1) and (2a).
I adopt the proposal by Nikanne (1989); Manninen (2003a); and Brattico (2010a), that Finnish PPs share the same underlying structure in which the argument DP is the right-branching complement of the adposition head, as illustrated below:

The different word orders are accounted for by assuming that the DP may raise to the specifier/edge of P as a consequence of the EPP-driven A-movement or the discourse-related A′-movement (Manninen, 2003a; Brattico, 2010a). All three types of PPs undergo pied-piping when the wh-phrase occupies the edge of P, following the edge generalization (86) (finding 1 on page 70). In addition, the data from Finnish adposition phrases support finding 3: the edge of P can be filled through base-generation, A-movement, or A′-movement. Section 6.2 addresses the edge-properties of adposition phrases, including more structural details.

The conditions on extraction from an adposition phrase are also investigated here. I propose that extraction of the complement of P is possible if the PP is in a complement position. However, extraction from the specifier of P is not available. This restriction provides direct evidence for the $\phi$-agreement constraint on subject extraction (113). It will be shown that the extraction of the DP argument is not possible in contexts in which the P head inflects with the $\phi$-features of the pronominal argument (finding 4 on page 70). Finally, the PPs in adjunct positions are extraction islands and therefore support the Adjunct Island Condition (finding 5). Section 6.3 outlines the extraction conditions for Finnish PPs.
6.2 Internal wh-movement within the PP

This section is organized so that each adposition class is explored in its own subsection. The partitive case assigning adpositions (class (1)) shows the most direct evidence of internal wh-movement. These adpositions are investigated in Section 6.2.1. Class (2a) PPs show no sign of the discourse-driven movement to the edge: as a result of A-movement, the DP already occupies a specifier position. This is outlined in Section 6.2.2. Finally, class (2b) adposition phrases, examined in 6.2.3, display internal wh-movement.

6.2.1 Partitive case assigning adpositions: class (1)

Class (1) adpositions assign the partitive case to their argument DP and exhibit word order variation within the PP. In this section, I analyze the structural properties of the PP and the implementation of internal wh-movement illustrated in the examples below. In each example, sentence (a) exemplifies the base-generated word order for the PP whereas (b) shows the word order that occurs in a wh-question.

(177) a. Pekka käveli [kohti puistoa].
   Pekka.NOM walked towards park.PAR
   ‘Pekka walked towards the park.’

   b. [Mitä kohti_] Pekka käveli _?
   what.PAR towards Pekka.NOM walked
   ‘What did Pekka walk towards?’

(178) a. Pekka oli jonossa [ennen Merjaa].
   Pekka.NOM was line.INE before Merja.PAR
   ‘Pekka was in line before Merja.’

   b. [Ketä ennen_] Pekka oli jonossa _?
   who.PAR before Pekka.NOM was line.INE
   ‘Before whom was Pekka in line?’

(179) a. Kate Moss ei voisi elää [ilman käsilaukkua].
   Kate Moss.NOM not.3SG could live.A without handbag.PAR
   ‘Kate Moss couldn’t live without a handbag.’

   b. [Mitä ilman_] Kate Moss ei voisi elää _?
   what.PAR without Kate Moss.NOM not.3SG could live.A
   ‘What couldn’t Kate Moss live without?’

If the wh-phrase is left in-situ within the fronted constituent, as in (180a), the sentence is interpreted as an echo question (Manninen, 2003a, p. 313). The interpretation of the wh-phrase is the same as in (b), in which the PP fails to occupy the edge of C. On the other hand, examples (181a-b) provide evidence that if the relative pronoun fails to occupy the edge position of the pied-piped PP, the relative clause is ungrammatical.
The edge generalization (86) (page 57) thus holds for class (1) PPs in wh-questions and relative clauses: the wh-phrase has to occupy the edge of the pied-piped PP in wh-questions and in relative clauses. 57

Furthermore, I suggest that the wh-phrase obtains the edge position via an A′-movement within class (1) PPs. Under the assumptions outlined in Section 4.4.2, the P head has an uninterpretable feature [uQ] which makes it a probe for the [Q]-feature in its complement. As a consequence of the Agree between the P and the wh-DP, the uninterpretable [Q]-feature of P is deleted. I then assume following Manninen (2003a), that the wh-movement is triggered by the EPP-feature on P, as illustrated in (182b). 58

57 The question now arises as to which property triggers the movement and the pied-piping of the PP in the echo question (180a). Note that the echo wh-phrases also do not move obligatorily to the edge of C, as in (180b). Another example of an optional movement to C is the contrastive focus movement. Example (1a) illustrates how contrastive focus may be implemented in-situ via prosodic emphasis. However, the constituent can also move, as in (b).

(1) a. Pekka käveli [kohti puistoa]!  
Pekka.NOM walked towards park.PAR  
‘It was a/the park that Pekka was walking towards!’

b. [Kohti puistoa] Pekka käveli _!  
towards park.PAR Pekka.NOM walked  
‘It was a/the park that Pekka was walking towards!’

In Finnish, optional A′-movement does not necessarily follow the edge generalization (86), and the echo question (180) is one example of such optional movement discussed further in Section 10.3.1.

58 Manninen (2003a) suggests that the EPP-feature is obligatory for the adpositions that assign the genitive case and optional for the adpositions that assign the partitive case. She considers wh-complements as well, and motivates the movement with the Phase Impenetrability Condition (PIC) (Chomsky, 2000, p. 107ff). Manninen proposes that for the wh-complements, the EPP-feature on the P is required in order to avoid the derivation to crash later.
The wh-DP thus occupies the edge position within a class (1) adposition phrase as a result of A′-movement. Because the probing head P does not host a [wh]-feature, the uninterpretable [uwh]-feature on the wh-phrase is not deleted and the wh-phrase remains active for further movement.

The DP-argument is not the only element that can trigger the pied-piping of the PP. Below is an example of the pied-piping by an adverb phrase that modifies the PP:

(183)

a. Minä otan kurssin [suoraan kohti lentokenttää].
   ‘I take the course straight towards the airport.’

b. [Kuinka suoraan kohti lentokenttää] sinä otat kurssin _?
   ‘How straight towards the airport will you take the course?’

Adverb phrases may therefore act as pied-pipers for the PP. Let us now pause for a moment to examine the structural position of the adverb phrase within the PP. Examples (184a-b) show that adverbs occupy a position higher than the specifier of a P. In addition, the lower position is marked (c) or ungrammatical (d) (see also Manninen, 2003a, p. 313).[^59]

(184)

a. Pekka otti kurssin [suoraan kohti lentokenttää].
   ‘Pekka took a course straight towards a/the airport.’

b. Pekka otti kurssin [suoraan lentokenttää kohti].
   ‘Pekka walked straight towards a/the airport.’

[^59]: Hakulinen et al. (2004, §699) note that unlike typical adpositions in Finnish adpositions that have a second usage as an adverb may take a modifier that appears between the adposition head and the partitive DP.
c. ? Pekka. tore kurssin. lentokenttää. suoraan kohti.  
   Pekka.NOM took course. ACC airport.PAR. straight towards

d. *Pekka. tore kurssin [ kohti. suoraan. lentokenttää].  
   Pekka.NOM took course. ACC. towards straight. airport.PAR

The four examples of (184) above suggest that the adverb phrase is base-generated above the specifier of the P. I assume that the adverb is adjoined to the PP, leaving space for the DP to occupy the specifier position, as illustrated in (185).

(185)

To return now to A'-movement, the adverb phrase is thus the highest element of the PP, and the adverb phrase occupies the edge. Following the edge generalization, an adverb is able to pied-pipe the PP in (183b). Furthermore, the examples below suggest that the adverb phrase at the edge blocks the pied-piping by the DP-argument. First, the wh-DP is not able to move past the adverb, as shown in (186a). On the other hand, if the wh-phrase occupies a position below the adverb, as in (b), the sentence is an echo question.

(186) a. * [ Mitä. suoraan._. kohti. _]. Pekka. tore kurssin. _?  
     what.PAR. straight. towards. Pekka.NOM. took course. ACC

b. [ Suoraan. mitä. kohti. _]. Pekka. tore kurssin. _?  
   what.PAR. straight. towards. Pekka.NOM. took course. ACC  
   ‘Pekka took a course straight towards what?’

Note that the DP is able to occupy the specifier position in (186b) but the pied-piped phrase fails to evoke the wh-question interpretation in the presence of an adverb. In fact, it will be shown in the following sections that an adverb blocks the wh-movement of the PP in all of the three classes of adpositions.

The above data from the PPs suggest the edge properties are not necessarily associated with a specific type of structural position: pied-piping may be triggered by both specifiers
and adjuncts. Instead, the crucial property for the wh-phrase is to be the highest overt constituent within the PP. 60

The rest of this section concentrates on the other discourse-related word order properties of class (1) adpositions apart from wh-movement. Let us recall that the word order of the adposition phrase may alternate in declarative sentences as well, as illustrated in the examples below. Nevertheless, it is not clear which property causes the word order alteration in these cases. In Finnish, phrasal movement without any morphologically visible trigger can be caused for example by topicality or by the contrastive focus of the moving phrase, as outlined in Section 2.6.

(187) a. kohti taloa / taloa kohti
    towards house.PAR house.PAR towards
    ‘towards a/the house’

    b. ennen Pekkaa / Pekkaa ennen
    before Pekka.PAR Pekka.PAR before
    ‘before Pekka’

    c. vastapäätä puistoa / puistoa vastapäätä
    opposite park.PAR park.PAR opposite
    ‘opposite a/the park’

60 Alternative hypotheses on the phrase structure could be entertained here. First, it is possible to assume that the PP contains an additional discourse-related projection, such as FocusP, which functions as a landing site for both wh-DPs and wh-adjuncts. However, example (186a-b) shows that the DP is not able to undergo wh-movement past the adjunct, which forms a potential problem for this approach. See also the discussion for class (2b) adpositions in Section 6.2.2.

Another alternative would be to assume that the wh-movement of the DP targets an adjunction site, which is the same position as the adverb. However, this alternative is not an attractive hypothesis either, since the DP generally occupies a position lower than the adverb. In addition, other types of A′-movement also allow pied-piping below the adverb. One example of such movement is provided in (1b), which contains the Finnish -kO-particle. Furthermore, the second-position clitic particles do not always obey the edge generalization. However, example (c) has the wh-phrase at the edge preventing pied-piping by a -kO-particle. If both of the elements occupied the edge in (c), we would expect the sentence to be grammatical. (See also Section 5.3.2 for the interaction of clitic particles in Finnish.)

(1) a. [ Suoraan tuota-ko lentokenttää kohti _ Pekka otti kurssin _,? straight that.PAR-KO airport.PAR towards Pekka.NOM took course.ACC
    ‘Was it straight towards that airport that Pekka took the course?’

    b. * Pekka otti kurssin [ suoraan tuota-ko lentokenttää kohti _,?
    Pekka.NOM took course.ACC straight that.PAR-KO airport.PAR towards

    c. * [ Kuinka suoraan tuota-ko lentokenttää kohti _,? how straight that.PAR-KO airport.PAR towards Pekka.NOM took course.ACC

We will return to these questions in Section 10.2.
I propose that the PP-internal word order can reflect the topicality or specificity of the DP. In particular, the DP is interpreted as being more topical in the DP-P order than in the P-DP order. For example, given the context (188), the word order DP-P in (a) is preferred if the DP refers to the contextually familiar grandmother’s house. In addition, it is unlikely (but not impossible) that the DP taloa, ’house,’ in the order P-DP in (b) would refer to the grandmother’s house.

(188) Context:

Isoäiti asui eräässä talossa järven rannalla.

‘Grandmother lived in a house on the shores of a lake.’

   we.NOM walked often in the summer house.PAR towards
   ‘We often walked in the summer towards the house’

b. # Me käveltiin usein kesäisin [ kohti taloa ] .
   we.NOM walked often in the summer towards house.PAR

A second example of the connection between the information content and the DP-internal word order comes from ellipsis formation. The elliptically deleted material is previously known from the discourse, whereas the part that is not deleted contains new information (see Vilkuna, 1989, for Finnish). Examples under (189)-(190) show that either the P head or the DP can be elliptically deleted. The elliptically deleted material is to the

61However, it should be noted that some of the adposition phrases have a more restricted word order (Hakulinen et al., 2004, §701). For example, the adposition ilman, ‘without,’ and lähellä, ‘near,’ prefer the DP-final order (1a-b). On the other hand, adpositions such as varten, ‘for,’ and kohtaan, ‘towards,’ do not allow the DP-final order (c-d).

(1) a. ilman hattua / *? hattua ilman
   without hat.PAR / hat.PAR without
   ‘without a hat’

b. lähellä häntä / ? häntä lähellä
   near s/he.PAR s/he.PAR near
   ‘near him/her’

c. taloa varten / * varten taloa
   house.PAR for / for house.PAR
   ‘for the house’

d. Merjaa kohtaan / * kohtaan Merjaa
   Merja.PAR toward / toward Merja.PAR
   ‘toward Merja’

The word order requirements can sometimes be relaxed in wh-questions; this occurs for the adposition ilman, ‘without’ (Hakulinen et al., 2004, §701), as was shown earlier in example (179).
left of the saved material. It may be concluded that the DP is understood as being more topical in the DP-P order than in the P-DP order.

(189)  
a. Oliko juna [ tuota autoa edellä] vai [ tuota autoa jäljessä] ?  
   was.Ô train that.PAR car.PAR before or that.PAR car.PAR after  
   ‘Was the train in front of that car or after?’

b. # Oliko juna [ edellä tuota autoa] vai [ jäljessä tuota autoa] ?  
   was.Ô train before that.PAR car.PAR or after that.PAR car.PAR  
   ‘Was the train in front of that car or after?’

(190)  
a. # Oliko juna [ edellä tätä autoa] vai [ edellä tuota autoa] ?  
   was.Ô train before this.PAR car.PAR or before that.PAR car.PAR  
   ‘Was the train in front of that car or this car?’

b. # Oliko juna [ tätä autoa edellä] vai [ tuota autoa edellä] ?  
   was.Ô train this.PAR car.PAR before or that.PAR car.PAR before  
   ‘Was the train in front of this car or that car?’

The above tests thus suggest that the PP-internal word order of the class (1) adpositions is sensitive to discourse factors: in the DP-P order, the DP has the information status of being discourse-old. One explanation for this variation is that the topicality (or specificity) of the argument DP triggers a movement to the edge of the adposition.  

Having now investigated the word order and internal wh-movement of class (1) adpositions, let us turn to another class of adposition phrases in Finnish, the class (2a) adposition phrases. These phrases exhibit strict word order and do not display internal wh-movement.

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62 The discourse-old elements tend to appear in higher positions than the discourse-new elements in Finnish, one such example is the position of the direct object (cf. Vilkuna, 1989, p. 67). Kaiser (2000, 2002b) argues that the word-order variation of Finnish ditransitive constructions can be accounted for by relying on discourse factors in which the discourse-old element moves upwards.

On the other hand, in language technology, it is a common heuristics to assume that the closer an element is to the verb, the more likely it belongs to the current theme (Suni, 2008). This heuristics receives a theoretical motivation if discourse-old elements tend to move upwards in the structure.
6.2.2 Adpositions that assign genitive case and show strict word order: class (2a)

Class (2a) adpositions assign the genitive case to their argument DP, as illustrated in (191a-c). The adposition head receives a possessive inflection in the presence of a pronominal argument, such as hän, ‘he/she,’ in (b) or minä, ‘I,’ in (c).

(191) a. Pekan edellä
Pekka.GEN before
‘before Pekka’

b. hänen edellä-än
s/he.GEN before-PX/3SG
‘before him/her’

c. minun edellä-ni
I.GEN before-PX/1SG
‘before me’

Unlike class (1) PPs, which form a divergent class in terms of word order properties, the word order of class (2a) PPs is fixed to the DP-P order:

(192) a. Pekan edellä /* edellä Pekan
Pekka.GEN before before Pekka.GEN
‘before Pekka’

b. hänen edellä-än /* edellä-än hänen
s/he.GEN before-PX/3SG before-PX3/SG s/he.GEN
‘before him/her’

According to Vainikka (1989, 2011), the genitive case is associated with the structural specifier position of the argument DP. Here I adopt the assumptions proposed by Manninen

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63Some of the adpositions that assign the genitive case may belong to class (1) as well, as shown for the adposition lähellä, ‘near,’ in (1a-b). In this context, the adposition has different syntactic properties: if the DP is in partitive case, there is no possessive inflection (c-d).

(1) a. hänen lähellään
s/he.GEN near-PX/3SG
‘near him/her’

b. lähellä häntä /* häntä lähellä
near s/he.PAR s/he.PAR near
‘near him/her’

c. * häntä lähellä-än
s/he.PAR near-PX/3SG

d. * minua lähellä-ni
I.PAR near-PX/1SG
(2003a) and Brattico (2010a) in that the word order DP-P for class (2a) adpositions is a consequence of an A-movement of the argument DP. The derivation of the adposition phrase proceeds as follows: first, the DP-argument is base generated as the complement of P. The P head contains uninterpretable $\phi$-features that enter into Agree with the argument DP, as illustrated in (193a). As a consequence of Agree, the uninterpretable $\phi$-features of the probe are valued by the argument DP. (The $\phi$-features are overtly manifested only in the presence of a pronominal argument.) Finally, the DP undergoes an EPP-movement to the edge of P, as in (193b).

Having now established the basic structure for class (2a) PPs, let us turn to the A′-movement properties. Class (2a) adposition phrases undergo pied-piping in wh-questions, as is evident in the sentences below.

I propose that the wh-phrase can pied-pipe a class (2a) PP from its A-position at the specifier of P, and that the wh-phrase does not undergo further internal wh-movement within the PP. To see this, let us suppose that this type of internal wh-movement takes place to an additional discourse-related position. For example, it was proposed in Section 5.4 that Finnish finite clauses can contain a discourse-related Focus-projection that hosts, among others, wh-phrases. First argument against the existence of such a projection within Finnish PPs is that its presence is not signaled by any morphologically overt properties of the adposition phrase. In addition, unlike with CPs, head movement to this type of higher position is not available. For example, the -kO-particle cannot license head
movement within a class (2a) PP in (195a-b). Instead, the \(-kO\)-particle targets the whole PP, as in (c).\(^{64}\)

(195) a. * lähellä-kö sillan  
\[ \text{near-}kO \quad \text{bridge.Gen} \]

b. * edellä-kö Merjan  
\[ \text{before-}kO \quad \text{Merja.Gen} \]

c. sillan lähellä-kö  
\[ \text{bridge.Gen near-}kO \]
‘near the bridge?’

Third, like class (1) PPs, the DP-argument is not able to raise past the adverb in (196b) (see also Hakulinen et al., 2004, §692). This would be unexpected if there was a higher functional projection above the PP that functions as a landing site for wh-phrases. However, if the wh-phrase is situated below the adverb phrase, as in (c), the sentence is an echo question. It thus seems that the wh-phrase does not leave the specifier of P during pied-piping.

(196) a. Pekka tapasi Merjan [ aivan sillan lähellä]
\[ \text{Pekka.Nom met Merja.ACC just bridge.Gen near} \]
‘Pekka met Merja just beside the bridge.’

b. * [ Minkä aivan lähellä] Pekka tapasi Merjan?
\[ \text{what.Gen just near Pekka.Nom met Merja.ACC} \]

c. [ Aivan minkä lähellä] Pekka tapasi Merjan?
\[ \text{just what.Gen near Pekka.Nom met Merja.ACC} \]
‘Pekka met Merja just beside what?’

Thus, it is clear that unlike CPs, the presence of a FocusP within a PP is not supported by the data. What the data from class (2a) adpositions suggest, however, is that the specifier of P is a “mixed” position in the sense that it can host both A- and A’-elements.\(^{65}\) In other words, the discourse properties need not be associated with any fixed structural position. Instead, the features of the phrase itself (or the head hosting the edge) determine the discourse properties of the phrase. This means that if an element at the edge bears an uninterpretable discourse feature, that element is able to undergo discourse-related movement either alone or through pied-piping the containing phrase.

\(^{64}\)Class (2a) PPs may take clitic particles in examples like (1):

(1) lähellä-kö sillaa  
\[ \text{near-}kO \quad \text{bridge.Par} \]

I assume here that the \(-kO\)-particle attached to a head prior head movement.

\(^{65}\)Holmberg & Nikanne (2002) propose that the specifier of T (or Fin) in Finnish is a “mixed” position that can host both A- or A’-moved elements.
6.2.3 Adpositions that assign genitive case and show free word order: class (2b)

The final class (2b) of Finnish adpositions shares the properties of classes (1) and (2a). The word order is similar to class (1) adpositions, as illustrated below. On the other hand, the genitive case inflection associates these adpositions to class (2a).

(197) a. talon ohi / ohi talon
   house,GEN past past house,GEN
   ‘past a/the house’

b. talon ali / ali talon
   house,GEN under under house,GEN
   ‘under a/the house’

c. talon läpi / läpi talon
   house,GEN through through house,GEN
   ‘through a/the house’

Examples (198a-b) reveal that these adpositions do not take a $\phi$-inflection. However, some of class (2b) adpositions have an alternative inflecting form which resembles the class (2a) PPs examined. These inflecting forms are witnessed in examples (199a-b). Here the possessive suffix emerges on the P head in the presence of a pronominal argument and the word order is fixed.

(198) a. * hänen ali-nsa
   s/he,GEN under-PX/3SG

b. * hänen ohi-nsa
   s/he,GEN past-PX/3SG

(199) a. Pekan ohitse / *ohitse Pekan
   Pekka,GEN past past Pekka,GEN
   ‘past him/her’

b. hänen ohitse-en / *ohitse-en hänen
   s/he,GEN past-PX/3SG past-PX/3SG s/he,GEN
   ‘past him/her’

Class (2b) adpositions undergo pied-piping when the wh-phrase occupies the edge, as in (200a). If the wh-phrase fails to occupy the edge of the pied-piped PP, as in (b), the sentence is interpreted as an echo question.

(200) a. [ Minkä yli] Pekka käveli _?
   what,GEN over Pekka,NOM walked
   ‘What did Pekka walk over?’

b. [ Yli minkä] Pekka käveli _?
   over what,GEN Pekka,NOM walked
   ‘Pekka walked over what?’
Like classes (1) and (2a), an adverb phrase interferes with pied-piping. First, examples (201a-b) show that the wh-DP cannot move past the adverb. Yet, if the wh-phrase is below the adverb, as in (c), the sentence receives an echo interpretation.

(201) a. Aita jatkui [melkein talon ympäri].
   fence.NOM continued almost house GEN around
   ‘The fence continued almost around the house.’

   b. * [Minkä melkein _ ympäri] aita jatkui _?
      what GEN almost around fence.NOM continued

   c. [Melkein minkä ympäri] aita jatkui _?
      almost what GEN around fence.NOM continued
      ‘The fence continued almost around what?’

After examining wh-movement, we now turn to other word-order changes within the PP. Similar to class (1) PPs, word order is sensitive to discourse factors. This influence of discourse on the word order was investigated for class (1) PPs using an ellipsis test; we will use the same test here. The ellipsis tests (202)-(203) for class (2b) adpositions show that either the P-head or the DP may be elliptically deleted. In all the examples, the saved material is to the right of the elliptically deleted material. This suggests that in these sentences, the DP is more topical in the DP-P order than in the P-DP order.

(202) a. Kulkiko Pekka [vaatevuoren yli] vai [vaatevuoren ali]?
    walked.kO Pekka.NOM clothes-pile GEN over or clothes-pile GEN under
    ‘Did Pekka walk over the pile of clothes or under it?’

   b. * Kulkiko Pekka [yli vaatevuoren] vai [ali vaatevuoren]?
      walked.kO Pekka.NOM over clothes-pile GEN or under clothes-pile GEN

(203) a. Kulkiko Pekka [yli vaatevuoren] vai [yli laatikkokasan]?
    walked.kO Pekka.NOM over clothes-pile GEN or over box-pile GEN
    ‘Did Pekka walk over a pile of clothes or a pile of clothes?’

   b. * Kulkiko Pekka [vaatevuoren yli] vai [laatikkokasan yli]?
      walked.kO Pekka.NOM clothes-pile GEN over or box-pile GEN over

These examples provide evidence that in both classes (1) and (2b), the word order within the adposition phrase is sensitive to discourse factors.66

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66Class (2a) adpositions differ from class (2b) adpositions with regard to the presence of $\phi$-Agree between the adposition and the DP, and with regard to the presence of obligatory A-movement to the edge of P. Brattico (2010b) proposes that the genitive case occurs on par with the EPP-movement to the edge of the adposition. Under these assumptions, the DP-P order would represent the basic word order and the P-DP order would be derived via A$'$-movement. At this point, I will leave this question open.
To summarize, the Finnish adposition phrases from classes (1) and (2b) display word order variation that can be accounted for by relying on discourse factors. In particular, these PPs display an internal wh-movement within pied-piped phrases. Moreover, the word order of class (2a) PPs is fixed and a wh-DP pied-pipes the PP from the specifier position.

6.3 Extraction conditions

Thus far, we have analyzed the pied-piping of Finnish adposition phrases. Although pied-piping seems to be available in most contexts, extraction nevertheless exists as an alternative strategy, as will be demonstrated in this section. To be precise, I will argue that extraction from class (1) PPs is possible if the PP occupies a complement position. On the other hand, the impossibility of extraction can be accounted for by relying on the Adjunct Island Condition. The extraction conditions on the PPs that occupy the complement of a verb are investigated in Section 6.3.1.

However, PPs from classes (2a) and (2b) do not permit extraction in equivalent contexts. Section 6.3.2 discusses the possible factors that could cause the discrepancy between the adposition phrase types. One plausible alternative is that a freezing effect is caused by ϕ-agreement. The data from the adposition phrases form a basis for the investigation of the ϕ-agreement constraint on subject extraction explored in the forthcoming chapters.

6.3.1 Extraction asymmetries

This section begins with examples of sentences that can be argued to involve extraction from a PP. Having established that extraction takes place, I will discuss the structural position of the PP in extraction contexts and propose that PPs allow extraction when they occupy the complement position and are extraction islands in adjunct positions.

Extraction from an adposition phrase can be seen in sentences such as (204b). This sentence contains a PP headed by kohti, ‘towards,’ and a dislocated wh-phrase in partitive case.

\[\text{It should be noted that the presence of the adverbial in (204b) does not prevent movement out of the PP, even though it prevents pied-piping from the edge position, as was seen in examples (184a-b). Under the assumption that the wh-extraction from the PP proceeds through successive cycles via an intermediate landing site at the edge of P, the presence of adverbial is a potential problem for the extraction analysis. However, I have proposed earlier that the wh-movement targets the specifier of P, a position different from the adjunction site. In other words, the adverbial does not prevent the wh-phrase from moving to the specifier. Thus, the conditions on successive cyclic movement and on pied-piping seem to be slightly different: even though the adverbial prevents pied-piping, it does not seem to interfere with successive cyclic movement through the specifier of the adposition phrase.}\]
(204) a. Pekka juoksi [ kohti puistoa ].
Pekka.NOM ran towards park.PAR
‘Pekka ran towards the park.’

b. Mitä Pekka juoksi [ (suoraan) kohti _ ] ?
what.PAR Pekka.NOM ran (straight) towards
‘What did Pekka run (straight) towards?’

In addition to the adposition kohti, ‘towards,’ above, the adposition ilman, ‘without,’ seems to allow extraction. For example, sentences (205)-(206) show that extraction of the argument DP is possible when the PP is embedded in a non-finite complement clause (A-infinitive).

(205) a. Pekka jäi ilman televisiota.
Pekka.NOM remained without TV.PAR
‘Pekka was left without a TV.’

b. Mitä Pekka jäi ilman _ ?
what.PAR Pekka.NOM remained without
‘What was Pekka left without?’

(206) a. Pekka ei anna [ Merja lähteä [ ilman sadetakkia ] ].
Pekka.NOM not.3SG let Merja.Gen leave.A without raincoat.PAR
‘Pekka doesn’t let Merja leave without a/the raincoat.’

b. Mitä Pekka ei anna [ Merjan lähteä [ ilman _ ] ] ?
what.PAR Pekka.NOM not.3SG let Merja.Gen leave.A without
‘What doesn’t Pekka let Merja leave without?’

Nevertheless, it is not obvious that the above sentences provide genuine examples of wh-extraction. The adposition kohti, ‘towards,’ can also function as a particle; below are two examples of the particle usage of this adposition. Thus, it would be possible that the adposition functions as a particle in examples (205b) and (206b) instead of heading its own projection. In the following, I will show that this hypothesis cannot be maintained.

68 The context where extraction is used could be, for example, the following, in which the adposition is focused and therefore occupies the sentence-final position. Examples (1a-b) are from the Internet.

(1) a. Älä sure sitä, mitä olet [ ilman _ ] vaan iloitse sitä mitä
not.IMP.2SG worry that.PAR what.PAR are without but rejoice.IMP.2SG that.PAR what.PAR
simulla on!
you.INE have
‘Don’t worry about what you are without but rejoice about what you already have!’

b. Hullut päivät: mitä ostit ja mitä jäit [ ilman _ ] ?
crazy days what.PAR buy.PST.2SG and what.PAR remain.PST.2SG without
‘Crazy days: what did you buy and what were you left without?’

69 Examples (207a-b) are from Finnish Text Collection (n.d.).
Consider the sentence (208) (from Finnish Text Collection, n.d.), which contains a dislocated DP *poliisia,* 'police,' in partitive case. There are two alternative analyses for this construction. According to first one, the sentence provides an instance of extraction from an adposition phrase, in which case the DP is an argument of the adposition head P and is assigned the partitive case by the adposition. According to the second alternative, the adposition functions as a particle, as in examples (207a-b) above.

(208) *Poliisia ammuttiin taas [pp kohti ].*

police.PAR shoot.PASS.PST again towards
‘They shot again towards the police.’

The data from case assignment nevertheless show that the partitive case is assigned by the adposition head in support of the extraction analysis. First, the accusative case is not available at all in the presence of the adposition head, as shown in (209a-b). However, the accusative becomes available when the adposition is not present, as in (210a-b). This suggests that the direct object is located in the complement of adposition *kohti,* ‘towards,’ which assigns the partitive case to the DP.

(209) a. *Poliisi ammuttiin kohti.*

police.ACC(0) shoot.PASS.PST towards
b. *Hänets ammuttiin kohti.*

s/he.ACC(t) shoot.PASS.PST towards

(210) a. Poliisi ammuttiin taas.

police.ACC(0) shoot.PASS.PST again
‘A/The police(man) was shot again.’

b. Hänets ammuttiin.

s/he.ACC(t) shoot.PASS.PASS
‘He/she was shot.’

In contrast, most particle verbs assign case to the object DP independently of the particle. For example, the adposition *läpi,* ‘through,’ takes a genitive argument, as in (211a), but when it functions as a particle, there is no genitive case on the object DP, as shown in (b).

(211) a. renkaan läpi

through.GEN ring
‘through the ring’
b. Hän vain kertaa tapahtumia, jotka niin monasti on käytty s/he.NOM only reiterates events.PAR, which.PAR so often have gone läpi _ kaikkissa tiedotusvälineissä. through all.INE medias.INE
‘He/She only reiterates the events that have been talked through so many times in every possible media.’ (Hakulinen et al., 2004, §455)

In conclusion, the adposition cannot be analyzed as a particle in (208) and extraction from the adposition phrase is available in Finnish. In the following, I provide some data that support the complement analysis for the PP in certain contexts.

The first piece of evidence for the complement position comes from anaphor binding: complements and adjuncts have different licensing conditions for pronouns. For example, consider sentences (212a-c) from Reinhart & Reuland (1993). If the PP is selected by a verb, as in (b), the pronoun cannot be bound by the sentence subject. However, if the PP is an adjunct, as in (c), pronominal binding becomes available.70 The example sentences follow the principle B of the binding theory, which states that a pronoun is free in its governing category (Chomsky, 1981). The governing category is here the TP.

(212) a. Max\textsubscript{i} criticized himself/\textit{him}_\textit{i}/j. 
   b. Max\textsubscript{i} speaks with himself/\textit{him}_\textit{i}/j. 
   c. Max\textsubscript{i} saw a gun near himself/\textit{him}_\textit{i}/j.

The sentences below show that the binding condition B applies to Finnish transitive clauses: a pronominal object cannot be bound by the sentence subject in (213a), and only reflexive binding is available. The same holds for the argument in the illative case in (b). Example (c) illustrates that the pronoun that occupies the complement of P cannot be bound by the sentence subject in this context.

(213) a. Pekka\textsubscript{i} näki hänet,\textit{\textit{s/he}_\textit{\textit{i}}}/j / itsensä\textsubscript{i}. 
Pekka.NOM saw s/he.ACC / self.ACC.PX/3SG ‘Pekka saw him/her\textsubscript{i}/j / himself. ’
   b. Pekka\textsubscript{i} luotti häneen,\textit{\textit{s/he}_\textit{\textit{i}}}/j / itseensä\textsubscript{i}. 
Pekka.NOM trusted s/he.ILL self.ILL.PX/3SG ‘Pekka trusted him/her / himself.’
   c. Pekka\textsubscript{i} kulki [pp kohti häntä,\textit{\textit{s/he}_\textit{\textit{i}}}/j / itseään\textsubscript{i}]. 
Pekka.NOM walked towards s/he.PAR self.PAR.PX/3SG ‘Pekka walked towards him/her / himself.’

The examples above suggest that the PP can occupy the complement of a verb. Having now considered the PPs in the direct complement of a verb, we will address examples

70It should be noted that sometimes a P can license a pronoun even though the PP is selected by the verb. However, this is not relevant for the present point.
(214a-b) that suggest that the direct object can exist in parallel with a PP that allows extraction.71

(214)  a. Pekka jätti Merjan [ ilman sadetakkia].
       Pekka.NOM left Merja.ACC without raincoat.PAR
       ‘Pekka left Merja without a/the raincoat.’

       b. Mitä Pekka jätti Merjan [ ilman ___]?
          what.PAR Pekka.NOM left Merja.ACC without
          lit. ‘What did Pekka leave Merja without?’

I would like to propose that the above examples involve a double complement structure (Larson, 1988; Chomsky, 1995), in which the PP occupies the second complement position below the object argument. In the double complement structure (215), the object argument occupies the specifier of V, whereas the indirect object (PP) is located on the complement of V.

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71Sentences (214a-b) have a reading in which the PP modifies the object DP: Merja ilman sadetakkia, ‘Merja without a raincoat.’ However, this reading is not preferred for this sentence. Consider the scope of the adverbial ainoastaan, ‘only.’ If the PP modifies the noun Merja, then the sentence is interpreted so that the only person that Pekka left was Merja, and Merja was without a raincoat. The second reading is that Pekka provided a raincoat to everybody except Merja. In sentence (b), which involves an extraction from the PP, the adverbial has only one reading, the one in which Pekka gave a raincoat to everybody, but left Merja without one.

(1)  a. Pekka jätti ainoastaan Merjan ilman sadetakkia.
       Pekka.NOM left only Merja.ACC without raincoat.ACC
       ‘Pekka left only Merja without a raincoat.’

       b. Mitä Pekka jätti ainoastaan Merjan ilman ___?
          what.PAR Pekka.NOM left only Merja.ACC without
          ‘What did Pekka leave only Merja without?’
The data from reflexive binding supports the double complement analysis. In examples (216a-b), a reflexive anaphor (possessive suffix) is able to establish a reference to the direct object (see Section 2.4 and Vainikka (1989); Trosterud (1993) for the anaphoric properties of the 3rd person possessive suffixes in Finnish).

(216) a. Pekka$_i$ jätti Merjan$_j$ [ilman sadetakkiaan$_{i/j/3sg}$].
   Pekka.NOM left Merja.ACC without raincoat.PAR.PX/3SG
   ‘Pekka left Merja without his/her raincoat.’

   b. Pekka$_i$ kuljetti koiraa$_j$ [kohti omistajaansa$_{i/j/3sg}$].
   Pekka.NOM took dog.PAR towards owner.PAR.PX/3SG
   ‘Pekka took dog towards his/her owner.’

In accordance with the binding condition B, a pronoun cannot refer to the sentence subject from inside the PP, as in (217a). Example (b) shows that extraction from the PP is possible in this context.

(217) a. Pekka$_i$ käänsi aseen [kohti häntä$_{i/j}$ / itseään$_j$].
   Pekka.NOM turned gun.ACC towards s/he.PAR self.PAR.PX/3SG
   ‘Pekka turned the gun towards him/her / himself.’

   b. Ketä Pekka$_i$ käänsi aseen [kohti _] ?
   who.PAR Pekka.NOM turned gun.ACC towards?
   ‘Who did Pekka turn the gun towards?’

In contrast, examples (218a-b) provide evidence that if the PP cannot be interpreted as an argument of the verb, it may occupy an adjunction site. As a consequence, pronominal binding becomes available. The adjunct analysis is further supported with example (219), which shows that extraction from the PP is not permitted, as predicted by the Adjunct Island Condition.
Finally, adjuncts and complements differ from each other in elliptical contexts. Let us first consider the vP-ellipsis in (220a). Here, the elliptically deleted vP contains an adjunct modifier tänään, ‘today,’ and a PP-modifier kohti merta, ‘towards the sea.’ In contrast, example (b) involves a VP-ellipsis. This VP may be omitted without affecting the adjunct tänään, ‘today.’ However, when the PP-modifier occupies the complement position and the VP is elliptically deleted, as in (c), the PP is not preserved either.

The extraction data from Finnish PPs thus support the Adjunct Island Condition on extraction (finding 5 on page 70). This means that extraction from an adposition phrase is available if it occupies the complement position.
(221) a. Pekka luki kirjaa [ ilman silmälaseja] .
   Pekka.NOM read.PST.3SG book.PAR without glasses.PAR
   ‘Pekka read a book without glasses.’

b. *? Mitä Pekka luki kirjaa [ ilman _]? 
   what.PAR Pekka.NOM read.PST.3SG book.PAR without

c. Pekka kampanjoi Merjaa presidentiksi [ ilman häntä,ši/k] .
   Pekka.NOM campaigned Merja.PAR president.TRANS without s/he.PAR
   ‘Pekka campaigned (to make) Merja president without him/her.’

The extraction data together with the data from the anaphoric binding and ellipsis formation suggest that the partitive case assigning PPs can occupy the complement of a verb. In addition, the Finnish PP can appear in a double complement structure. Even so, movement out of the PP is not permitted if the PP occupies an adjunct position.

### 6.3.2 Subject extraction

Having now investigated the extraction from class (1) adpositions phrases, let us turn to the extraction conditions for classes (2a) and (2b). The aim of this section is to show that the adposition phrases from these two classes are strong islands, and to introduce the $\phi$-agreement constraint on subject extraction. To begin, examples (222a-b) show that an extraction from a class (2a) adposition phrase is not permitted.

   Pekka.NOM sat bonfire.GEN near
   ‘Pekka sat near a/the bonfire.’

b. * Minkä Pekka istui [ _ lähellä]? 
   what.GEN Pekka.NOM sat near

As outlined in Section 6.2.2, class (2a) adpositions phrases host the DP argument in the specifier position. In addition, class (2a) adpositions inflect with the $\phi$-features of a pronominal argument. Which property of the adposition classes (1) and (2a) explains this distinction in extraction conditions? These two classes differ (at least) in terms of the following three aspects: case of the argument DP, presence of obligatory EPP-movement, and $\phi$-agreement. Table (6.3.2) summarizes these differences.

<table>
<thead>
<tr>
<th></th>
<th>Class (1)</th>
<th>Class (2a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case of the Argument DP</td>
<td>Partitive</td>
<td>Genitive</td>
</tr>
<tr>
<td>$\phi$-agreement</td>
<td>–</td>
<td>✓</td>
</tr>
<tr>
<td>EPP</td>
<td>–</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Strong Island</strong></td>
<td>–</td>
<td>✓</td>
</tr>
</tbody>
</table>

Table 6.1: Structure and islandhood of Finnish PP

The following chapters will introduce more data on Finnish subject extraction, and the observations are summarized in Section 10.7. Taken together, it will become evident that
the crucial property that prevents subject extraction in Finnish is $\phi$-Agree. The islandhood of class (2a) PPs can thus be viewed in light of a more general condition on the extraction of subjects, introduced in Section 4.5.3 as the $\phi$-agreement constraint on subject extraction, and repeated in (223) below. Nevertheless, I will not present the arguments for this constraint in this connection; I merely conclude that the class (2a) follows it.

(223) **The $\phi$-agreement constraint on subject extraction**

The extraction of a subject from a $\phi$-agreement phrase is not possible.

A $\phi$-agreement phrase is a phrase that has the possibility of displaying overt $\phi$-feature agreement with an overt pronoun. In finite clauses, the $\phi$-agreement is present on the finite verb. However, in other constructions, the $\phi$-agreement takes the form of a possessive suffix (Kanerva, 1987). The constraint has already been examined with finite CPs; agreement is one of the factors that restricts extraction from CPs in Finnish.

The remainder of this section is dedicated to the extraction conditions for class (2b) adposition phrases. It was stated in Section 6.2.3 that class (2b) adposition phrases do not agree with the $\phi$-features of the argument DP. Assuming that the PP occupies a complement position in example (224a), extraction should be available. However, example (b) shows that the DP cannot be moved out of the PP.

(224) a. Pekka kulki [vaatevuoren yli].
   Pekka.NOM walked clothes-pile.Gen over
   ‘Pekka walked over a/the pile of clothes.’

   b. * Minkä Pekka kulki [ _ yli]?
      what.Gen Pekka.NOM walked over

At first sight, class (2b) adpositions thus present a problem for the $\phi$-agreement constraint on subject extraction. However, some ambiguities occur in the data. First, most of the class (2b) adpositions also have an inflecting form, as illustrated in (225a-b). Like class (2a) adpositions, the $\phi$-inflection surfaces in the presence of a personal pronoun and the word order is fixed within the PP.

(225) a. hänen ohitseen / * ohitseen hänen
   s/he.Gen past.PX/3SG past.PX/3SG s/he.Gen
   ‘past him/her’

   b. Pekan ohitse / * ohitse Pekan
      Pekka.Gen past past Pekka.Gen

These two forms, the inflecting one and the uninflecting one, may be in a partial complementary distribution. The inflected form is preferred if the genitive argument is a personal pronoun. For example, sentence (226a) from colloquial speech in that possessive
suffixes are often omitted. In addition, the inflecting form (b) is more common. Finally, the position of the personal pronoun at the complement of a non-inflecting form is ungrammatical (c).

(226) a. Pekka kulki [hänen ohi].
   Pekka.NOM walked s/he.GEN past
   ‘Pekka walked past him/her.’

b. Pekka kulki [hänen ohitseen].
   Pekka.NOM walked s/he.GEN past.PX/3SG
   ‘Pekka walked past him/her.’

c. * Pekka kulki [ohi hänen].
   Pekka.NOM walked past s/he.GEN
   ‘Pekka walked past him/her.’

This means that these inflecting forms could be part of the same paradigm as the non-inflecting forms. It is therefore possible to conclude that the presence of an abstract Agree-relation cannot be completely ruled out for class (2b) adpositions, and they do not serve as an obvious counterexample for the $\phi$-agreement constraint on subject extraction.

This chapter has examined the $A'$-movement properties of Finnish adposition phrases. It was shown that all adposition phrases undergo pied-piping and obey the edge generalization. In addition, extraction is available as an alternative wh-movement strategy for certain PPs; these PPs provide an example of “optional pied-piping,” which will be discussed in Section 10.6. Moreover, this section contained a preliminary introduction to the $\phi$-agreement constraint on subject extraction. One recurring theme for the remainder of this thesis will be the conditions for subject extraction.

72In a corpus search from newspaper text (Finnish Text Collection, n.d.), the string hänen yli/ohi/ali ‘s/he.GEN over/past/under’ was represented 2 times, whereas the PP with inflecting forms hänen ylitseen/ohitseen/alitseen occurred 120 times. The inverted word order yli/ohi/ali hänen was not represented at all. I have omitted some adpositions such as halki, ‘through,’ and poikki, ‘across,’ from the present analysis since they belong to a more restricted paradigm (see for more information Hakulinen et al., 2004, §702).
Chapter 7

Determiner phrases (DP)

7.1 Introduction

This chapter examines the syntactic aspects of the A′-movement of Finnish determiner phrases. The data presented here support the edge generalization (86), which states that the wh-constituent must occupy the edge in order to trigger pied-piping. In addition, the A′-movement properties of DPs are consistent with the other main findings introduced in Section 4.6.

Some of the case and number agreement properties of the Finnish DPs were outlined already in Section 2.3.1. This introductory section outlines the basic syntactic properties of Finnish DPs that form the basis for the investigation of A′-movement. Section 7.1.1 introduces the pre-nominal modifiers and the basic structure of a Finnish DP. Section 7.1.2 introduces post-nominal modifiers, which involve both complements and adjuncts.

After the introduction, the chapter continues in Section 7.2 with an outline of the extraction conditions. It is proposed that whereas an extraction of pre-nominal modifiers is not available, extraction from the complement of a noun head is possible. In addition, Finnish allows adjunct extraction from noun phrases in certain contexts. Section 7.3 is devoted to pied-piping; it will be demonstrated that pied-piping by pre-nominal and adjunct modifiers is generally possible. In addition, genitive modifiers display the properties of the internal wh-movement to the edge of the DP. However, internal wh-movement from the complement of a noun head to the edge is not available and this means that the elements at the complement domain cannot trigger pied-piping.

7.1.1 Pre-nominal modifiers

The basic structure of a Finnish DP contains a noun head N and optional pre-nominal modifiers: determiner or demonstrative pronoun (D), quantificational expression (Q), numeral (Num), adjective phrases (APs), and genitive pre-modifiers (DPs), which are all present
in example (227). In addition, the DP may contain adjuncts and complements, which are introduced in the next section.

(227) ne kaikki kolme naapurin vilkasta koiranpentua
those all three neighbour:GEN lively:PAR puppy:PAR
‘all those three lively puppies of the neighbor’

The pre-nominal modifiers are assumed to be structured as reprinted in recent studies: For example, genitive pre-modifiers occupy the specifier position of the nominal head (Vainikka, 1989, 2003, 2011), as illustrated in (228). Furthermore, adjective phrases are adjoined to NP, and Q and Num -heads form their own projections below D (see for details, Brattico, 2008b, 2009; Brattico & Leinonen, 2009; Vainikka, 2011).

(228) (228) DP
     D QP
        ne ‘those’ Q NumP
          kaikki ‘all’ Num NP kolme ‘three’ AP NP
           vilkasta ‘lively:PAR’ DP naapurin ‘neighbor:GEN’ koiranpentua ‘puppy:PAR’

In addition, a Finnish DP can contain up to two pre-nominal genitive modifiers, which are conceived as possessors, such as Pekan, ‘Pekka’s,’ in (229a), or as thematic arguments of the head noun. For instance, in (229b), the deverbal noun has two genitive arguments: a subject isän, ‘father’s,’ and object auton, ‘car’s.’ In example (c), the first genitive DP is a possessor and the second one is another type of argument of the noun head.\footnote{Deverbal -minen-nominals are sometimes classified as non-finite clauses in Finnish. However, these nominals display several characteristic properties of noun phrases, see (Koskinen, 1998, pp. 121-125). Unlike other non-finite constructions in Finnish, the -minen-nominals are selected by D, and they have the syntactic distribution of DPs. I will therefore consider them to be in parallel with the other DPs.}

(229) a. Pekan koira
     Pekka:GEN dog
     ‘Pekka’s dog’
b. isän auton ostaminen
   father.GEN car.GEN buying
   ‘buying of a/the car by the father’

c. tytön Viron matka
   girl.GEN Estonia.GEN trip
   ‘a/the girl’s trip to Estonia’

(Hakulinen et al., 2004, §578)

Let us recall from Section 2.4 that if the genitive modifier is a personal pronoun, it
causes overt $\phi$-inflection on the noun head, as in (230a-c). Furthermore, the $\phi$-inflection
surfaces in the presence of a personal pronoun regardless of whether the pronoun is inter-
preted as a possessor (a), a subject argument (b), or an object argument (c).

(230) a. minun kirja-ni
   I.GEN book-PX/1SG
   ‘my book’

b. hänen kaatumise-nsa
   s/he.GEN falling-PX/3SG
   ‘his/her falling’

c. hänen löytymise-nsä
   s/he.GEN finding-PX/3SG
   ‘finding him/her’

To account for the argument structure of derived nouns, I will assume that noun phrases
may contain a little $n$ projection, which has a noun phrase (NP) as its complement (Marantz,
1997; Chomsky, 2006). According to Chomsky (2006), derived nominals share a struc-
ture similar to a verb phrase: the object argument is base-generated as the complement of
$N$ and undergoes EPP-movement to the specifier of the noun head, as illustrated in figure
(231). The noun head then enters into Agree with the genitive argument as well and the
presence of Agree is signalled by a possessive suffix on the noun head, as in (230a-c).

(231) The EPP-movement of the DP

```
NP
   DP
     Merjan
       N [EPP] t
         tapaaminen
         ‘meeting’
```

Like the verb phrases, the subject argument is Merged to the specifier of an $n$-projection,
as illustrated in (232). However, I assume that unlike verbal domains, the $N$ head does not
undergo head movement to the $n$, but instead remains in-situ. As a consequence, both of
the genitive arguments end up being linearized before the head noun.74

(232)

\[
\text{DP} \\
\text{D} \\
\text{nP} \\
\text{Pekan} \\
\text{‘Pekka.GEN’} \\
\text{n} \\
\text{NP} \\
\text{Merjan} \\
\text{‘Merja.GEN’} \\
\text{N} \\
\text{tapaaminen} \\
\text{‘meeting’}
\]

Finally, I will assume that possessors are base-generated as the complement of the N
head by default. However, when the noun phrase has an eventive interpretation, the spec-
ifier of an $n$ head is available for the possessor as well. According to Hakulinen et al.
(2004, §578), the genitive possessor often precedes the genitive argument of some other
type.

7.1.2 Complements and adjuncts

In addition to pre-nominal modifiers, Finnish DPs may host a divergent class of other
modifiers. Four types of complements are examined here: (i) the A-infinitive; (ii) the MA-
infinitive; (iii) complement of a picture noun; and (iv) the kasa-construction (explained
below). Each of these types will be introduced briefly.

First, the A-infinitives occupy the complement position of the noun head, as exempli-
fied in (233) (see also Hakulinen et al. (2004, §593)).75

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74 A comparable structure for Finnish noun phrase is proposed by Brattico (2005, 2008b) and Brattico &
Leinonen (2009). In their approach, both genitive noun phrases are base-generated below the $n$ head and
undergo an EPP-movement to the specifiers of $n$. However, the A’-movement data will support the analysis
below, in which the two genitive arguments occupy the specifier positions of distinct projections.

75 Nouns can also take finite CP as a complement or modifier (relative clause). These constructions will
not be considered further in this chapter, as extraction from them is impossible and internal wh-movement
is not available.
The structure is illustrated in (234). I adopt the position of Koskinen (1998) and assume that the A-infinitive contains a vP with PRO as a subject argument.

The complement analysis for A-infinitives is supported by the fact that these non-finite clauses also occupy a complement position in verbal domains (Vainikka, 1989; Toivonen, 1995; Koskinen, 1998), see also Section 9.6. Further evidence comes from the distribution of the genitive arguments. Recall from the previous section that the thematic object argument of a derived noun is assumed to be base-generated as the complement of the noun head. This proposal can now be investigated in light of the assumption that the A-infinitive occupies the complement position as well. In verbal domains, the A-infinitive cannot co-occur with a direct object, as is witnessed in examples (235a-b). As in verbal domains, the noun head cannot take both the direct object argument and an A-infinitive complement, as example (236a) illustrates. Example (236b) shows that thematic subject argument can nevertheless co-occur together with the A-infinitive. This is predicted, as-

(1) a. oivallus, [cP joka auttoi häntä]
   insight which.NOM helped s/he.PAR
   ‘the insight that helped him/her’

   b. väite [cP että maapallo on litteää]
   claim that earth.NOM is flat.ACC
   ‘the claim that the earth is flat’
summing that the specifier of the \(nP\) is available for the thematic subject argument (or a possessor).\(^{76}\)

(235) a. Pekka halusi tulla kuuluisaksi.
   Pekka.GEN wanted become.A famous.TRANS
   ‘Pekka wanted to become famous.’

b. * Pekka halusi hänet tulla kuuluisaksi.
   Pekka.NOM wanted s/he.ACC become.A famous.TRANS
   ‘Pekka wanted him/her to become famous.’

(236) a. * Pekan hänen halu tulla kuuluisaksi
   Pekka.GEN s/he.GEN desire become.A famous.TRANS
   ‘*Pekka’s his/her desire to become famous.’

b. Pekan halu tulla kuuluisaksi
   Pekka.GEN desire become.A famous.TRANS
   ‘Pekka’s desire to become famous’

Having now established that the A-infinitive occupies the complement of the noun head, I will introduce the other typical complements of a noun head. However, unlike the A-infinitive, I will not provide a structural analysis for them in this section, but return to some relevant properties in Section 7.2.2.

The second type of a non-finite clause that is able to occur as the complement of a noun head is the inner locative case variants of the MA-infinitive; one of them is exemplified in the following sentence.

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\(^{76}\)With some verbs such as \textit{antaa}, ‘let,’ the A-infinitive that occupies the complement of a verb may take an overt subject (see Hakulinen et al., 2004, §502). This is illustrated in (1). When these verbs are nominalized, the overt argument of the A-infinitive appears in the pre-nominal position as in (2a). If the subject of the A-infinitive coincides with the object argument of the nominal, the object argument can be overt. However, the presence of a subject argument is restricted in this construction, as in (2b-c). This evidence strengthens the argument that like verbs, the noun head selects the A-infinitive as its complement.

(1) Me annoimme Pekan auttaa Merjaa.
   we.NOM let Pekka.GEN help.A Merja.PAR
   ‘We let Pekka help Merja.’

(2) a. Pekan antaminen auttaa Merjaa
   Pekka.GEN letting help.A Merja.PAR
   ‘letting Pekka to help Merja’

b. *? meidän Pekan antaminen auttaa Merjaa
   we.GEN Pekka.GEN letting help.A Merja.PAR
   ‘letting Pekka to help Merja by us’

132
The third group of modifiers that are connected here to the complement position include the Finnish picture noun construction, exemplified in (238). The fourth type is the quantifier construction referred to as the kasa-construction and illustrated in (239).

(238) kuva Merjasta
    picture Merja.ELA
    ‘a/the picture of Merja’

(239) pala leivästä
    piece bread.ELA
    ‘a/the piece of bread’

We will see later in this chapter that the common property of A-infinitives, the kasa-construction and the complements of pictures nouns is that they only occur post-nominally and that they do not undergo an internal wh-movement within a pied-piped phrase. The complement can be extracted, apart from the A-infinitive, which only allows extraction from it. Finally, the MA-infinitive allows both extraction and pied-piping, as will be demonstrated in 7.2.2.2.

Certain other modifiers can be analyzed as being complements as well; these modifiers include noun phrases in a semantic case, such as (240a-b), and the CP-complements of nouns (241). However, I will not consider these modifiers further in this thesis.

(240) (Hakulinen et al., 2004, §593)
    a. halu muutoksiin
       desire changes.ILL
       ‘a/the desire for changes’
    b. tilaisuus keskustelulle
       opportunity discussion.ALL
       ‘an/the opportunity for discussion’

(241) ajatus, että nyt minä tarvitsen apua
    thought that now I.NOM need help.PAR
    ‘a/the thought that I need help now.’

Adjunct modifiers include adverbials expressing manner, such as the PP saksilla, ‘with scissors,’ in (242a); time expressions, such as puoliitapäivin, ‘around noon,’ in (b) and the non-finite adverbial clauses exemplified in (c). Finally in (d), an underived noun phrase is modified by the adverbial kaikilla mausteilla, ‘with all the fixings,’ (examples (a) and (b) are adapted from Hakulinen et al., 2004, §591).
(242) a. leikkaaminen saksilla
  cutting scissors.ADE
  ‘cutting with scissors’

b. lakon alkaminen puolilta päivin
  strike.GEN starting around noon
  ‘starting of the strike around noon’

c. Pekan kaatuminen [auttaessaan Merja]
  Pekka.GEN falling help.ESSA/PRS.PX/3SG Merja.PAR
  ‘Pekka’s fall while helping Merja’

d. hampurilainen kaikilla mausteilla
  hamburger all.ADE spices.ADE
  ‘a hamburger with all the fixings’ (Hakulinen et al., 2004, § 591)

Other PP-modifiers, such as locative PPs (243a) and adposition phrases (b), also occupy an adjunction site within the DP.

(243) a. illallinen [pp kahvilassa]
   dinner cafe.INE
   ‘a/the dinner at the cafe’

b. kahvin keittäminen [pp vieraita varten]
   coffee.GEN cooking guests.PAR for
   ‘making coffee for the guests’

The PP-modifiers can co-exist, as shown under (244); this supports the adjunct analysis for these modifiers. Nonetheless, some of the PP-modifiers can be interpreted either as adverbials or as arguments of the head noun, as will be discussed in Section 7.2.3.

(244) (Hakulinen et al., 2004, § 562)

a. ajo loistoautolla korkeatasoiseen hotelliin
   drive limousine.ADE high-class.ILL hotel.ILL
   ‘a/the drive by a limousine to a high-class hotel’

b. lounas Aralan kanssa huipuluokan ravintolassa
   lunch Arala.GEN with top-level.GEN restaurant.INE
   ‘a/the lunch with Arala in a top-level restaurant’

Having now introduced the basic components of Finnish noun phrase, I will turn to investigate the extraction conditions in Section 7.2, and pied-piping in Section 7.3.

7.2 Extraction from a DP

The extraction of pre-nominal modifiers is not possible in Finnish; the relevant examples are provided in Section 7.2.1. However, the extraction of complements is available, as outlined in Section 7.2.2. Finally, Finnish DPs allow the extraction of adjunct modifiers under certain conditions; these conditions are investigated in Section 7.2.3
7.2.1 Extraction of pre-nominal modifiers

This section will provide relevant examples of the ungrammaticality of the extraction of pre-nominal modifiers in Finnish as well as brief discussion on the ϕ-agreement constraint on subject extraction. Examples (245a-e) show that it is not possible to extract the genitive argument (b), quantifier (c), determiner/demonstrative (d), or adjective phrase (e) from a noun phrase.

(245) a. Minä luin [ sen Rimmisen uusimman kirjan] 
    I read that.ACC Rimminen.GEN newest.ACC book.ACC
    ‘I read the latest book by Rimminen.’

       b. * Kenen sinä luit [ _ kirjan] ?
          who.GEN you.NOM read book.ACC

       c. * Montako sinä luit [ _ kirjaa] ?
          how many you.NOM read book.PAR

       d. * Minkä sinä luit [ _ kirjan] ?
          which.GEN you.NOM read book.ACC

       e. * Millaisen sinä luit [ _ kirjan] ?
          what kind of.ACC you.NOM read book.ACC

The example (b) above shows that possessor extraction does not exist in Finnish, in agreement with the Left Branch Condition (LBC) by Ross (1967, p. 114) (see also Section 4.5.3). The unavailability of possessor extraction is consistent with the ϕ-agreement constraint on subject extraction (70) for Finnish, which prohibits extraction from those subject positions in which a pronominal argument triggers ϕ-inflection. Example (246) shows that the head noun inflects for the ϕ-features of a pronominal possessor minun, ‘my.’

(246) minun kirja-ni
    L.GEN book-PX/1SG
    ‘my book’

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77In the presence of two genitive arguments, either one can trigger possessive suffix on the noun head, as illustrated in (1a-b). In addition, neither genitive argument can be extracted, as predicted.

(1) a. minun auton ostamise-ni
    L.GEN car.GEN buying-PX/1SG
    ‘the buying of the car by me’

       b. ? Pekan minun esittelemise-ni
          Pekka.GEN.L.GEN introducing-PX/1SG
          ‘my introduction by Pekka’
However, the unavailability of the extraction of the other pre-nominal modifiers is not covered by the $\phi$-agreement constraint on subject extraction. For example, adjective phrases are adjoined to the NP and they do not trigger phi-inflection on the noun head. Nevertheless, adjectives resist extraction. Capturing the correct generalization for extraction of the other pre-nominal modifiers thus requires some additional assumptions, which are not addressed in this thesis.

7.2.2 Extraction from complements

Having now established that extraction of pre-nominal modifiers is not allowed in Finnish, we will turn to the properties of other modifiers. This section examines the extraction conditions for the complements of a noun head, and the extraction of adjuncts is examined in Section 7.2.3. The main conclusion of this section is that extraction from the complement of a noun is possible in Finnish. Section 7.2.2.1 addresses A-infinitives, and Section 7.2.2.2 explores the MA-infinitive complements. Finally, Section 7.2.2.3 introduces the extraction conditions for Finnish picture noun phrases and quantifier constructions.

7.2.2.1 The A-infinitive

The A-infinitive complement provides perhaps the most uncontroversial example of an extraction from a DP in Finnish. In verbal domains, the A-infinitive is typically an argument of a verb (see Section 9.6). In the complement of a noun, the A-infinitives allow the extraction of arguments and adjuncts, as exemplified in (247a-b). However, extracted adjuncts may be ambiguous owing the two interpretations – the sentential reading and the A-infinitive reading. For example, in the first reading, the PP *yhdestä rahastosta*, ‘from a fund,’ modifies the main clause and in the second reading it modifies the non-finite clause. In addition, both readings are possible when the wh-phrase has been fronted (c). For illustrations of this, the bracketing below indicates the reading where the PP modifies the A-infinitive.

\[(247) \begin{array}{ll}
\text{a. Pekka} & \text{got} \text{a hint to apply for a grant from a foundation.}
\end{array} \]

\[(247) \begin{array}{ll}
\text{b. Mitä Pekka} & \text{got} \text{a hint to apply for from a foundation?}
\end{array} \]

\[(247) \begin{array}{ll}
\text{c. Mistä Pekka} & \text{got} \text{a hint to apply a grant from?}
\end{array} \]
Unlike typical complements, the non-finite clause cannot be extracted in tact, as example (248) illustrates. The same observation will be made for the A-infinitives in the complement of an adjective head (Section 8.2.3.1, examples (309)), and in verbal domains as well (Section 9.6.2).\footnote{In certain contexts, the case of the direct object of the non-finite verb alternates between the zero-accusative and the -n-accusative case, as in (1). The direct object in the -n-accusative case may be extracted, but not in the zero-accusative (2a-b). Hakulinen & Karlsson conclude that the infinitival clause forms an island in (2b), and that the islandhood may be observed in the lack of the case-inflection (zero-accusative) and unavailability of extraction.}

(248) *\[ Mitä hakea \_ Pekka sai [ vihjeen \_ ]? \]
\[\text{what} . \text{PAR} \quad \text{apply} . \text{A} \quad \text{Pekka} . \text{NOM} \quad \text{got} \quad \text{hint} . \text{ACC} \]
\[\text{‘What to apply did Pekka receive a hint?’}\]

Pre-nominal modifiers do not interfere with an extraction from the A-infinitive, as illustrated under (249). First, extraction is neither sensitive to the presence of a numeral (b), or a quantifier, nor is it sensitive to an adjective (c). Example (d) shows that demonstrative pronoun at D does not interfere with extraction.

(249)

a. Pekka sai [ yhden tilaisuuden tutkia lintuja].
\[\text{Pekka} . \text{NOM} \quad \text{got} \quad \text{one} . \text{ACC} \quad \text{opportunity} . \text{ACC} \quad \text{investigate} . \text{A} \quad \text{birds} . \text{PAR} \]
\[\text{‘Pekka got one opportunity to investigate birds.’}\]

b. Mitä Pekka sai [ yhden tilaisuuden tutkia \_ ]?
\[\text{what} . \text{PAR} \quad \text{Pekka} . \text{NOM} \quad \text{got} \quad \text{one} . \text{ACC} \quad \text{opportunity} . \text{ACC} \quad \text{investigate} . \text{A} \]
\[\text{‘What did Pekka get one opportunity to investigate?’}\]

c. Mitä Pekka sai [ monta jännittävää tilaisuutta tutkia]
\[\text{what} . \text{PAR} \quad \text{Pekka} . \text{NOM} \quad \text{got} \quad \text{many} \quad \text{exciting} . \text{ACC} \quad \text{opportunity} . \text{PAR} \quad \text{investigate} . \text{A} \]
\[\text{‘What did Pekka get many exciting opportunities to investigate?’}\]
d. Mitä Pekka sai (vain) [tämän tilaisuuden tutkia_]?
‘What did Pekka get (only) this opportunity to investigate?’

Nonetheless, the presence of the genitive argument may have a slight effect on extraction, but the presence does not prevent it, as illustrated in (250a-b). The possessive suffix can be used as well (c).79

(250)

a. Pekka arvosteli [Merjan aikomusta matkustaa Intiaan].
‘Pekka criticized Merja’s intention to travel to India.’

b. ? [Mihin maahan] Pekka arvosteli [Merjan aikomusta matkustaa_]?
‘Which country did Pekka criticize Merja’s intention to travel to?’

c. Mihin Pekka toteutti [aikomuksensa matkustaa_]?
‘Where did Pekka realize his intention to travel to?’

To summarize, the A-infinitive is not an island when it occupies the complement of a noun and the presence of pre-nominal modifiers does not affect the extraction conditions. However, a whole non-finite clause cannot be moved. Further data on A-infinitives, including marginal pied-piping in the verbal domains, are provided in Chapter 9.

7.2.2.2 The MA-infinitive

Let us recall from Section 2.5.1.3 on Finnish non-finite clauses that MA-infinitive has five case variants. Two of them, MALLA and MATTA, typically occur as adjuncts, while

79The data from reflexive binding show that the PP can reconstruct inside the non-finite clause. In Section 6.3.1, it was proposed that the Finnish vP-domain can contain a double complement construction where the PP argument is situated lower than the object argument. This construction is available for the A-infinitives as well, as in (1a). For example, the extracted PP reconstructs to its base position in the complement of A-infinitive, as in (b).

(1) a. Pekka$_1$ sai tilaisuuden palauttaa koiran$_2$ omistajalleen$_{1/3}$.
‘Pekka got an opportunity to return the dog to its owner.’

b. Omistajalleen$_{1/3}$ Pekka$_1$ sai tilaisuuden palauttaa _.
‘It was to its owner that Pekka got an oppportunity to return the dog.’
the (inner) locative case variants (inessive, elative, and illative) typically occupy the complement position in verbal domains (e.g. Toivonen, 1995). The three inner locative case forms are illustrated in (251a-c). These three forms share the basic syntactic properties and consequently, they are used indistinguishably in the examples.

(251)  
  a. pysyminen [auttamassa pandoja]  
       staying help.MA/INE pandas.PAR  
       ‘staying to help the pandas.’
  b. palaaminen [auttamasta pandoja]  
       returning help.MA/ELA pandas.PAR  
       ‘returning from helping the pandas.’
  c. lähteminen [auttamaan pandoja]  
       leaving help.MA/ILL pandas.PAR  
       ‘leaving to help the pandas.’

The MA-infinitives in the inner locative cases allow extraction in examples such as (252b), and their behavior thus pairs up with the A-infinitives in this context. However, unlike the A-infinitive, the MA-infinitive can be extracted from the noun phrase as well, as example (c) shows.

(252)  
  a. Pekka järjesti [matkan [auttamaan pandoja]].  
       Pekka.NOM organized trip.ACC help.MA/ILL pandas.PAR  
       ‘Pekka organized a trip to help pandas.’
  b. Ketä Pekka järjesti [matkan [auttamaan _]].  
       who.PAR Pekka.NOM organized trip.ACC help.MA/ILL  
       ‘Who did Pekka organize a trip to help?’
  c. [Ketä auttamaan _] Pekka järjesti matkan _?  
       who.PAR help.MA/ILL Pekka.NOM organized trip.ACC  
       ‘Who did Pekka organize a trip to help?’

In addition, unlike the A-infinitives, MA-infinitives may trigger the pied-piping of certain DPs as well. This is shown in Section 7.3.2. The extraction properties of the MA-infinitives are considered again in verbal domains in Section 9.5.

### 7.2.2.3 Picture nouns and quantifier constructions

This section investigates the extraction of the partitive and elative PP complements from two types of noun phrases in Finnish: the picture noun phrase and a type of quantifier construction, which is referred to as the *kasa*-construction (following Brattico, 2008b).\(^{80}\)

First, Finnish noun phrases headed by a “picture” noun, such as *elokuva*, ‘movie,’ *kirja,*
‘book,’ or kuva ‘picture’ take a PP complement in elative case that can be extracted from the object DP, as witnessed in the sentences below:

(253) a. Sinä nät [kuvan Merjasta].
You.NOM saw picture.ACC Merja.ELA
‘You saw a picture of Merja.’

b. Kenestä sinä nät [kuvan _]? 
who.ELA you.NOM saw picture.ACC
‘Who did you see a picture of?’

Let us compare the above Finnish example to the English picture noun construction under (254). One possible analysis for the English construction is provided in (255a). Assuming the approach for the Finnish semantic cases proposed by Nikanne (1989), the elative case is assigned by a P-head to the complement DP. The structural analysis for Finnish picture nouns would therefore be the one in (255b).

(254) a. I saw a picture of Mary.

b. Who did you see a picture of _?

(255) (a) DP
    a                (b) DP
       D               D
       NP             NP
          a          P  PP
             N   DP
                P
                   N
                      Mary

In English, extraction from a picture noun phrase involves stranding the preposition, as in sentence (254b). However, it is not clear from the available evidence from Finnish whether the P-head that assigns the semantic case is stranded or whether it has moved along with the wh-DP. In the following, I will assume that the whole PP moves in Finnish.

In kasa-constructions, the noun head receives a PP-complement in the partitive (256a-b) or elative (257a-b) case. Extraction of the complement PP is possible in both cases.

(256) a. Pekka lapioi [kasan hiekkaa].
Pekka.NOM shovelled pile.ACC sand.PAR
‘Pekka shovelled a pile of sand’
b. Mitä Pekka lapioi [ kasan ] ?
   what.PAR Pekka.NOM shovelled pile.ACC
   ‘What did Pekka shovel a pile of?’

(257) a. Pekka leikkasi [ palan leivästä ] .
   Pekka.NOM cut slice.ACC bread.ELA
   ‘Pekka cut a slice of the bread’

b. Mistä Pekka leikkasi [ palan ] ?
   what.PAR Pekka.NOM cut slice.ACC
   ‘What did Pekka cut a slice of?’

The structural analysis for the kasa-construction proposed by Brattico (2008b) is given in (258). The P-head assigns the partitive or the elative case to its complement.

(258) kasa leluja
    pile toys.PAR
    ‘a pile of toys’

While extraction from complements is possible in certain examples of both picture nouns and the kasa-constructions, extraction is restricted in other contexts. I will now turn to examine some of the restrictions on the extraction from picture noun phrases reported in other languages; the kasa-construction itself is left for future research.

Example (259a) illustrates that the verb that selects the picture noun phrase influences extraction: whereas some verbs allow extraction, others do not. Example (259b) shows how the definiteness of the DP can limit extraction (“definiteness effect” by Fiengo & Higginbotham (1981)): the presence of a determiner pronoun or a definite article blocks the extraction from the DP.

(259)

a. Kenestä Asko luki/osti/*pinosi kirjoja _?
   who.ELA Asko.NOM read/bought/stacked books.PAR
   ‘Who did Asko read/buy/*stack books about?’
b. Kenestä Asko luki *tämän/*sen/jonkun kirjan _?
   who.ELA Asko.NOM read.PST.3SG this.ACC/that.ACC/some.ACC book.ACC
   ‘Who did Asko read *this/*the/some book about?’

In addition, example (260a) shows that the genitive argument interpreted as a possessor prevents extraction from the picture noun phrase (see examples from other languages Abney, 1987; Stowell, 1989). The type of the genitive pre-modifier is relevant; when the genitive argument is interpreted as the author of the book (and not the owner), as in (b), extraction is again possible (see Davies & Dubinsky, 2003).

(260) a. * Kenestä Asko luki Merjan kirjaa _?
   who.ELA Asko.NOM read.PST.3SG Merja.GEN book.PAR
   ‘*?Who did Asko read Merja’s book about?’

b. ? Kenestä Asko luki Paasilinnan kirjaa _?
   who.ELA Asko.NOM read.PST.3SG Paasilinna.GEN book.PAR
   ‘Who did Asko read Paasilinna’s book about?’

I proposed earlier that the Finnish noun phrase contains two positions for genitive pre-modifiers: possessors and object arguments occupy the complement of the noun head and undergo EPP-movement to the specifier of that N. On the other hand, subject arguments are base-generated at the specifier of nP (see figure (232)). Assuming that the possessor is base-generated as the complement of the noun head in (260a), then the PP kenestä, ‘about whom,’ cannot occupy the complement position but must be adjoined to the structure. Nevertheless, extraction of adjuncts is in Finnish more highly restricted than the extraction of complements, as is demonstrated in the next section. In other words, the structural status of the PP as the complement of the noun head is thus controversial.

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81The presence of the possessive suffix produces a similar effect. I have assumed that the possessive inflection on a noun head emerges in the presence of a ϕ-pronoun or pro-argument. When the pro-argument is interpreted as a possessor as in (1a), extraction is not allowed. However, when the pro-argument is interpreted as the writer of the book, extraction is again possible (b).

(1) a. * Kenestä Asko luki kirjansa _?
   who.ELA Asko.NOM read.PST.3SG book.ACC.PX/3SG
   ‘Who did Asko, read his, book about?’

b. Kenestä Asko kirjoitti kirjansa _?
   who.ELA Asko.NOM read.PST.3SG book.ACC.PX/3SG
   ‘Who did Asko, write his, book about?’

82For example, Chomsky (1977) proposes that the PP in picture noun phrases is base-generated within the DP but moved out prior the A′-movement through an extraposition or reconstruction rule, see Rappaport (2001) for discussion in the minimalist framework. Proper extraction from NPs would not be permitted at
To summarize, determiners and demonstrative pronouns appear to restrict extraction from a noun phrase. This is expected, assuming the successive cyclic approach to movement in which the movement out of a noun phrase proceeds via the edge of D. Furthermore, genitive pre-modifiers that are conceived as possessors may prevent the extraction of PP-modifiers, whereas subject arguments do not. This discrepancy was solved by proposing that the genitive arguments are base-generated at the different structural positions.

7.2.3 The extraction of adjuncts

The previous section concentrated on extraction from the complement of a noun; this section will focus on the extraction of adjunct modifiers. According to Stjepanovic (2000), the only languages to allow adjunct extraction from a noun phrase are languages without articles (see also the discussion in Bošković, 2008). Finnish is an example of a language that does not have overt articles, although some demonstrative pronouns may function like articles (Laury, 1996, 1997; Juvonen, 2000). This section will show that Finnish resembles other article-less languages by allowing a limited extraction of adjuncts, although extraction of adjectives is not possible.\(^3\)

Consider first the noun phrases that do not involve an event structure, such as (261a). Example (b) suggests that adjunct extraction from the Finnish noun phrase is possible.

(261) a. Pekka osti [hampurilaisen kaikilla mausteilla]
    Pekka.NOM bought hamburger.ACC all.ADE spices.ADE
    ‘Pekka bought a hamburger with all the fixings.’

    b. ? Millä mausteilla Pekka osti [hampurilaisen ]?
       which.ADE spices.ADE Pekka.NOM bought hamburger.ACC
       ‘Which spices did Pekka buy a hamburger with?’

Examples (262)-(263) support this observation:

(262) a. Pekka tapasi [tyttöjä tästä kaupungista].
    Pekka.NOM met girls.PAR this.ELA city.ELA
    ‘Pekka met girls from this city.’

\[all\] as discussed by Bach & Horn, 1976). Hakulinen & Karlsson (1979) propose an alternative analysis of misplaced elative complements in Finnish in terms of split-NPs.\(^3\)

Franks (2007) notes a correlation between adjective extraction and the emergence of an article in Finnish, and presents the following examples citing Laury (1997) and (p.c.):

(1) a. Punaisen ostit auton. [literary Finnish, poetic style]
    red.ACC buy.PST.1SG car.ACC

    b. *? Punaisen ostit (sen) auton. [spoken Finnish]
       red.ACC buy.PST.1SG the/that.ACC car.ACC

I find he sentence (a) acceptable only in poetic or archaic contexts.
b. Mistä kaupungista Pekka tapasi [tytöitä]?
   Which city did Pekka meet girls?

(263) a. Minä luin [kirjan tuolta hyllyltä].
   I read a book from that shelf.

b. * Miltä hyllyltä sinä luit [kirjan]?
   Which shelf did you read the book from?

However, recall from the previous section that the status of the PP-modifier is ambiguous between the complement and adjunct position. Nevertheless, if the genitive argument is base-generated as the complement of the noun head and the position of the PP is disambiguated: instead of occupying the complement, the PP must be adjoined to the structure. Like picture noun phrases examined in the previous section, the presence of a possessor restricts extraction in this context as well (see example (264) below). It is thus possible that the above example (263b) is not a genuine instance of adjunct extraction.

(264) a. Minä luin [Pekan kirjan tuolta hyllyltä].
   I read Pekka’s book from that shelf.

b. * Miltä hyllyltä sinä luit [Pekan kirjan]?
   Which shelf did you read Pekka’s book from?

Regarding the extraction of PPs, nouns with event-related interpretation do not pose similar restrictions on the extraction of PPs as do the underived nouns, as the English examples (265a-b) show. According to Huang (1982b), the underived nouns do not take PPs as complements, whereas the PP can occupy a complement position within a derived noun. The contrast between examples (265a-b) is thus an object/adjunct asymmetry and can be accounted for by CED: the PP at the complement is properly governed by the noun head and can be extracted, whereas this is not true for the PP-adjunct in (b) (see also Chomsky (1986, p.80) and Culicover & Rochemont (1992)).

(265) (Huang, 1982b, p. 564)

a. Of which city did you witness [NP the destruction]?

b. * On which table did you like [NP the books]?

The same contrast in Finnish can also witnessed between noun phrases with and without event-related interpretation. Examples (266) demonstrate that whereas it is not possible to extract a PP-modifier from a DP headed by kahvila, ‘café,’ in (a-b), the derived noun yöpyminen, ‘visiting,’ allows extraction (c).
(266) a. Asko suositteli [kahvilaa tässä kaupunginosassa] Ask.o.NOM recommended cafe.PAR this.INE district.INE  
‘Asko recommended a cafe in this district.’
b. *? Missä Asko suositteli [kahvilaa_] ?  
   where.INE Ask.o.NOM recommended cafe.PAR  
   ‘Where did Asko recommend a cafe?’
c. Missä Asko suositteli [käymistä_] ?  
   where.INE Ask.o.NOM recommended visiting.PAR  
   ‘Where did Asko recommend visiting?’

The main difference between the noun phrases in examples (266b-c) is that the noun *kahvila*, ‘cafe,’ in (a) does not have a verbal root, but the noun head *yöpyminen*, ‘visiting,’ in (c) has one. Other types of nouns that denote an event seem to allow the extraction of event-related adjunct modifiers, as shown in (267).\(^{84}\)

(267) a. ryntäys kentälle / kentälle ryntäys  
   rush field.ALL / field.ALL rush  
   ‘a rush to the field’

---

\(^{84}\)Based on the preliminary observations, the presence of an overt determiner seems to restrict adjunct extraction; for example, sentence (1a) contains a demonstrative pronoun at D. Nevertheless, the other modifiers, numerals, quantifiers, and adjective phrases have little or no effect on extraction.

(1) a. *? Missä Asko ehdotti tätä käymistä _?  
   where.INE Ask.o.NOM proposed this.PAR visiting.PAR  
   ‘Where did Asko propose this visit _?’
b. ? Missä Asko ehdotti yhtä käymistä _?  
   where.INE Ask.o.NOM proposed one.PAR visiting.PAR  
c. Mihin Asko suositteli useaa vierailua _?  
   where.ILL Ask.o.NOM recommended several.PAR visit.PAR  
   ‘Where did Asko recommend several visits to?’
d. Mihin Asko suositteli yöllistä vierailua _?  
   where.ILL Ask.o.NOM recommended nightly.PAR visit.PAR  
   ‘Where did Asko recommend a nightly visit to?’

On the other hand, the presence of the genitive argument affects the availability of extraction (2a). However, when the genitive DP is conceived as object argument, as in (b), extraction is more natural than in the presence of the subject argument in (a).

(2) a. *? Minne Asko ehdotti Pekan jäämistä _?  
   where.ILL Ask.o.NOM proposed Pekka.Gen remaining.PAR  
   ‘Where did Asko propose Pekka’s remaining?’
b. Minne Asko ehdotti kirjeen jättämistä _?  
   where.ILL Ask.o.NOM suggested letter.Gen leaving.PAR  
   ‘Where did Asko suggest leaving the letter to?’

The exact extraction conditions are left for future research.
b. Mihin Pekka näki [ryntäyksen]?
   where.ILL Pekka.NOM saw rush.ACC
   ‘Where did Pekka see a rush?’

To summarize, Finnish seems to allow limited extraction of adjuncts from noun phrases. First, derived noun phrases allow the extraction of adjuncts. In addition, underived nouns seem to allow limited extraction of adjuncts, although PP-modifiers may be ambiguous between the complement and adjunct positions.

In general, Finnish noun phrases allow extraction from complement and do not permit left branch extraction, whereas the status of adjunct modifiers is more controversial. The next section will examine pied-piping and the position of the wh-phrase within a pied-piped DP.

### 7.3 Pied-piping and internal wh-movement

Finnish DPs undergo pied-piping in wh-questions when the wh-phrase occupies the edge position. Furthermore, both pre-nominal and adjunct modifiers trigger the pied-piping of the DP. The pied-piping by pre-nominal modifiers is addressed in Section 7.3.1 and the pied-piping properties of complements and adjuncts in Section 7.3.2.

#### 7.3.1 Pre-nominal modifiers

Section 7.1 presented a preliminary analysis of the pre-nominal modifiers in Finnish DPs; the basic structure is repeated in (268) (Brattico, 2008b, 2009).

```
(268)
DP
  |   
  D  QP
  |   
ne  ‘those’
  |   
Q  NumP
  |   
kaikki  ‘all’
  |   
Num
  |   
kolme  ‘three’
  |   
AP
  |   
vilkasta  ‘lively.PAR’
  |   
NP
  |   
naapurin  ‘neighbor.GEN’
  |   
DP
  |   
koiranpentua  ‘puppy.PAR’
```
All pre-nominal modifiers can trigger the pied-piping of the DP. The presence of an overt D restricts pied-piping, as examples (269)-(270) illustrate. First, the D-element cannot co-occur with a wh-phrase that occupies the same position in (269). Second, the wh-quantifier montako, ‘how many,’ in (270a) is marginal even when interpreted as an echo question. Finally, adjective phrases and the possessor arguments receive an echo interpretation if they co-occur with an overt D, as in (270b-c).

(269) * se mikä koiranpentu
     that which puppy

(270) a. * ne montako koiranpentua
     those how many puppy.PAR
     ‘those how many puppies?’

b. ? ne millaiset koiranpennut
     those what kind of puppies
     ‘those what kind of puppies’

c. nämä kenen koiranpennut
     these who.GEN puppies
     ‘these puppies of whom’

Examples (271a-d) are further evidence that these wh-phrases cannot move past an overt D.

(271) a. * mikä tämä koiranpentu
     which that puppy

b. * montako ne _ koiranpentua
     how many those puppy.PAR

c. * millaiset ne _ koiranpennut
     what kind of those puppies.PAR

d. * kenen nämä _ koiranpennut
     who.GEN these puppies

The edge generalization in Finnish is strict: the wh-phrase must be the highest phonologically overt element within a pied-piped phrase. Any element that occupies a position higher than the wh-phrase within a pied-piped phrase renders the echo reading for the wh-phrase. This means that overt D is part of the more general edge generalization for Finnish. In addition, as in the CPs, an overt element at the edge of a DP prevents further movement to the edge.

7.3.1.1 Adjective phrase as a pied-piper

The pied-piping by an adjective phrase is subject to several structural constraints. First, the presence of an overt D prevents pied-piping in other than echo questions, as was demonstrated in (269)-(270). Second, an adjective phrase cannot occupy the edge position in the
presence of a quantifying head, as in (272b). Third, if the wh-phrase occurs below the quantifier, as in (c), the wh-phrase receives an echo interpretation.

(272) a. kaikki hyvät ajatukset  
    all good.PL thought.PL  
    ‘all the good thoughts’

   b. * millaiset kaikki ajatukset  
      what.like.PL all thought.PL  
      ‘all what kind of thoughts’

   c. kaikki millaiset ajatukset  
      all what.like.PL thought.PL  
      ‘all what kind of thoughts’

Third, examples (273a-b) suggest that the adjective phrase also does not move past the numeral. Example (a) contains a numeral and a singular adjective in a canonical word order. In contrast, the word order in which the adjective occupies a position above the numeral is not available (b). The wh-phrase below a numeral is interpreted as an echo question (c).

(273) a. (ne) kolme punaista polkupyörää  
    those three red.SG.PAR bike.SG.PAR  
    ‘those three red bikes’

   b. * mallaista kolme polkupyörää  
      red.SG.PAR three bike.SG.PAR

   c. kolme millaista polkupyörää  
      three what.like.SG.PAR bike.SG.PAR  
      ‘three bikes of what kind?’

Yet, adjective phrases can occupy a position above the numeral and then trigger pied-piping, as examples (274a-b) indicate. Brattico (2009) proposes that in these contexts, the adjective phrase is base-generated at a higher position. This proposal is supported by the fact that the number and case inflection of the adjective phrase are dependent on the syntactic position of the AP: in (274a-b), the adjective is in the plural and in the nominative case, whereas in the example (273a), the adjective is in the singular and receives the partitive case from the numeral (Brattico, 2009). Furthermore, when the adjective is in plural, the position below the numeral is not available (c).

(274) a. (ne) punaiset kolme polkupyörää  
    those.NOM red.PL.NOM three bike.SG.PAR  
    ‘those three red bikes’

   b. [ Millaiset kolme polkupyörää] Pekka osti _?  
      what kind.of.PL.ACC three bike.PAR Pekka.NOM bought?  
      ‘What kind of three bikes did Pekka buy?’
7.3.1.2 The internal movement of the genitive argument

I propose in this section that unlike adjective phrases, DP-internal genitive arguments can move past both numerals and quantifiers in Finnish. Example (275) demonstrates that the genitive possessor can surface in different positions within the DP.\(^{85}\)

(275) ne (Pekan) kaikki (Pekan) kolme (Pekan) punaista (Pekan)  
those Pekka.GEN all Pekka.GEN three Pekka.GEN red.PAR Pekka.GEN  
polkupyörää bike.PAR  
‘all those three red bicycles of Pekka’

I proposed in Section 7.1.1 a layered structure for the Finnish noun phrase (nP) with two base-generated positions available for the genitive pre-modifier: at the complement of the noun head and at the specifier of the higher \(n\)-projection, as in figure (232)/(276). By default, possessors and thematic object arguments are base-generated at the complement and the thematic subject argument to the specifier of \(n\). However, possessors can occupy the specifier of \(n\) in special cases, such as in noun phrases with event interpretation or in the presence of another type of genitive argument.

\(^{85}\)If the NP is followed by a relative clause, the genitive argument can occupy the position on the top of the determiner pronoun, as in (1). However, the analysis of these structures is beyond the scope of this study.

(1) ? Pekan se polkupyörää, jossa on vielä apparit kiinni  
which.INE has still training-wheels.NOM attached  
‘the/that Pekka’s bike that still has training wheels attached’
The relative order of the two genitive arguments is fixed so that the subject argument precedes the object argument, as in (277a). This order cannot be changed without affecting the interpretation of the thematic roles of the arguments, as shown in (b).

(277) a. isän auton ostaminen
    father.GEN car.GEN buying
    ‘the buying of the car by the father’

    b. * auton isän _ ostaminen
       car.GEN father.GEN _ buying
       (meaning that the father bought the car)

The same restriction on word order applies to wh-questions as well. The presence of the first genitive argument prevents the second genitive argument from occupying the edge, as illustrated in (278). On the other hand, the in-situ wh-phrase in (b) receives an echo interpretation.

(278) a. * minkä, isän _ ostaminen
     what.GEN father.GEN _ buying

     b. isän minkä ostaminen
        father.GEN what.GEN buying
        ‘father’s buying of what?’

The $n$P in figure (276) represents the “inner” layer of the DP; the rest of the pre-nominal modifiers that appear within a DP in Finnish, such as the numerals, quantifiers, and demonstrative pronouns, are situated at the top of the $n$P (Brattico, 2008b; Brattico & Leinonen, 2009). The position of adjectives relative to the genitive arguments is now unclear: it seems that in principle there are two adjunction sites for the adjective phrases: $NP$ and $n$P.
nP, as in (279). I will not address the problem of the relative order of the subject arguments and adjective phrases here and concentrate instead on demonstrating that the genitive arguments undergo an internal A′-movement past the other pre-nominal modifiers, the numerals and quantifiers.

(279) **tällainen Pekan harmiton auton kolarointi**
          this.kind.of Pekka.GEN harmless car.GEN crashing
          ‘this type of harmless crashing of the car by Pekka’

Turning now to the word order changes repeated in example (280), the presence of A′-movement in these examples can be defended with the following observations: The case and ϕ-features of the genitive DP are not sensitive to the surface position of the DP. In addition, the internal wh-movement alters quantifier scope. These observations are presented in detail in the following.

(280) **ne (Pekan) kaikki (Pekan) kolme (Pekan) punaista polkupyörää**
          those Pekka.GEN all Pekka.GEN three Pekka.GEN red.PAR bike.PAR
          ‘all those three red bicycles of Pekka’

As for the first property, the possessors with the question particle -kO can move past a numeral (281a-b), and a quantifier (282a-b). The examples involve the movement triggered by the question particle -kO. Same word order changes are necessary in wh-questions, but not in echo questions. Unlike APs, the genitive case and the number inflection of the genitive pre-modifier remain intact during movement.

(281) a. [Kolme Pekan polkupyörää] varastettiin.
          three Pekka.GEN bike.PAR steal.PASS.PST
          ‘Three of Pekka’s bikes were stolen.’

     b. [Pekan-ko kolme _ polkupyörää] varastettiin?
          Pekka.GEN-kO three _ bike.PAR steal.PASS.PST
          ‘Was it Pekka’s three bikes that were stolen?’

(282) a. [Kaikki lasten polkupyörät] varastettiin.
          all children.GEN bikes.ACC steal.PASS.PST
          ‘All the children’s bikes were stolen.’

     b. [Lasten-ko kaikki _ polkupyörät] varastettiin?
          children.GEN-kO all _ bikes.ACC steal.PASS.PST
          ‘Was it all the children’s bikes that were stolen?’

Turning now to the second property, the data from quantifier interpretation supports the movement analysis. Consider the interpretation of quantifiers in the declarative sentence (283a) that contains a numeral at the top of a quantified genitive argument: the quantified DP receives a narrow scope interpretation with respect to the numeral. In (b), the quantified DP is moved past the numeral, and as a consequence, the quantifier receives
an additional wide scope interpretation. This phenomenon is not restricted to the thematic aspects of the genitive argument.

(283)  

a. kaksi kaikkien sadunkertojien lempitarinaa 2 > ∀, *∀ > 2  
two all.Gen story-tellers.Gen favorite story.Par  
‘two favorite stories of all the story-tellers’

b. kaikkien sadunkertojien kaksi lempitarinaa 2 > ∀, ∀ > 2  
all.Gen story-tellers.Gen two favorite story.Par  
‘all story-tellers’ two favorite stories’

Similarly, a genitive wh-phrase receives an additional wide scope reading when fronted past a numeral, as in (284a). This sentence may be interpreted so that the question requests the number of story-tellers who have the same two favorite stories. The second reading is that each story-teller possesses two favorite stories, and each of these stories may be different (see Hakulinen et al., 2004, §571, for additional examples of scope changes within Finnish DP).

(284)  

[ Monen-ko sadunkertojan kahta _ lempitarinaa] Pekka  
kuunteli _?  
listened  
‘How many story-tellers’ two favorite stories’  
(2 / 2^n favorite stories)

To summarize, the wh-movement of the genitive argument affects the interpretation of quantifier expression. As a consequence of the movement past the numeral, the quantifier expression may receive an additional wide-scope interpretation which was not present in the launching site.

7.3.2 Pied-piping by complements and adjuncts

This section contains two observations. The first is that internal wh-movement from the complement of a noun head to a pre-nominal edge position is not available. Second, whereas deverbal noun phrases allow pied-piping by the adjuncts, the underived noun phrases do not.

Let us now consider the A-infinitive in the complement of a noun in example (285a). If the object argument of the A-infinitive is a wh-phrase, this wh-phrase cannot move to a pre-nominal edge position, as shown in (b). Another point is that the A-infinitive also cannot be pied-piped together with the wh-phrase to the edge of D, as shown in (c). This means that the only way to form a content question in this case is to extract the relevant wh-phrase and move it to the edge of C, as in (d).
(285) a. Pekka esti yrityksen pystyystää lintuja].
   Pekka.NOM prevented attempt.ACC catch.A birds.PAR
   'Pekka prevented an attempt to catch birds.'

b. *? Mitä yrityksen pystyystää_] Pekka esti _?
   what.PAR attempt.ACC catch.A Pekka.NOM prevented

c. * [ Mitä pystyystää] yrityksen _] Pekka esti _?
   what.PAR catch.A attempt.ACC Pekka.NOM prevented

d. Mitä Pekka esti yrityksen pystyystää _]?
   what.PAR Pekka.NOM prevented attempt.ACC catch.A
   'What did Pekka prevent an attempt to catch?'

It was demonstrated in Section 7.2.2.3 that Finnish picture noun phrases allow the extraction of the complement (under certain conditions). Example (286a) represents this type of an extraction. In turn, (b) shows that the complement of the picture noun does not undergo an internal wh-movement to the edge of D. The same observation holds for the kasa-constructions that were assumed to occupy the complement of a noun head as well (examples (287a-b)).

(286) a. Kenestä sinä näit kuvan _?
   who.ELA you.NOM saw picture.ACC
   'Who did you see a picture of?'

b. * [ Kenestä kuvan _] sinä näit _?
   who.ELA picture.ACC you.NOM saw

(287) a. * [ Mistä leivästä palan _] Pekka leikkasi _?
   which.ELA bread.ELA slice.ACC Pekka.NOM cut

b. Mistä leivästä Pekka leikkasi palan _?
   which.ELA bread.ELA Pekka.NOM cut slice.ACC
   'Which bread did Pekka cut a slice of?'

Pied-piping by a construction equal to (288) is thus not possible in Finnish, due to the restrictions on the internal wh-movement from the complement to the edge. With regard to pied-piping, Finnish displays the universal tendency of pied-piping to not be available from the complement positions (Horvath, 2006).

(288) * [ Picture of whom] did you see _?

Unlike complements, adjuncts may surface pre-nominally and trigger pied-piping, as in (289). The surface position of the adjunct modifiers vary depending on the form of the noun: nouns with event structure, such as kirjoittaminen, 'writing,' take both post-nominal and pre-nominal PP-modifiers and adverbials. These modifiers surface only post-nominally in noun phrases without an event structure, such as (290) (Hakulinen et al., 2004, § 563).
(289) a. kirjoittaminen paikallislehdessä
   writing local.newspaper.INE
   ‘writing in the local newspaper’

   b. [ Paikallislehdessä kirjoittaminen] on ollut hyödyllistä.
   local.newspaper.INE writing.NOM has been useful.PAR
   ‘Writing in the local newspaper has been useful.’

(290) a. juttu paikallislehdessä
   story local.newspaper.INE
   ‘story in the local newspaper’

   b. * paikallislehdessä juttu
   local.newspaper.INE story
   As a consequence, only those nouns with event structure undergo the pied-piping that
   is triggered by these adverbial phrases, as the contrast in the examples below show:

(291) a. [ Missä käymistä] Asko ehdotti _?
   where.INE visiting.PAR Asko.NOM proposed
   ‘Where did Asko propose visiting?’

   b. * [ Missä kahvilaa] Asko ehdotti _?
   where.INE cafe.PAR Asko.NOM proposed
   ‘A cafe where did Asko propose?’

   Pied-piping by the adjunct modifiers is restricted by the presence of an overt D, in the
   same way as with the pre-nominal modifiers. This is illustrated in examples (292a-b),
   which both receive an echo reading.

(292) a. se missä kirjoittaminen
   that where.INE writing
   ‘the/that writing where’

   b. se [ ketä auttamaan] lähteminen
   that who.PAR help.MA/LL leaving
   ‘the/that leaving to help whom’

   Finally, the presence of the subject argument interferes with the wh-movement to the
   edge, as is illustrated in examples (293a-c). This suggests that the adjunct modifiers are
   base-generated below the subject argument and that they cannot undergo movement past
   the subject.

   Asko.NOM proposed Pekka.GEN staying.PAR here.ILL
   ‘Asko proposed that Pekka should stay here.’

   b. *? [ Minne Pekan jäämistä _] Asko ehdotti _?
   where.ILL Pekka.GEN staying.PAR Asko.NOM proposed
   ‘Where did Asko propose that Pekka should stay?’
Finally, I have included here two additional examples from underived noun phrases that do not allow pre-nominal PP-modifiers at all. As the examples (294a-c) and (295a-c), limited extraction of PP-modifiers may be possible.

(294) a. Pekka söi [hampurilaisen kaikilla mausteilla].
    'Pekka ate a hamburger with all the fixings.'

b. ? Millä mausteilla Pekka söi [hampurilaisen ]?
    'With which fixings did Pekka eat a hamburger?'

c. * [Millä mausteilla hampurilaisen ] Pekka söi ?
    which.ADE fixings.ADE hamburger.ACC Pekka.NOM ate

(295) a. Pekka odottaa [junaa Helsinkiin].
    'Pekka waits for the train to Helsinki.'

b. Mihin Pekka odottaa [junaa ]?
    'Where does Pekka wait for the train?'

c. * [Mihin junaa ] Pekka odottaa ?
    where.ILL train.PAR Pekka.NOM waits

To summarize, DP-internal adjunct modifiers can trigger the pied-piping of the DP if they can appear pre-nominally. In addition, the presence of other overt pre-modifiers prevents pied-piping.

This chapter has now outlined some of the basic A'-movement properties for Finnish determiner phrases. The next section will move on to adjective phrases, which were mentioned several times in this section as well. First, it was demonstrated that adjective phrases cannot be extracted from a DP; the next section will show that adjective phrases are extraction islands when they modify a noun head. On the other hand, we saw that adjective phrases trigger the pied-piping of determiner phrases. In the next section we will see how the wh-phrase at the edge pied-pipes an adjective phrase and triggers recursive pied-piping of the PP.
Chapter 8

Adjective and adverb phrases in Finnish

8.1 Introduction

This chapter is divided into two parts: the first part of the chapter investigates Finnish adjective phrases (APs), covering both regular adjectives and two types of participial adjectives. The remainder of the chapter explores a typical class of AP-modifiers, adverb phrases (AdvP). The next Section 8.2 provides a basic introduction to the structure of Finnish adjective phrases along with the A'-movement data and generalizations, and Section 8.3 turns to adverb phrases.

8.2 The adjective phrase (AP)

This section starts with an overview of regular adjective phrases (Section 8.2.1) and of some elementary properties of the two participial adjectives (Section 8.2.2). The extraction properties of both types of APs are presented in Section 8.2.3. In brief, I will show that Finnish adjective phrases follow the Adjunct Island Condition (104): attributive adjective phrases are adjoined to the structure and are strong extraction islands. In the predicative position, adjective phrases allow limited extraction. Like the DPs discussed in the previous chapter, certain adjectives take genitive DPs pre-modifiers. But the extraction of these modifiers is not possible, in accordance with the ϕ-agreement constraint on subject extraction.

Section 8.2.4 addresses the wh-movement of adjective phrases. The main conclusion is that the adjective phrase undergoes wh-movement in both the attributive and the predicative contexts. Furthermore, the word order inside the adjective phrase is typically fixed, but if a wh-phrase manages to occupy the edge of the adjective phrase, it is able to trigger pied-piping. An adverb phrase at the edge blocks pied-piping by other elements; the same observation was made for the PPs in Section 6.2. I will propose that the adverb phrases are base-generated at the edge position via adjunction (finding 3 in Section 4.6).
8.2.1 Structure of an adjective phrase

The Finnish adjective phrase contains an adjective head A and optional pre-modifiers: an adverb phrase (AdvP) and an adjective phrase (AP) in genitive case. In addition, a restricted set of adjectives can take a DP-modifier in the genitive case (Hakulinen & Karlsson, 1979, p. 137, Hakulinen et al., 2004, § 613). The comparative and superlative forms take additional modifiers, but an analysis of these forms is beyond the scope of this thesis. The following examples illustrate the pre-modifiers:

(296) a. todella suuri
      really big
      ‘very big’

b. kauniin punainen
   beautiful.Gen red
   ‘beautifully red’

c. aivan Pekan näköinen
   exactly Pekka.Gen looking
   ‘looks exactly like Pekka’

I will adopt the position proposed by Vainikka (1989, p. 136) that the genitive modifier occupies a specifier position inside the adjective phrase. Moreover, following the basic account for adverb the phrases in PPs, I propose that the adverb phrase is adjoined to the AP. These assumptions provide us the basic structure (297) for the adjective phrase. 86

(297) AP

   AdvP   AP
     todella
     ‘very’  DP/AP  A
      Pekan/kauniin  näköinen
     ‘Pekka.Gen’/‘beautiful.Gen’  ‘looking’

Pronominal genitive arguments trigger the possessive inflection on the adjective head as illustrated in (298) below. I adopt the account of possessive inflection from PPs and DPs and suggest that there is an Agree-relation between the genitive DP and the adjective head and that this produces a visible outcome in the presence of a pronominal argument. 87

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86 Unlike with DPs, I will not address the question of whether the DP is base-generated at the specifier position, or if the position is a result of the EPP-movement in adjective phrases.

87 The possessive suffix may be omitted in colloquial speech.
Adjectives take clausal complements in the predicative position (Hakulinen & Karlsson, 1979, p. 138, Hakulinen et al., 2004, § 623). For example, in (299a), the adjective has an A-infinitive complement, and in (b), an MA-infinitive complement.

(299) a. Ruoka on [hyvä syödä lämpimänä].
   meal.ACC is good.NOM eat.A warm.ESS
   ‘It is good to eat the meal warm.’

b. Mummo oli [valmis lähtemään matkalle].
   grandma.NOM was ready.NOM leave.MA/ILL trip.ALL
   ‘Grandma was ready to travel.’

Following the account presented in Section 7.1.2 for non-finite clauses in the complement of a noun, I assume that the A-infinitive occupies the complement of the adjective

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88When a predicative adjective contains a non-finite clause, one of the elements of the infinitival may be interpreted as referring to one of the elements within the non-finite clause, as in the pair of sentences (1), in which the subject of the predicative clauses may be interpreted as the object argument of the non-finite clause, as in (a), or the subject argument (b) (Chomsky, 1981, Section 5.4).

(1) a. John is easy to please ().

   b. John is eager () to please.

However, the case-marking of the predicative clause subject reflects its position within the non-finite clause. For glossing the suffixless DPs, and plural DPs as nominatives or accusatives, I have used the following criteria: if the predicative clause subject is in the endingless zero-accusative case (as in (2a)), a pronoun in the same position is in the t-accusative form. On the other hand, if the phrase is in the nominative case, as the phrase pyörät, ‘bikes,’ in (3a), the t-accusative (b) is not available. See Section 2.3.2 for an overview of the Finnish case system.

(2) a. Pekka on helppo löytää.
   Pekka.ACC(0) is easy.NOM find.A
   ‘Pekka is easy to find.’

   b. Hänet on helppo löytää.
   s/he.ACC(0) is easy.NOM find.A
   ‘He/She is easy to find.’

(3) a. Pyörät ovat Pekan ostamat.
   bikes.NOM are Pekka.GEN buy.MA/PTPC.PL.ACC(0)
   ‘Bikes are bought by Pekka.’

   b. * Hänet on Pekan ostama.
   s/he.ACC(0) are Pekka.GEN buy.MA/PTPC.ACC(0)
head, as sketched in (300). The extraction data in Section 8.2.3 will support the complement analysis.

(300)

\[
\text{AP} \\
\text{A} \quad \text{vP} \\
\text{hyvä} \quad \text{PRO} \quad \text{v'} \\
\text{syödä} \quad \text{VP} \\
\text{‘good’} \\
\text{‘eat.A’} \\
\text{… lämpimänä …} \\
\text{‘warm.ESS’}
\]

This section will show that the extraction conditions for the MA-infinitives in the inner locative cases exemplified in (299b) are similar to the A-infinitive. For more information on these infinitives, see Section 9.5.

The adjective phrase can host a PP-modifier, which precedes or follows the adjective in a predicative position, as in (301a). In the attributive position, as in (b), the word order is fixed.

(301)

a. Pekka on työstään kuuluisa / kuuluisa työstään.
   Pekka.NOM is work.ELA.PX/3SG famous.NOM famous.NOM work.ELA.PX/3SG
   ‘Pekka is famous for his work.’

b. Minä tapasin [ [ radio-ohjelmasta kuuluisan] miehen].
   I.NOM met radio-program.ELA famous.ACC man.ACC
   ‘I met a man famous for a radio program.’

I adopt for these modifiers the same account that was adopted for deverbal DPs in Section 7.3.2. There I stipulated that the PP can be adjoined to the structure so that it can

\[89\text{Unlike predicatives, attributive adjectives do not take post-modifiers (1a-c).}\]

(1)  
   a. * [ hyvä syödä lämpimänä] ruoka
       good eat.A warm.ESS meal
   b. * [ valmis lähtemään matkalle] mummo
       ready leave.MA/ILL trip.ALL grandma
   c. * [ kuuluisa artikkelista] mies
       famous article.ELA.PX/3SG man
surface either before or after the relevant head. The extraction and pied-piping data will also support this analysis.

Finally, APs can take CP-modifiers, as shown in examples under (302). The same is true for adverbial clauses, such as the rationale clause in (303).

(302) On hauskaa, että / kun / jos sinäkin pääset tulemaan.
     fun.PAR that / when / if you.NOM too can come.MA/ILL
     ‘It is great that/when/if you can come too.’ (Hakulinen et al., 2004, § 1144)

(303) Puhaja oli tarpeeksi hullu ylistääkseen tutkinnonuudistusta.
     speaker.NOM was enough crazy.NOM praise.KSE.PX/3SG curriculum reform.PAR
     ‘The speaker was crazy enough to praise the curriculum reform.’
     (Hakulinen & Karlsson, 1979, p. 138)

Neither types of the clausal modifiers of adjective phrases will be analyzed in this thesis.

### 8.2.2 Participial adjectives

The investigation of the A’-movement properties of Finnish adjective phrases includes two types of participial adjectives, which are referred to as the agentive participle and V A-participle. These forms were already introduced in Section 2.5.2. Both forms are treated here as a subclass of adjective phrases; some of the elementary structural properties of these two types of participial adjectives are presented in this section.

The agentive participle in Finnish contains an obligatory subject in the genitive case, as in (304a). The noun head that the agentive participle modifies represents the object argument of the non-finite verb. The agentive participle takes a possessive suffix in the presence of a pronominal subject, as exemplified in (b). The emergence of ϕ-inflection can be interpreted as indicating the presence of Agree-relation between the subject argument and the non-finite verb.

(304) a. [ pojan kirjoittama] kirje
     boy.GEN write.MA/PTCP letter
     ‘a letter written by a boy’

     b. [ minun kirjoittama-ni] kirje
     I.GEN write.MA/PTCP-PX/1SG letter
     ‘a letter written by me’

In addition, agentive participle can contain adverbial modifiers such as eilen, ‘yesterday,’ in (305a), as well as PP-modifiers, such as the indirect object argument äidilleen, ‘to his/her mother,’ in (b). Finally, the example (c) contains an adverb phrase suoras- taan, ‘actually,’ adjoined to the participle.

(305) a. [ pojan eilen kirjoittama] kirje
     boy.GEN yesterday write.MA/PTCP letter
     ‘a letter written by a boy yesterday’
b. [pojan äidilleen kirjoittama] kirje
   boy.GEN mother.ALL.PX3SG write.MA/PTCP letter
   ‘a letter written by a son to his mother’

c. [suurastaan presidentin kirjoittama] kirje
   actually president.GEN write.MA/PTCP letter
   ‘a letter actually written by the president’

The second participle type, the VA-participle has two tense variants, present (-vA) and past (-nUt), and both appear in the active and passive voice. In the active voice, as in (306a), the noun head that the adjective phrase modifies represents the subject argument for the VA-participle. When the object argument is present, it receives the structural object case, such as the accusative in (b). In addition, the VA-participle takes other modifiers, such as a PP in (c). In the passive voice, the VA-participle modifies the noun head that represents the object argument as in (d). Example (d) illustrates further how the participle can be modified by an adverbial.

(306) a. [juokseva] lapsi
   run.VA/PTCP/PRS child
   ‘a running child’

b. [pallon heittänyt] lapsi
   ball.ACC throw.VA/PTCP/PST child
   ‘A child who has thrown the ball’
   lit. ‘a ball-thrown child’

c. [pallon kohti ikkunaa heittänyt] lapsi
   ball.ACC towards window.PAR throw.VA/PTCP/PST child
   ‘A child who has thrown the ball towards a window’

d. [kokonaan hukkaan heitetty] elämä
   completely waste.ILL throw.PASS.VA/PTCP/PST life
   ‘A life completely wasted’

In the predicative position, the VA-participles can take clausal arguments such as the A-infinitive in (307a), and the MA-infinitive in (b). The presence of a non-finite clause nevertheless limits the placement of other arguments and adjuncts within the participial phrase.\textsuperscript{90}

\textsuperscript{90}Finite clauses (CP) can be used as well, as shown in (1).

(1) Minusta oli toiveita herättävää, että nimenomaan laina-asiapaat kiinnitetään
   I.ELA was hopes.PAR invoke.VA/PTPC/PRS.PAR that specifically loan-matter.ILL pay.PASS.PRS
   huomiota. (www)
   attention.PAR
   ‘I think it is encouraging that specifically the loan matters are paid attention to.’

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The text is pleasant to read.

They were excited about going to India.

Subsequent sections will offer an analysis of the A'-movement properties of adjective phrases, both regular and participial. The next Section 8.2.3 provides an overview on the extraction from adjective phrases and Section 8.2.4 examines edge properties and pied-piping.

8.2.3 Extraction conditions

In this section, I will demonstrate that for Finnish, the adjective phrase is a strong island when it occupies the attributive position. In contrast, predicative adjectives permit limited extraction. Whereas the extraction of the adjuncts and limited extraction from the complement domain is possible, as shown in the next section, Finnish adjective phrases do not allow the extraction of genitive arguments. The genitive arguments display subject-like properties; they will be discussed in Section 8.2.3.2.

8.2.3.1 Extraction from the complement of an adjective

This section begins by examining the extraction from predicative adjectives; attributive adjectives are addressed at the end of the section. First, the extraction of a PP-modifier in the elative case is effortless, as can be seen in sentences such as (308b). The PP-modifier in example (b) can marginally trigger the pied-piping of the AP as well, although extraction is the preferred strategy in this context.

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91It seems that the adverb phrase can be dislocated from the adjective phrase. According to Nevis (1986, p. 32), Karttunen (1975, p. 41) offers examples (1a-b) in which the adverb would be extracted from the complement AP.

(1) a. Sinä olet vielä [koin nuori].
   ‘You are still quite young.’

b. Koin sinä olet vielä [__nuori].
   ‘You are still AWFULLY young.’

Hakulinen et al. (2004, § 1399) provide further examples of adverbs such as melko, aika, suhteellisen, ‘quite,’ ‘fairly,’ and ‘relatively,’ that may be dislocated from the AP. However, I will not analyze these constructions in this thesis.
Examples (309a-b) illustrate an extraction from the A-infinitive complement. However, it is not possible to move the entire A-infinitive. First, example (c) shows that the internal wh-movement from the complement to the edge is not available. The word-order preserving movement of the non-finite clause is likewise not allowed, as shown in (d). In the complement of an adjective, the A-infinitive thus behaves similarly as in the complement of a noun, examined in Chapter 7: the A-infinitive allows extraction but does not undergo pied-piping.

The second non-finite clause type examined here is the MA-infinitive (involving three inner locative cases). The MA-infinitive allows extraction, as examples (310a-b) of the MA-infinitive in the illative case indicates. Nevertheless, although extraction of the wh-phrase is preferred in this context, the MA-infinitive can undergo pied-piping as well; this is shown in (c). The same observation was made in connection with the DPs in Section 7.2.2.2.
b. Mihin mummo oli [valmis lähtemään ]?  
where.ILL grandma.NOM was ready.NOM leave.MA/ILL  
‘Where was grandma ready to go?’

c. ?[ Mihin lähtemään mummo oli [valmis ]?  
where.ILL leave.MA/ILL grandma.NOM was ready.NOM  
‘To go where was grandma ready?’

In summary, whereas extraction is the only available wh-movement strategy for the A-infinitive complements, the MA-infinitives display both extraction and pied-piping. A-infinitives also rarely undergo pied-piping in other contexts. As we will see in Section 9.6, A-infinitive does not contain an edge position that is suitable for internal wh-movement, and it can be concluded that this lack of edge position is responsible for the lack of pied-piping. On the other hand, the MA-infinitives in inner locative cases also display the two wh-movement strategies in the sentential domains; this will be demonstrated in Section 9.5.3.

Having now looked at the extraction properties of the regular adjectives, let us turn to the participial adjectives that occur in the predicative position. The VA-participles take non-finite clause complements, and extraction from these constructions is possible. Example (311) illustrates an extraction from an A-infinitive complement. Examples (312a-c) from the MA-infinitive in the elative case show that the MA-infinitive prefers the extraction of the wh-phrase (b) against the pied-piping of the full non-finite clause (c).

(311) a. Tekstiä on miellyttävä lukea ruudulta.  
text.PAR is pleasant.VA/PTCP/PRS.NOM read.A screen.ABL  
‘The text is pleasant to read from the screen.’

b. Mistä tekstiä on [miellyttävä lukea ]?  
where.ELA text.PAR is pleasant.VA/PTCP/PRS.NOM read.A  
‘From where is the text pleasant to read?’

(312) a. Pekka oli [estynyt tekemästä työtä].  
Pekka.NOM was prevent.VA/PTCP/PST.NOM do.MA/ELA work.PAR  
‘Pekka was prevented from working.’

b. Mitä Pekka oli [estynyt tekemästä ]?  
what.PAR Pekka.NOM was prevent.VA/PTCP/PST.NOM do.MA/ELA  
‘What was Pekka prevented from doing?’

c. ?[ Mitä tekemästä Pekka oli [estynyt ]?  
what.PAR do.MA/ELA Pekka.NOM was prevent.VA/PTCP/PST.NOM  
‘From doing what was Pekka prevented?’

Before proceeding to the properties of subject extraction, let us briefly consider the adjective phrases that occur in attributive positions. As noted already in Chapter 7, Finnish DPs are extraction islands for attributive adjectives. The following data illustrate that the
extraction of a PP-modifier from the attributive adjective is equally impossible. As can be seen in (c), pied-piping is therefore the only alternative.\textsuperscript{92}

\begin{itemize}
\item[(313)]
\begin{enumerate}
\[\text{I.NOM met radio-program.ELA famous.ACC man.ACC} \]
\[\text{‘I met a man famous for a radio program.’}\]
\item b. * [ Mistä ohjelmasta sinä tapasit [ [ kuuluisan] miehen] ]?
\[\text{which.ELA program.ELA you.ACC famous.ACC man.ACC} \]
\item c. ? [ [ Mistä ohjelmasta] kuuluisan miehen] sinä tapasit _?
\[\text{which.ELA program.ELA famous.ACC man.ACC you.ACC met} \]
\[\text{‘Which program was the man famous for that you met?’}\]
\end{enumerate}
\end{itemize}

Syntactically, attributive adjectives are adjoined to the NP (see structure (228) in Section 7.1.1); extraction conditions are therefore in agreement with the Adjunct Island Condition (104).

\textbf{8.2.3.2 Constraints on subject extraction}

The previous section examined the movement of complements and adjuncts out of adjective phrases. This section will turn to the extraction conditions for genitive arguments. As examples under (314) and (315) illustrate, extraction of the genitive arguments from an AP in the predicative position is impossible.\textsuperscript{93}

\begin{itemize}
\item[(314)]
\begin{enumerate}
\item a. Mekko on [ Pekan solmion värinen] .
\[\text{dress.NOM is Pekka.GEN tie.GEN colored.NOM} \]
\[\text{‘The dress is the same color as Pekka’s tie.’}\]
\item b. *? Minkä mekko on [ _ värinen] ?
\[\text{what.GEN dress.NOM is colored.NOM} \]
\end{enumerate}
\end{itemize}

\textsuperscript{92}The sentence (313b) is grammatical with another reading in which the PP is base-generated as a modifier for the entire clause.

\textsuperscript{93}The sentence (315b) is accepted by some speakers of Finnish. In fact, changing the word order in (1) enhances the acceptability of the sentence. This sentence is nevertheless marked and requires changes in the prosodic form of the phrase. However, is should be noted that if the adjective head takes an overt ϕ-inflection from the genitive argument, as in (c), extraction is again impossible.

\begin{itemize}
\item[(1)]
\begin{enumerate}
\item a. Poika on [ Pekan näköinen] .
\[\text{boy.NOM is Pekka.GEN looking.NOM} \]
\[\text{‘The boy looks like Pekka.’}\]
\item b. ? Kenen on poika [ _ näköinen] ?
\[\text{who.GEN is boy.NOM looking.NOM} \]
\item c. * Hänen on poika [ _ näköise-nsä] .
\[\text{s/he.GEN is boy.NOM looking.NOM.PX/3sg} \]
\end{enumerate}
\end{itemize}
As outlined in the introduction, the genitive argument occupies a specifier position within the adjective phrase. In addition, pronominal arguments, such as *minun, ‘I.GEN’ in (316), trigger $\phi$-inflection on the adjective head. I would like to propose that subject extraction from the adjective phrase obeys the $\phi$-agreement constraint on subject extraction (see page 70). In other words, it is not possible to extract a subject argument from a position in which a $\phi$-pronoun triggers $\phi$-agreement.

Movement of the subject argument out of an agentive participle is not possible either, as shown in (317). The example (318) demonstrates that the agentive participle inflects with the $\phi$-features of the subject argument and the construction therefore follows the $\phi$-agreement constraint on subject extraction.94

94Note that the arguments and modifiers of the VA-participle cannot be extracted either (1b); it seems that participial adjectives are extraction islands for all pre-modifiers. However, I will not address this question here.

   these.NOM portions.NOM are appetite.PAR provoke.VA/PTPC/PRS.PL.PAR
   ‘These portions are appetizing.’

      appetite.PAR these.NOM portions.NOM are provoke.VA/PTPC/PRS.PL.PAR

   those.NOM bikes.NOM are Pekka.GEN yesterday buy.MA/PTCP.PL.PAR
   ‘Those bikes were bought by Pekka yesterday.’

   b. *? Kenen nuo pyörät ovat [ _ ostamia] ?
      who.GEN those.NOM bikes.NOM are buy.MA/PTCP.PL.PAR
      ‘By whom were those bikes bought?’

(318) Nuo pyörät ovat [minun ostamia-ni] .
   those.NOM bikes.NOM are I.GEN buy.MA/PTCP.PL.PAR-PX/1SG
   ‘Those bikes were bought by me.’
To summarize, the genitive pre-modifiers of Finnish adjective phrases cannot be extracted in accordance with the \( \phi \)-agreement constraint on subject extraction.

### 8.2.4 Edge position and pied-piping

I proposed in Section 8.2.3.1 that Finnish attributive adjectives are extraction islands. The pied-piping of the adjective phrase and the containing DP is therefore the only alternative for the wh-movement in attributive contexts. As for predicative contexts, extracting the wh-phrase is preferred to pied-piping. This section will outline the pied-piping conditions on adjective phrases in both contexts. Section 8.2.4.1 investigates regular adjectives and Section 8.2.4.2 participial adjectives.

#### 8.2.4.1 Regular APs

Both pre-modifiers of the adjective phrase, adverbs and genitive arguments, can trigger the pied-piping of the AP. The example (319a) below illustrates pied-piping by an adverb phrase, and example (b), by a genitive argument.

(319)  a. [ Kuinka vanha ] sinä olet _? 
       how old.NOM you.NOM are 
       ‘How old are you?’ 
  
       b. [ Kenen näköinen ] sinä olet _? 
       who.GEN looking.NOM you.NOM are? 
       ‘Who do you look like?’

The following two sentences provide equivalent examples from attributive contexts:

(320)  a. [ Kuinka vanhan polkupyörän ] Pekka korjasi _? 
       how old.ACC bicycle.ACC Pekka.NOM fixed 
       ‘How old was the bicycle that Pekka fixed?’
  
       b. [ Kenen näköisen nuken ] Pekka osti _? 
       who.GEN looking.ACC doll.ACC Pekka.NOM bought 
       ‘Who did the doll look like that Pekka bought?’

The examples above are instances of recursive pied-piping; the wh-phrase occupies the edge of the AP, and the AP occupies the edge of the DP. As a consequence, the wh-phrase is able to recursively pied-pipe the whole DP to the edge of C. These examples thus follow generalization (94) for recursive pied-piping (Heck, 2004, 2008). Recursive pied-piping is discussed in Section 10.4.

Let us now turn to the constraints on wh-movement. If the adjective phrase contains an adverb phrase, the adverb phrase blocks pied-piping by the genitive argument. This constraint is illustrated with the adverb aivan, ‘exactly,’ in the predicative context in (321a). The genitive wh-phrase receives an echo interpretation below the adverb, as in
(b). Nonetheless, the wh-phrase cannot undergo internal wh-movement past the adverb (c). The same observation can be made in an attributive context, as illustrated under (322).

(321) a. Hän [aivan Merjan näköinen] on. s/he.NOM is exactly Merja.GEN looking.NOM
   ‘He/She looks just like Merja’

   b. [Aivan kenen näköinen] hän on_?
      exactly who.GEN looking.NOM s/he.NOM is
      ‘He looks exactly like whom?’

   c. * [Kenen aivan _ näköinen] hän on_?
      who.GEN just looking.NOM s/he.NOM is

(322) a. [ [Minkä värinen] puku] sinulla on_?
      what.GEN colored.NOM dress.NOM you.ADE have
      ‘What is the color of your dress?’

   b. [ [Aivan minkä värinen] puku] sinulla on_?
      exactly what.GEN colored.NOM dress.NOM you.ADE have
      ‘Your dress is exactly which color?’

   c. * [ [Minkä aivan _ värinen] puku] sinulla on_?
      what.GEN exactly colored.NOM dress.NOM you.ADE have

Adverb phrases were found to block the pied-piping of Finnish adposition phrases among others in Section 6.2.2. I have repeated example (196) below. Example (c) is an echo question.

   ‘Pekka met Merja just beside the bridge.’

   b. * [pp Minkä aivan lähellä] Pekka tapasi Merjan?
      what.GEN just near Pekka.NOM met Merja.ACC
      ‘Pekka met Merja just beside what?’

   c. [pp Aivan minkä lähellä] Pekka tapasi Merjan?
      just what.GEN near Pekka.NOM met Merja.ACC
      ‘Pekka met Merja just beside what?’

I proposed for the PPs that the adverb phrase occupies the edge of the adposition phrase and therefore interferes with pied-piping. This appears to be true for adjective phrases as well. The proposal that the adverb phrase is at the edge is supported by the data from the pied-piping in the above examples (319a), (320a), and from the examples below.

(324) a. [ [Miten kauniin] kirjan] Pekka osti_?
      how beautiful.ACC book.ACC Pekka.NOM bought_?
      ‘How beautiful a book did Pekka buy?’

   b. [Kuinka ruohon värinen] tuo puku sinusta on_?
      how grass.GEN colored.NOM that.NOM dress.NOM you.ELA is
      ‘To which extent is that dress green as grass in your opinion?’
Following the proposal for PPs, I thus conclude that the adverb phrase occupies the edge of the AP and that this position is obtained through adjunction. Adjunction to the edge position is discussed later in Section 10.3.2.

In the remainder of this section, I will provide some examples from pied-piping by other modifiers of the AP. First, sentences such as (325b) show how a PP-modifier pied-pipes the adjective phrase together with the containing DP to the edge of C.\footnote{Note that the English glosses of many of the more complex non-finite constructions do not correspond the structure of the Finnish example. For example, In (301b), the Finnish sentence contains a complex attributive adjective that contains a wh-phrase; in the gloss, the matrix clause is more naturally translated as a relative clause.}

   Pekka.NOM met that.ELA article.ELA famous.ACC man.ACC  
   ‘Pekka met the man famous for the article.’

   b. *? [AP Mistä artikkelista kuuluisan] miehen] Pekka tapasi _?  
      which.ELA article.ELA famous.ACC man.ACC Pekka.NOM met?  
      ‘Of which article is the man famous for that Pekka met?’

As seen in the previous section (examples (308)) and further illustrated with (326a-b), pied-piping by the PP-modifier is only marginally available in predicative contexts. This means that the extraction of the PP-modifier in (326c) is the preferred alternative.

(326) a. Pekka on [kuuluista siitä artikkelista].  
   Pekka is famous.NOM that.ELA article.ELA  
   ‘Pekka is famous for that article.’

   b. *? [Mistä artikkelista kuuluisa] Pekka on _?  
      which.ELA article.ELA famous.NOM Pekka.NOM is  
      ‘Which article is Pekka famous for?’

   c. Mistä artikkelista Pekka on [kuuluista _]?  
      which.ELA article.ELA Pekka.NOM is famous.ACC(0)  
      ‘Which article is Pekka famous for?’

Along the same lines, the MA-infinitive can occupy the edge of the AP and trigger pied-piping. The example (327) illustrates the pied-piping of an attributive adjective and (b) of a predicative adjective. In predicative contexts, extraction is nevertheless the preferred wh-movement strategy (see also (paras999)).

(327) a. [Mihin lähtemään _] valmiin mummon] Pekka tapasi?  
    where.ILL leave.MA/ILL ready.ACC grandma.ACC Pekka.NOM met  
    ‘Where was the grandmother ready to go whom Pekka met?’

   b. *? [Mihin lähtemään_] valmis _] mummo oli _?  
      where.ILL leave.MA/ILL ready.NOM grandma.NOM was  
      ‘Where was the grandmother ready to go?’
To summarize, pied-piping of the regular adjective phrase can be triggered by pre-modifiers as well as by PP-modifiers, which are here tentatively analyzed as adjuncts. However, elements at the complement domain (A-infinitive) do not trigger pied-piping, nor can they undergo internal wh-movement to the edge of the AP. Finally, extraction is the ultimately favored wh-movement strategy for predicative adjectives.

8.2.4.2 Participial adjectives

The previous section investigated the wh-movement of regular adjective phrases. This section continues by examining the wh-movement of participial adjectives. Assuming that both types of these djective phrases share approximately the same syntactic distribution, we would expect that the basic conditions on A’-movement are the same as well. I will show in this section that like regular adjectives, participial adjectives are islands in attributive positions. Nevertheless, extraction from participial adjectives in predicative position is much more difficult than with regular adjectives. As a consequence, pied-piping is in most cases the only alternative to form a wh-question.

The following two sentences illustrate the wh-movement of the agentive participle. In both examples, the wh-phrase replaces the genitive argument.

(328) a. [Kenen korjaama] se polkupyörä on _?
    who.GEN fix.MA/PTCP.NOM that.NOM bicycle.NOM is
    ‘Who has fixed that bicycle?’

    b. [Kenen korjaamaa polkupyörää] Pekka kehui _?
       who.GEN fix.MA/PTCP.PAR bicycle.PAR Pekka.NOM praised
       ‘Who had fixed the bicycle which Pekka praised?’

Due to the restricted word order of the agentive participle, PP-modifiers such as äidilleen, ‘to his/her mother,’ in example (329a) cannot undergo internal wh-movement past the obligatory subject argument. An example of such movement is given in (b). On the other hand, if the wh-PP is left in-situ, as in (c), the sentence receives an echo interpretation.

(329)
    a. [Kenen äidilleen kirjoittaman] kirjeen] Pekka luki _?
       who.GEN mother.ALL.PX/3SG write.MA/PTCP.ACC letter.ACC Pekka.NOM read
       ‘Whose letter to his/her mother did Pekka read?’

    b. * [Kenelle pojan _ kirjoittaman] kirjeen] Pekka luki _?
       who.ALL boy.GEN write.MA/PTCP.ACC letter.ACC Pekka.NOM read
c. [ Pojan kenelle kirjoittaman] kirjeen Pekka luki _?
   boy.GEN who.ALL write.MA/PTCP.ACC letter.ACC Pekka.NOM read
   ‘Pekka read a letter written by the boy to whom?’

The presence of the genitive subject thus blocks the internal wh-movement to the edge of the participial adjective phrase. The same phenomenon may be observed in several types of Finnish non-finite clauses as well; this blocking effect is discussed in Chapter 9. In that chapter we will see that the edge position can be filled by A-movement of a subject argument, and in particular, the genitive subject occupies the landing site of internal wh-movement and prevents movement of the other constituents to the edge position.

Again, the presence of an adverb phrase prevents the pied-piping by other constituents. Compare the examples (321)-(322) from regular adjectives to examples (330a). The wh-phrase cannot trigger the wh-question interpretation below the adverbial in example (c), which is an echo question. The example (c) shows that the genitive argument cannot move past the adverb either.

(330)

   Pekka.NOM got actually president.GEN write.MA/PTCP.ACC letter.ACC
   ‘Pekka got a letter actually written by the president’

b. [ Suorastaan kenen kirjoittaman kirjeen] Pekka sai _?
   actually who.GEN write.MA/PTCP.ACC letter.ACC Pekka.NOM got
   ‘Pekka got a letter written actually by whom?’

c. * [ Kenen suorastaan _ kirjoittaman kirjeen Pekka sai _?
   who.GEN actually write.MA/PTCP.ACC letter.ACC Pekka.NOM got

In contrast, the VA-participle displays more word order variation and leaves space for pied-piping by different constituents, as shown under (331). In (a), the wh-phrase replaces the object argument, in (b) an adverb, and in (c), a PP-modifier. The parallel examples (332a-c) from attributive contexts are equally well-formed.

(331)

a. [ Millaisia muistoja] herättävä] se
   what.kind.of.PAR memories.PAR invoke.VA/PTCP/PRS.NOM the/that.NOM
   elokuva oli?
   movie.NOM was
   ‘What kind of memories did that movie evoke?’

b. [ Kuinka muistoja herättävä] se elokuva oli
   how memories.PAR invoke.VA/PTCP/PRS.NOM the/that.NOM movie.NOM was
   ‘How much memories did the movie evoke?’

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Moreover, the adverb phrase does not cause a similar intervention effect with the VA-participles as it does with the agentive participle. First, the sentence in (333b) shows that a PP-modifier can pied-pipe the VA-participle (and the containing DP). The AP in example (c) contains an adverb phrase but it seems to occupy a lower position within the phrase. As a consequence, pied-piping by the PP continues to be possible.

(333)

   ‘Pekka found a service completely covered with dust.’

b. [ Mihin peittyneen astiaston] Pekka löysi _?
   ‘What was the service covered with that Pekka found?’

c. ?[ Mihin kokonaan _peittyneen astiaston] Pekka
   löysi _?
   ‘What was the service completely covered with that Pekka found?’

The adverb phrase can itself trigger pied-piping; below are two examples of such a construction:
(334)

a. [ Kuinka hermoihin käyvää työtä] Pekka teki _?  
   how nerves.ILL wrack.VA/PTCP/PRS.PAR work.PAR Pekka.NOM did  
   ‘How nerve wracking was Pekka’s work?’

b. [ Miten pahasti viruksen saastuttama kone] sinulla on _?  
   how badly virus.GEN infect.MA/PTCP.NOM computer.NOM you.ADE have  
   ‘How severely is your computer infected by the virus?’

To summarize, all adjective phrase types undergo pied-piping when the wh-phrase occupies the edge position inside the AP. When the edge is filled, for example, by an adverb phrase (for regular APs and agentive participles), pied-piping by other phrases is not permitted. Finally, extraction and pied-piping seem to exist in parallel within predicative contexts and they therefore provide examples of optional pied-piping. Optional pied-piping will be returned to in Section 10.6.

8.3 The adverb phrase (AdvP)

This section provides a short survey of the A’-movement properties of Finnish adverb phrases. As seen in the previous sections, Finnish adverb phrases can function as pied-pipers of adposition phrases and adjective phrases. This section concentrates on the properties of adverb phrases modifying full clauses, in which case they may be assumed to be adjoined to vP, TP, or CP. However, regardless of the adjunction site, the interrogative adverb phrases move to the edge of C. Adverb phrases are extraction islands as adjuncts. Nevertheless, the examples from the predicative contexts provided in this section suggest that the adverb phrase allows limited extraction when it occupies the complement position. This means that adverb phrases adhere to the Adjunct Island Condition (104).

The adverb head may be modified, for example, by intensifiers, as in (335a-b), and by the PPs that assign the partitive or semantic case, as illustrated in (336a-b).

(335)  
   a. hyvin nopeasti  
      very fast  
      ‘very fast’

   b. tosi vähän  
      very little  
      ‘very little’

(336)  
   a. kotoisin Savosta  
      originally Savo.ELA  
      ‘originally from Savo’

(Hakulinen et al., 2004, § 670)
b. täynnä rahaa
   full money
   ‘full of money’

The intensifiers can induce the wh-movement of the adverb phrase. Below are three examples of these type of constructions:

(337) a.  [Miten nopeasti] Sirkku käveli ?
       how fast Sirkku.NOM walked
       ‘How fast did Sirkku walk?’ (Manninen, 2003b, p. 17)

b.  [Miten huonosti] Sirkku käyttäytyi ?
       How badly Sirkku.NOM behaved
       ‘How badly did Sirkku behave?’ (Manninen, 2003b, p. 17)

c.  [Miten vähän] Pekka tanssi ?
       how little Pekka.NOM danced
       ‘How little did Pekka dance?’

On the other hand, examples under (338) and (339) indicate that an extraction from the adverb phrase is not available in the equivalent contexts. I have assumed that in this context, the adverb phrases are adjoined to the structure and that the extraction data supports this analysis.

(338) a. Sirkku käveli [hyvin nopeasti].
        Sirkku.NOM walked really fast
        ‘Sirkku walked really fast.’

b. *? Kuinka Sirkku juoksi [nopeasti] ?
       How Sirkku.NOM ran fast
       ‘*How did Sirkku run fast?’

(339) a. Pekka tanssi [tosi vähän].
        Pekka.NOM danced very little
        ‘Pekka danced very little.’

b. * Miten Pekka tanssi [vähän] ?
       how Pekka.NOM danced little
       ‘*How did Pekka dance little?’

Examples (340) illustrate the same phenomenon for an adverb phrase that contains a PP-modifier in the partitive case: an extraction of the PP is possible (b), but pied-piping by the PP is not permitted (c).96

(340) a. Joka paikka oli [täynnä autoja].
        every.NOM place.NOM was full cars
        ‘Every place was full of cars.’

96Example (340c) is accepted by some Finnish speakers.
Examples (341a-b) show that the PPs in the elative case can be extracted:

   I.NOM am excited.PXSG new.ELA garden.ELA
   ‘I am excited about the new garden.’

b. Mistä sinä olet [ innoissasi ]?
   what.ELA you.NOM are excited.PX2SG
   ‘What are you excited about?’

Finally, when the adverb phrase occupies the adjunct position, as in in (342a-b), it forms an extraction island, following the Adjunct Island Condition.97

   Pekka.NOM filled glass.ACC half.full.ALL water.PAR
   ‘Pekka filled the glass half full with water’

b. *? Mitä Pekka täytti lasin [ puolilleen ]?
   what.PAR Pekka.NOM filled glass.ACC half.full.ALL

This short investigation of adverb phrases shows that the examined adverb phrases follow the Adjunct Island Condition (104), according to which the elements in adjunct positions resist extraction. Assuming that the adverb phrase occurs in a complement position in predicative clauses, the complement position renders extraction possible.

This chapter has explored the wh-movement properties of Finnish adjective phrases and adverb phrases. The investigation of adjective phrases involved two constructions derived from a verb: the VA-participle and the agentive participle. Here the word order within the agentive participle was severely constrained. However, the VA-infinitive displayed more word order variation and consequently this type of infinitive resembles in this respect the research subject of the next chapter: Finnish non-finite clauses. We will see that due to the flexible word order, Finnish non-finite clauses provide strong evidence for the existence of the internal wh-movement within a pied-piped phrase.

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97Some of the informants consulted for this study accepted sentence (342b).
Chapter 9

Non-finite clauses and A′-movement

9.1 Introduction

Given the variety and rich inflectional morphology of Finnish non-finite clause constructions, they provide a rich source of data on internal wh-movement and pied-piping. Example (343) of what is called a temporal construction illustrates the displacement of a wh-phrase within a non-finite clause. In (b), the object argument of the non-finite clause has moved to the edge position of the pied-piped phrase.

(343) a. Pekka tapasi Merjan [ostettuaan kirjan].
   Pekka.NOM met Merja.ACC buy.ESSA/PST.PX/3SG book.ACC
   ‘Pekka met Merja after he had bought a book.’

   b. [Minkä ostettuaan _] Pekka tapasi Merjan _?
      what.ACC buy.ESSA/PST.PX/3SG Pekka.NOM met Merja.ACC
      ‘What did Pekka buy before he met Merja?’

      lit. ‘After buying what did Pekka meet Merja?’

The temporal construction in the above example is a typical instance of a non-finite clause construction that displays pied-piping by an element at the edge. From the structural point of view, all Finnish non-finite clauses are constructed on top of a vP, as shown by Koskinen (1998). In addition, although the Finnish non-finite constructions have been argued to exhibit reduced functional structure by Vainikka (1989) and Koskinen (1998), there is evidence for the presence of a T(ense) projection in some of the clause types. One of them is the temporal construction, with the present and past tense variants. More details of the temporal construction are provided Section 9.3.

I will demonstrate in this chapter that the presence of the genitive subject uniformly restricts movement to the edge of the non-finite clause. I propose that this restriction is best accounted for by assuming that the subject argument fills the edge position that the wh-movement would normally target. In addition, I propose that Finnish non-finite clauses provide evidence for generalization 3 that states that the edge position can be filled by A-movement.
A basic proposal concerning discourse-related movement in Finnish non-finite clauses was presented in Koskinen (1998). Koskinen suggests that the A′-movement within a non-finite clause targets a separate T(opic) projection. I will discuss Koskinen’s proposal in Section 9.3. Extraction from Finnish non-finite clauses has also been previously examined by Toivonen (1995). According to Toivonen, Finnish non-finite clauses allow extraction when they are the arguments of the verb (and they occupy the complement position) and they constitute extraction islands when they are additional modifiers and occupy the adjunct position, in accordance with Adjunct Island Condition (104). The asymmetry on extraction between adjunct and complement positions is also maintained in this thesis. However, I will propose that sometimes a typical adjunct clause can occupy the complement position and, as a consequence, allow the extraction of the object argument. This proposal is based on two speaker experiments that are explained in Section 9.3.2. In addition, I will discuss pied-piping as an alternative strategy for wh-movement.

This chapter is organized as follows: the first sections introduce the typical non-finite adjunct clauses: The rationale clause (Section 9.2), the temporal construction (Section 9.3), and the E-infinitive (Section 9.4). The MA-infinitives form a mixed class of complements and adjuncts; they are discussed in Section 9.5. Section 9.6 introduces the A-infinitive, which is a typical non-finite complement clause and Section 9.7 considers another non-finite complement, the VA-construction. Finally, Section 9.8 provides a summary of central findings. The terminology of the non-finite clauses used in this thesis was explained in Section 2.5.

9.2 The rationale clause

The first non-finite clause type examined in this chapter is the rationale clause. The rationale clause contains a non-finite verb suffixed with the transitive case marking -kse, as in (344) and an obligatory possessive suffix that agrees with the matrix subject. The rationale clause contains no overt subject DP; the thematic subject of the rationale clause is the matrix subject.

(344) The rationale clause

Pekka osti omenoita [valmistaa-valmistaakseen piirakkaa tässä
Pekka.NOM bought apples.PAR prepare.KSE.PX/3SG pie.PAR this.INE
uunissa].
oven.INE

‘Pekka bought apples in order to bake some pie in this oven.’

According to van Steenbergen (1991), Finnish non-finite clause constructions such as (344) may contain an anaphoric pro-element which requires a local antecedent. I assume
that the subject of the rationale clause is this type of an anaphoric pro-element. The presence of a pro-element is signalled by the ϕ-agreement inflection on the non-finite verb (Koskinen, 1998, pp. 162-163, 306).\footnote{This assumption has some problems, because unlike in nominal domains, the pro-element in the rationale clause cannot refer to other elements apart from the matrix subject. However, I have proposed that only personal pronouns and pro-elements license ϕ-agreement inflection. In other words, the DP Pekka cannot license the possessive suffix because it does not have a full set of ϕ-features. Assuming that the subject controls a PRO-element would thus require postulating an independent feature specification for the PRO-element. On the other hand, the PRO-element is present in Finnish A-infinitives and in MA-infinitives in the inner locative cases. In these contexts, the non-finite verb never receives a possessive inflection. These non-finite clauses will be discussed in Sections 9.6 and 9.5.}

The rationale clause does not display tense alteration. However rationale clause is often proposed to contain functional projections above the vP, such as a nominalizer projection or TP (Vainikka, 1989, 1995; Toivonen, 1995; Koskinen, 1998). I will likewise assume the presence of a T-projection because the rationale clause shares many of its syntactic properties with the temporal construction, and for the present purposes, assuming a similar structure for the rational adjunct is sufficient. The edge of T functions as a landing site for internal wh-movement.

\section*{9.2.1 Extraction and internal wh-movement}

The following two examples illustrate that the rationale clause does not allow an extraction of either the direct object (a) or a PP-modifier (b).

\begin{enumerate}
\item[(345)]
\begin{enumerate}
\item[\textbf{a.}] * Mitä Pekka osti omenoita [valmistakaasen ]? \\
\text{what.PAR Pekka.NOM bought apples.PAR prepare.KSE.PX/3SG} \\
\text{`*What did Pekka buy apples in order to bake?'}
\item[\textbf{b.}] * [Missä uunissa] Pekka osti omenoita [valmistakaasen] \\
\text{what.INE oven.INE Pekka.NOM bought apples.PAR prepare.KSE.PX/3SG} \\
\text{piirakkaa ]?} \\
\text{pie.PAR} \\
\text{`*In which oven did Pekka buy apples in order to bake some pie?'}
\end{enumerate}
\end{enumerate}

The rationale clause therefore behaves like a prototypical adjunct, and the unavailability of extraction can be accounted for by relying on the Adjunct Island Condition (104).\footnote{Nonetheless, the rationale clauses allow extraction in adjectival contexts. The adjective phrase is able to host a rationale clause in the presence of a measure adverb such as tarpeesti, `enough,' as in (1a). In this context extraction is possible (b). This suggests that the islandhood of the rationale clause does not follow from the structural properties of the rationale clause per se, but from the grammatical context in which it appears.}
Nevertheless, some Finnish speakers accept sentences such as (346b), in which an object argument has been extracted from the non-finite clause (the variation among Finnish speakers is indicated by a percent sign %). The acceptability of an extraction from a non-finite clause, such as a rationale clause was controlled in speaker experiments. These experiments are explained in Section 9.3.2.

(346) a. Pekka hyppeli nähäksseen esiintyjät.
   ‘Pekka was jumping in order to see the performers.’

b. % Kenet Pekka hyppeli nähäksseen _?
   who.ACC Pekka.NOM jumped see.KSE.PX/3SG
   ‘Who was Pekka jumping in order to see _?’

The preferred way to form a wh-question for rationale clause is nevertheless to pied-pipe the entire clause to the edge of C (Toivonen, 1995, p. 48). This is illustrated in the examples below. In (a), the object argument has undergone internal wh-movement to the edge and has triggered the pied-piping of the non-finite clause, and (b) illustrates the internal wh-movement of the PP-modifier.

(347) a. [ Mitä valmistaakseen _] Pekka osti omenoita _?
   what.PAR cook.KSE.PX/3SG Pekka.NOM bought apples.PAR
   ‘What did Pekka intend to bake when he bought some apples?’

b. [ [ Missä uunissa] piirakkaa valmistaakseen _] Pekka osti omemoita _?
   which.INE oven.INE pie.PAR cook.KSE.PX/3SG Pekka.NOM bought
   apples.PAR
   ‘In which oven did Pekka intend to bake the pie when he bought the apples?’

   speaker.NOM was enough crazy.NOM praise.KSE.PX/3SG curriculum.reform.PAR
   ‘The speaker was crazy enough to praise the curriculum reform.’
   (Hakulinen & Karlsson, 1979, p. 138)

b. Mitä puhuja oli [AP tarpeeksi hullu [ ylistääkseen _ ] ] ?
   what.PAR speaker.NOM was enough crazy.NOM praise.KSE.PX/3SG
   ‘What was the speaker crazy enough to praise?’

100 English translations for the examples in this chapter do not always reflect the structure of the Finnish example. For example, In (347b), the Finnish sentence contains a non-finite clause that contains a wh-phrase; in the gloss, the matrix clause is more naturally translated as a non-finite clause.

101 The head-final word order within the non-finite clause (347b) is preferred in those contexts that involve internal wh-movement: both the wh-PP and the object argument appear to the left of the non-finite verb. This word order phenomenon is not addressed here.
To summarize, some speakers of Finnish evaluate the rationale clause as being a strong island, whereas for others, the rationale clause permits some extraction. The preferred strategy for wh-movement is nevertheless pied-piping of the entire clause to the edge of C accompanied with internal wh-movement to the edge of the non-finite clause.

### 9.3 The temporal construction

The second type of a non-finite clause under investigation is the temporal construction. This construction does not normally allow extraction (as noted by Toivonen (1995, p. 49)), and pied-piping is used in wh-movement. I will first introduce the basic structural properties of the temporal construction in Section 9.3.1 and continue on to extraction in Section 9.3.2, and to internal wh-movement in Section 9.3.3.

#### 9.3.1 The structure of the temporal construction

Temporal construction involves morphologically distinct variants of the present and past tense with the same syntactic properties (Vainikka, 1989, 1995; Koskinen, 1998). In addition, the temporal construction has a passive form, exemplified in (c). According to Koskinen (1998, p. 315), the temporal construction contains a T(ense) projection.

(348) The temporal construction

a. Pekka lähti [ Merjan laitettua ruokaa ].
   Pekka.NOM left Merja.GEN cook.ESSA/PST food.PAR
   ‘Pekka left after Merja had cooked.’

b. Pekka lähti [ hänen laitettuaan ruokaa ].
   Pekka.NOM left s/he.GEN/PX/3SG cook.ESSA/PX/3SG food.PAR
   ‘Pekka left after he/she had cooked.’

c. [ Autettaessa vanhuksia täytyy olla kohtelias.
   help.PASS.ESSA/PRS seniors.PAR must.3SG be.A polite.ACC
   ‘You have to be polite when helping elderly people.’

Temporal construction may have a genitive subject, which is present in examples (348a-b) above. Moreover, the non-finite verb receives a possessive inflection in the presence of a pronominal subject (349a) or an empty subject (b) (Vainikka, 1989, p. 290). For instance, the thematic subject in (349b) is the matrix subject. Example (a) exhibits the Finnish partial pro-drop phenomenon (see Section 2.2 for the pro-drop in finite clauses) for the first person singular pronoun. Apart from the third person, the personal pronominal subjects can be left unpronounced in Finnish. The example (c) shows that the third person

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102 The tenses are identified with glosses ESSA/PRS and ESSA/PST.
empty subject is not an instance of an unpronounced pronominal argument; if the pronoun is overt, as in (c), it fails to refer to the matrix subject.

(349) a. Pekka lähti [ (minun) laitettuani ruokaa] .
   Pekka.NOM left I.GEN cook.ESSA/PST.PX/1SG food.PAR
   ‘Pekka left after I had cooked.’

   Pekka fell walk.ESSA/PRS.PX/3SG home.ILL
   ‘Pekka fell when he was walking home.’

c. Pekka kompastui [ hänen i/j kävellessään kotiin] .
   Pekka fell s/he.GEN walk.ESSA/PRS.PX/3SG home.ILL
   ‘Pekka fell when he/she was walking home.’

With respect to ϕ-inflection and pro-drop, the non-finite verb behaves like a nominal head in Finnish. I interpret the existence of pro-drop and the ability of the silent subject argument to refer outside the sentence as providing evidence for a silent pro-subject (instead of a PRO-element controlled by the matrix subject). I therefore agree with van Steenbergen (1991) and assume that the third person empty subject is an anaphoric pro-element in this context.

Under the minimalist assumptions outlined in Section 3.6, the possessive inflection on the non-finite verb can be accounted for by assuming an Agree-relation between the uninterpretable ϕ-features of T and the ϕ-features of the subject DP, as illustrated in (350).

(350)

TP
   T[ϕ=>3sg][EPP]
       vP
           laitettua
               ‘cook.ESSA/PST’
           Merjan [ϕ=3sg]
               ‘Merja.GEN’
               Agree
               _v
               VP
               _V
               ruokaa
               ‘food.PAR’

The Agree-relation causes phonological effects only in the presence of a personal pronoun that triggers the ϕ-inflection on the predicate as a consequence of Agree, such as hänen, ‘his/her,’ or a pro-subject. However, no phonological outcome is triggered as a consequence of Agree with other DPs.

Finally, I assume that equally to finite clauses, the T head has an EPP-feature which triggers movement of the overt genitive subject to the specifier of T, as illustrated in (351).
Temporal constructions are typically conceived of as additional modifiers (Toivonen, 1995) and display the properties of adjuncts. The following section will show that the temporal construction is normally an extraction island and that it exhibits an internal wh-movement as well as pied-piping, as discussed in Section 9.3.3. However, some speakers of Finnish accept limited extraction, as will be discussed next.

9.3.2 Extraction

The temporal construction does not normally allow extraction. Examples (352a-b) illustrate how the PP-modifier is unavailable for extraction. Extraction of the subject argument is also not available, as illustrated by examples (353a-b).

(352) a. Pekka kompastui [laitaessaan ruokaa Merjalle].
Pekka.NOM fell cook.ESSA/PRS.PX/3SG food.PAR Merja.ALL ‘Pekka fell when he was cooking for Merja.’

b. * Kenelle Pekka kompastui [laitaessaan ruokaa _]?
who.ALL Pekka.NOM fell cook.ESSA/PRS.PX/3SG food.PAR ‘*Who did Pekka fall while cooking for?’

(353) a. Pekka lähti [ Merjan laitettua ruokaa ].
Pekka.NOM left Merja.GEN cook.ESSA/PST food.PAR ‘Pekka left after Merja had cooked.’

b. * Kenen Pekka lähti [ _ laitettua ruokaa ]?
who.GEN Pekka.NOM left cook.ESSA/PST food.PAR ‘*Who did Pekka leave after _ cooked?’

Nonetheless, some speakers of Finnish allow the limited extraction of an object argument in specific contexts and one such context is the following:

(354) a. Hoitaja kompastui [auttaessaan äitiäni].
nurse.NOM fell help.ESSA/PRS.PX/3SG mother.PAR.PX/3SG ‘The nurse fell when he/she was helping my mother.’
b. % Ketä hoitaja kompastui [ auttaessaan _ ] ?
   who.PAR nurse.NOM fell help.ESSA/PRS.PX/3SG
   lit: ‘*Who did the nurse fall while helping?’
   ‘Who was the nurse helping when he/she fell?’

The extraction conditions for Finnish non-finite clauses, such as (354b) above, were tested in two speaker experiments. The questionnaires administered in these experiments are included in Appendices B and C. The first experiment involved 12 native speakers: undergraduate and graduate students and staff of the Cognitive Science at the University of Helsinki. The second experiment involved 32 undergraduate students from different fields. All the non-finite clause types except the MA-infinitives occurring in the inner locative cases were included in the test. The questionnaires used in the tests are included in Appendix.

The test results suggested that the estimations of the grammaticality vary among Finnish speakers for the sentences that involve extraction from a non-finite clause that typically occupies an adjunct position. The respondents’ answers were polarized so that overall, approximately 30% of the subjects accepted object extraction, 30% rejected it, and the rest found the object extraction examples as deviant, but not unacceptable. The variation is indicated by a percentage sign (%).

In addition, the test controlled subject extraction for examples such as (355b). The subject extraction examples were estimated to be deviant by 15% of the test subjects, and was rejected by others. According to the preliminary results, adjunct extraction would be ungrammatical as well. In other words, the test revealed an asymmetry between the extraction conditions of objects and the extraction conditions of subjects (and adjuncts).

   sleep.PST.1SG peacefully nurse.GEN stay.up.ESSA/PRS
   ‘I slept peacefully when the nurse was awake.’

b. * Kenen nukuit rauhallisesti [ _ valvoessa] ?
   who.GEN sleep.PST.2SG peacefully stay.up.ESSA/PRS
   ‘Who did you sleep peacefully when _ was awake?’

I propose that the unavailability of the extraction of subjects can be accounted for by the \(\phi\)-agreement constraint on subject extraction. In other words, the subject argument Agrees with the non-finite verb but cannot be extracted in the same context in which some speakers accept the extraction of the object argument. The example below illustrates the presence of the \(\phi\)-agreement on the non-finite verb.

   sleep.PST.1SG peacefully you.GEN stay.up.ESSA/PRS.PX/2SG
   ‘I slept peacefully while you were awake.’

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To conclude, the extraction data from the temporal constructions suggest that the
temporal construct forms a “weak island” for some speakers of Finnish. Weak islands are
selective: they typically allow the extraction of an object argument, but not extraction of
adjuncts (see, for example Szabolcsi, 2006).

9.3.3 Internal wh-movement

The temporal construction contains an edge position that functions as a landing site for
internal wh-movement. For example, in sentence (357), the edge is filled with the object
wh-phrase. Examples (358a-b) are evidence that a PP-modifier also undergoes internal
wh-movement, and that examples (359a-b) show the same for an adverb phrase. Finally,
example (360) shows how the edge position is filled with the genitive subject.

(357) [ Ketä auttaessaan _] Pekka kompastui _?
who.PAR help.ESSA/PRS.PX/3SG Pekka.NOM fell
‘Who Pekka was helping when he fell?’

Pekka.NOM cut call.ACC call.ESSA/PRS.PX/3SG Merja.ALL
‘Pekka disconnected while calling Merja.’
b. [ Kenelle soittaessaan _] Pekka katkaisi puhelun _?
who.ALL call.ESSA/PRS.PX/3SG Pekka.NOM cut call.ACC
‘Who was Pekka calling when he disconnected?’

Pekka.NOM fell.asleep eat.ESSA/PST.PX/3SG much
‘Pekka fell asleep after eating a lot.’
b. [ Miten paljon syötyään _] Pekka nukahti _?
how much eat.ESSA/PST.PX/3SG Pekka.NOM fell.asleep
‘How much did Pekka eat before he fell asleep?’

(360) [ Kenen laittaessa ruokaa] Pekka nukkui _?
who.GEN cook.ESSA/PRS food.PAR Pekka.NOM slept
‘Who was cooking when Pekka slept?’

The wh-phrases have thus moved in (357), (358b), and (359b) from their canonical
position to the edge of the non-finite clause.

Having presented examples of internal wh-movement that occurs within the temporal
construction, let us now turn to the restrictions on such a movement. The presence of an
overt genitive subject interferes with the internal wh-movement of the object argument, as
exemplified in (361b). The same is true for the internal wh-movement of the PP-modifier
in (362b).

Pekka.NOM slept Merja.GEN bake.ESSA/PRS cake.PAR
‘Pekka slept while Merja was baking a cake.’
Recall that an element at the edge, such as the base-generated adverb in the APs and PPs is able to block pied-piping. I propose that the genitive subject in (361) occupies the edge position and therefore prevents further movement to the edge. However, unlike the adverb phrases that were adjoined to the structure, the genitive argument occupies the specifier position, as illustrated in (351). It therefore seems that the genitive argument that occupies the specifier of T is at the edge of T and no further position for the wh-movement is available above T.

The same observation was made in connection with the adposition phrases in Section 6.2: the DP-argument of an adposition phrase was able to target the specifier of P via A-movement (class (1) PPs) or via A′-movement triggered by an uninterpretable [uwh] feature on the argument DP (class (2a) PPs). It thus seems that a similar conclusion holds for Finnish non-finite clauses; the blocking effect of the genitive subject will be a recurring theme in this chapter. The relevant data is presented in Section 10.3.3 along with a discussion on the findings.

There is, however, one potential problem for the analysis of the landing site above. Notice that the non-finite verb inflects in the \( \phi \)-features of a silent pro-subject in the internal wh-movement examples (357)-(359). Unlike overt subjects, the pro-subject does not seem to prevent wh-movement to the edge. To solve this discrepancy, I would like to propose that the pro-subject has a special property in this construction: it does not undergo EPP-movement to the edge of the non-finite clause (e.g. the edge of T in figure (351)).

Instead, the pro-element remains in-situ at the specifier of \( \nu \) after the Agree is established with the T. As a consequence, the specifier of T is left open for an internal wh-movement. This in-situ position of a phonologically empty element is supported by Holmberg (2005); Barbosa (2009); and Alexiadou & Anagnostopoulou (1998), among others. According to

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The silent pro-element is also left in-situ in the approach for the temporal construction proposed by Koskinen (1998, p. 321). In addition, the possibility of the subject remaining in the specifier of the vP is well-established in Finnish (Vainikka, 1989, p. 36, Holmberg & Nikanne, 2002).
these authors, elements without a phonological content do not move to satisfy the EPP-property (see also Holmberg (2010) for a detailed analysis for the behavior of the Finnish null generic pronouns).

Finally, Koskinen (1998) suggests that the non-finite clauses that display A′-movement to the edge contain a separate Topic projection (see Koskinen, 1998, p. 321 for the temporal construction). This Topic projection hosts different types of dislocated nominal constituents including the wh-phrase. However, Koskinen neither addresses internal wh-movement nor pied-piping. Unlike Koskinen, I will not assume a separate discourse-related projection inside the non-finite clauses (apart from the discourse-related edge), because the data discussed in this thesis do not warrant any further projections. The data from Finnish show that the wh-phrase competes with an overt subject argument for the specifier/edge position.

9.4 The E-infinitive

The third non-finite clause type considered here is the E-infinitive. I will not go into details on the structure of the E-infinitives here, but instead concentrate on outlining the A′-movement properties, which are similar to the two non-finite clause types already discussed.

If the E-infinitive does not contain an overt subject, the thematic subject is the matrix subject and there is no possessive inflection, as is shown in (363a). An overt subject is in the genitive case, as in (b-c) below. In addition, personal pronouns such as minun, ‘I.GEN,’ in (c) induce a φ-inflection on the non-finite verb (cf. Koskinen, 1998, p. 315). Finally, the E-infinitive does not have tense variants.

(363) The E-infinitive

a. Pekka käveli kotiin [ vihellellen].
   Pekka.NOM walked home.ILL whistle.E
   ‘Pekka walked home whistling.’

b. Virve pudotti maljakon [ Lasun nähden].
   Virve.NOM dropped vase.ACC Lasu.GEN see.E
   ‘Virve dropped the vase, (and) Lasu saw it.’ (Koskinen, 1998, p.315)

c. Maljakko putosi [ minun nähten].
   vase.NOM fell I.GEN see.E.PX/1SG
   ‘The vase fell, (and) I saw it’ (Koskinen, 1998, p. 315)

Having a typical interpretation of a manner adverbial (Hakulinen & Karlsson, 1979, p. 386), the E-infinitive often occupies the adjunct position. In line with the other typical adjunct clauses introduced in previous sections, the E-infinitive allows only limited
extraction, as outlined in Section 9.4.1. The internal wh-movement to the edge and pied-piping is therefore the preferred strategy for wh-movement, as will be outlined in Section 9.4.2.

### 9.4.1 Extraction

This section deals with the extraction conditions for E-infinitives. Extraction from an E-infinitive is impossible when the non-finite clause has an adjunct status, as illustrated in (364a-b).

(364) (Koskinen, 1998, p. 319)

a. * Mitä hän sinua tervehti [sanoen _]?  
   what.PAR s/he.NOM you.PAR greeted say.E  
   ‘What did she greet you by saying?’

b. [Mitä sanoen _] hän sinua tervehti _?  
   what.PAR say.E he.NOM you.PAR greeted  
   ‘By saying what did he greet you?’

However, there are some special contexts, such as (365a-b), in which the extraction of objects from the E-infinitive is permitted for some speakers of Finnish.

(365) a. Lapset juoksentelivat rannalla [keräillen simpukankuoria].  
   children.NOM ran.around beach.ADE collect.E seashells.PAR.PX/3SG  
   ‘Children ran around the beach collecting seashells.’

b. % Mitä lapset juoksentelivat rannalla [keräillen _]?  
   what.PAR children.NOM ran.around beach.ADE collect.E  
   ‘What did children run around the beach collecting?’

Another context in which some Finnish speakers accept object extraction is provided in (366a). Yet, the presence of the matrix object seems to prevent extraction, as in (366b).

(366) a. % Mitä Pekka saapui [vihellellen _]?  
   what.PAR Pekka.NOM arrived whistle.E  
   ‘What did Pekka arrive whistling?’

b. *Mitä Pekka tapasi Merjan [vihellellen _]?  
   what.PAR Pekka.NOM met Merja.ACC whistle.E  
   ‘*What did Pekka meet Merja whistling?’

On the other hand, example (367b) was rejected by all the test subjects (7% found it deviant). This suggests that the presence of the direct object plays a role in constraining

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104 The English sentence used as a translation for (366a) is from Truswell (2007, p. 1356), who cites Borgonovo & Neeleman (2000, p. 200). The estimation of the grammaticality for Finnish example (366b) is by the author. See (367b) for a sentence included in the test.
the extraction from the non-finite clause. I propose that when extraction is available, the non-finite clause occupies the complement position.

(367) a. Rauhoitan lapset [laulaen tuutulaulua].
calm.PRS.1SG children.PAR sing.E lullaby.PAR
   ‘I calm the children by singing a lullaby.’

b. * Mitä rauhoitat lapset [laulaen _]?
what.PAR calm.PRS.2SG children.ACC sing.E
   ‘*What do you calm the children by singing?’

Having now established that some Finnish speakers allow extraction from E-infinitives in specific contexts, it is possible to examine whether subject extraction is acceptable. It was established earlier in examples (363) that when the E-infinitive contains an overt pronominal subject, the non-finite verb may take a possessive suffix. In agreement with the \(\phi\)-agreement constraint on subject extraction, extraction of the subject is not available, as shown in (b). Example (366a)/(368c) demonstrates that object extraction is possible in a similar context.

(368) a. Pekka saapui [minun nähteni].
   Pekka.NOM arrived I.GEN see.E.PX/1SG
   ‘Pekka arrived while I watched.’

b. * Kenen Pekka saapui [ _ nähden]?
   who.GEN Pekka.NOM arrived see.E
   ‘*Who did Pekka arrive while _ watched?’

c. % Mitä Pekka saapui [vihellelen _]?
   what.PAR Pekka.NOM arrived whistle.E
   ‘What did Pekka arrive whistling?’

Overall, the A’-movement properties of the E-infinitives are in accordance with the Adjunct Island Condition. The marginal acceptability of object extraction can be accounted for by assuming that the E-infinitive occupies a complement position in the structure.

9.4.2 Internal wh-movement

The following sentence illustrates the internal wh-movement of the object wh-phrase to the edge of the non-finite clause, followed by pied-piping. The non-finite clause occupies the edge of C.

(369) [Mitä lauluavihellelen _] Pekka käveli kotiin _?
   which.PAR song.PAR whistle.E Pekka.NOM walked home.ILL
   ‘Which song was Pekka whistling when he walked home?’

As has been observed for the temporal construction in Section 9.3.3, the presence of the genitive argument prevents the internal wh-movement within the E-infinitives as well. This restriction is illustrated in the examples below.

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Finally, the E-infinitive contains an edge position for the internal wh-movement and undergoes pied-piping in wh-questions. The three non-finite adjunct constructions discussed so far – the rationale clause, the temporal construction, and the E-infinitive – are islands for extraction when they occupy a prototypical adjunct position. In a complement position, extraction of objects becomes possible, but extraction of subjects is still blocked (by agreement, as is proposed here). All three prefer internal movement and pied-piping as the strategy for forming wh-questions.

9.5 MA-infinitives

The “MA-infinitive” is a cover term for a group of non-finite clauses which share the non-finite marker -mA and a semantic case suffix, such as illative in (371). Finnish has a total of five semantic case variants of the MA-infinitives.

(371) The MA-infinitive (illative case)

Pekka lähti ostamaan ruokaa.
Pekka.NOM went buy.MA/ILL food.PAR

‘Pekka went to buy some food.’

Three of these MA-infinitives appear in the inner locative cases: the inessive, elative and illative and have the general distribution of the locative PPs (Nikanne, 1989; Vainikka, 1989, p. 249-253). I will begin this section by examining the two of them, MATTA and MALLA-infinitives which share some of the A′-movement aspects with the temporal construction and the E-infinitive. Section 9.5.3 continues with the A′-movement properties of the inner locative case variants of the MA-infinitives.

9.5.1 The MALLA-infinitive

The MALLA-infinitive contains a semantic adessive case suffix -l/lA. This infinitival form does not take an overt subject nor subject agreement inflection.
The MALLA-infinitive

Pekka yllätti Merjan [ostamalla lahjan].
Pekka.NOM surprised Merja.ACC buy.MALLA gift.ACC

‘Pekka surprised Merja by buying a gift.’

The MALLA-infinitive is often interpreted as being a manner adverbial (Hakulinen & Karlsson, 1979, p. 285-286), and it typically occupies the adjunct position (Toivonen, 1995). Extraction from the MALLA-infinitive is impossible in general, on par with the Adjunct Island Condition:

(373) *? Mitä Pekka yllätti Merjan [ostamalla _]? 
which.PAR Pekka.NOM surprised Merja.ACC buy.MALLA
‘What did Pekka surprise Merja by buying?’

As shown in (374a-b), object extraction is nevertheless allowed by some Finnish speakers.

(374) a. Pekka rentoutuu [lukemalla täätä kirjaan].
Pekka.NOM relaxes read.MALLA this.PAR book.PAR
‘Pekka relaxes by reading this book.’

b. % Mitä kirjaa Pekka rentoutuu [lukemalla _]?
which.PAR book.PAR Pekka.NOM relaxes read.MALLA
‘Which book does Pekka relax reading?’

The observation that the MALLA-infinitives allow object extraction was also made by Toivonen (1995, p. 52). Toivonen nevertheless continued to assume that the MALLA-infinitive is an extraction island and that it occupies an adjunction site. Furthermore, extraction of the adjuncts out of the MALLA-infinitive seems to be impossible (Toivonen, 1995, p. 53); this is exemplified in (375a-b).

(375) a. Pekka pelastui [melomalla täytä vauhtia].
Pekka.NOM was.saved paddle.MALLA full.PAR speed.PAR
‘Pekka saved himself by paddling full speed.’

b. * Miten kovaa Pekka pelastui [melomalla _]?
how fast.PAR Pekka.NOM was.saved paddle.MALLA
‘*How fast did Pekka save himself by paddling?’

Nevertheless, the results reported here suggest that, for some Finnish speakers, the MALLA-infinitive is a weak island. We will next turn to pied-piping, which is the preferred strategy for A’-movement for MALLA-infinitives. The examples of pied-piping by the object wh-phrase are provided in (376a-b), and by an adjunct in (c).
The MALLA-infinitive therefore contains an edge position that is available for internal wh-movement the same way that it does for the three non-finite clause types already discussed.

9.5.2 The MATTA-infinitive

The MATTA-infinitive shares some of the qualities of the MALLA-infinitive in that they both have a typical distribution of an additional modifier. The semantic case on the MATTA-infinitival verb form is the ablative (-ttA). The MATTA-infinitive can be subjectless, as in example (377a-b). However, example (c) shows that unlike the MALLA, the MATTA-infinitive can contain an overt subject. In addition, the infinitival verb can take the ϕ-inflection in the presence of empty subjects (b) and personal pronouns (d). 105

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105 The possessive inflection of the MATTA-infinitive cannot co-occur with an overt object argument (Toivonen, 1995), or if the implicit object argument does not refer to the matrix event. The unavailability of the possessive inflection in the presence of an object argument is illustrated in (1a-b).

(1) a. Pekka käveli kotiin [huomaamatta Merjaa].
   Pekka.NOM walked home.ILL see.MATTA Merja.PAR
   ‘Pekka walked home without noticing Merja.’

b. *Pekka käveli kotiin [huomaamattaan Merjaa].
   Pekka.NOM walked home.ILL see.MATTA.PX/3SG Merja.PAR

The dependence on the presence of an implicit object argument is illustrated in examples (2a-c). Example (a) shows that the verb väsyä, ‘get tired,’ does not take a direct object argument. In this case, possessive inflection is not available, as shown in (2b-c). However, the thematic subject of the non-finite clause in (c) is the matrix subject.

(2) a. *väsymättä Merjaa / *väsymättä Merjan
tire Merja.PAR / tire Merja.ACC

b. *Pekkaä käveli kotiin [väsymättään].
Pekka.NOM walked home.ILL tire.MATTA.PX/3SG

c. Pekkaä käveli kotiin [väsymättä].
Pekka.NOM walked home.ILL tire.MATTA
(377) The MATTA-infinitive

a. Pekka käveli kotiin [näkemättä Merjaa].
   Pekka.NOM walked home.ILL see.MATTA Merja.PAR
   ‘Pekka walked home without seeing Merja.’

b. Pekka käveli kotiin [huomaamattaan].
   Pekka.NOM walked home.ILL notice.MATTA.PX/3SG
   ‘Pekka walked home without noticing it.’

c. Pekka saapui [Merjan huomaamatta].
   Pekka.NOM arrived Merja.GEN notice.MATTA
   ‘Pekka arrived without Merja noticing it.’

d. Pekka käveli kotiin [hänens huomaamattaan].
   Pekka.NOM walked home.ILL s/he.GEN notice.MATTA.PX/3SG
   ‘Pekka walked home without him/her noticing it.’

I follow here the account for the temporal construction and the E-infinitive, according to which the emergence of the ϕ-inflection in the absence of an overt subject signals the presence of an unpronounced pro-subject together with a ϕ-Agree.

When the MATTA-infinitive occupies an adjunct position, as occurs in the examples below, extraction from the non-finite clause is impossible:106

(378) a. Pekka auttoi Merjaa [löytämättä kiikareitaan].
   Pekka.NOM helped Merja.PAR find.MATTA binoculars.PAR.PX/3SG
   ‘Pekka helped Merja without finding his binoculars.’

b. * Mitä Pekka auttoi Merjaa [löytämättä ___]?
   what.PAR Pekka.NOM helped Merja.PAR find.MATTA
   ‘*What did Pekka help Merja without finding?’

However, like the other non-finite clause types, the object extraction from the MATTA-infinitive is possible for some Finnish speakers (379a-b). On the other hand, test sentence (380b), which involves a matrix object, was not found to be acceptable.

106 The actual sentence used in the test is (b):

(1) a. Lääkäri antoi lähetteen verikokeisiin näkemättä potilasta.
   doctor.NOM gave prescription_ACC blood-tests.ILL see.MATTA patient.PAR
   ‘The doctor gave a prescription to the blood tests without seeing the patient.’

b. * Ketä lääkäri antoi lähetteen verikokeisiin näkemättä ___?
   who.PAR doctor.NOM gave prescription_ACC blood-tests.ILL see.MATTA
   ‘Whom did the doctor give prescription to blood tests without seeing?’
(379)  a. He lähti huomaamatta Merja.
   % they.NOM left notice.MATTA Merja.PAR
   ‘They left without noticing Merja.’

b. % Ketä he lähti huomaamatta _?
   who.PAR they.NOM left see.MATTA
   ‘Whom did they leave without noticing?’

(380)  a. Veljeni kolaroi auton kertomatta vaimolleen.
   brother.NOM.PX/1SG crashed car.ACC tell.MATTA wife.ILL.PX3SG
   ‘My brother crashed a/the car without telling his wife.’

b. * Kenelle veljeni kolaroi auton kertomatta _?
   who.ILL brother.NOM.PX/1SG crashed car.ACC tell.MATTA
   ‘*Who did my brother crash a/the car without telling?’

Thus, the MALLA-infinitive resembles the MATTA-infinitive in that it seems to be able to occupy the complement position and then to allow extraction.107 Note that the ditransitive structure is not present here: the subject of the non-finite clause is not c-commanded by the object, as the data from the possessive suffix in (381a) licensing suggests. This means that the subject of the MATTA-infinitive cannot refer to the matrix object. In addition, the possessive inflection on the non-finite verb never refers to the object of the sentence. We can therefore conclude that anaphoric reference from the MATTA-infinitive to the matrix object is not available. I interpret this to be an indication of a lack of a c-commanding relation between the object and the non-finite clause. However, why the second complement position is not available for these clauses is an open question here.

107The MATTA-infinitive can take a complement position with verbs that function like auxiliaries such as jättää, ‘leave,’ in (1) (Hakulinen et al., 2004, §452). This construction does not have an overt subject, which points towards an analysis similar to that of the A-infinitives, where the subject of the non-finite clause is a PRO-element and the PRO-element cannot refer to the object. Extraction from the non-finite complement is freely available (c).

(1)  a. Pekka jätti katsomatta elokuvan.
    Pekka.NOM left watch.MATTA movie.ACC
    ‘Pekka left the movie unwatched.’

b. * Pekka jätti Merja katsomatta elokuvan.
    Pekka.NOM left Merja.GEN watch.MATTA movie.ACC

c. Minkä Pekka jätti katsomatta _?
    what.ACC Pekka.NOM left watch.MATTA
    ‘What did Pekka leave unwatched?’

This construction does not allow an internal wh-movement, as shown in (2).

(2)  * [ Mitä katsomatta _] Pekka jätti _?
    what.PAR watch.MATTA Pekka.NOM left
(381) a. Pekka\textsubscript{i} tapasi Merjan\textsubscript{j} äitinsä\textsubscript{i}/\textsubscript{j}/\textsubscript{k} näkemättä. 
Pekka\,NOM met Merja\,ACC mother\,GEN\,PX/3\,SG see\,MATTAT 
‘Pekka met Merja without his mother seeing it.’ MATTA

b. Pekka tapasi Merjan huomaamattaan\textsubscript{i}/\textsubscript{j}/\textsubscript{k}.
Pekka\,NOM met Merja\,ACC notice\,MATTAT\,PX/3\,SG 
‘Pekka met Merja without noticing it.’

Finally, the MATTA-infinitive provides a further instance of a phrase type that follows the \(\phi\)-agreement constraint on subject extraction: extraction of the genitive subject is not permitted in those constructions that show \(\phi\)-inflection, as exemplified in (382). Example (b) recapitulates the fact that the \(\phi\)-inflection is triggered in the presence of a \(\phi\)-pronoun.

(382) a. * Kenen Pekka hyppää [ _ näkemättä] ? 
who\,GEN Pekka\,NOM jumps see\,MATTAT 
‘Who does Pekka jump without _ seeing?’

Pekka\,NOM jumps you\,GEN see\,MATTAT\,PX/2\,SG 
‘Pekka jumps without you seeing it.’

The remainder of this section will consider internal wh-movement and pied-piping. Example (383a) from movement of the wh-object and (b) of the wh-subject attest that internal wh-movement to the edge of the non-finite clause takes place in wh-questions.

(383) [ Ketä näkemättä ] Pekka käveli kotiin _?
who\,PAR see\,MATTAT Pekka\,NOM walked home\,ILL 
‘What didn’t Pekka see when he walked home?’

[ Kenen näkemättä] Pekka käveli kotiin _?
who\,GEN see\,MATTAT Pekka\,NOM walked home\,ILL 
‘Who didn’t see that Pekka walked home?’

Again, the presence of the genitive subject prevents the movement of other phrases to the edge position. The same effect was observed in connection with E-infinitives and temporal constructions.

they\,NOM walked home\,ILL Merja\,GEN notice\,MATTAT rain\,PAR 
‘They walked home without Merja noticing the rain.’

b. *? [ Mitä Merjan huomaamatta ] he kävelivät kotiin?
what\,PAR Merja\,GEN notice\,MATTAT they\,NOM walked home\,ILL 

The preferred wh-movement strategy for the MATTA-infinitive is thus pied-piping together with internal wh-movement. The MATTA-infinitive is only occasionally able to occupy a complement position (assuming no matrix object is present) and it allows extraction from that position.
9.5.3 MA-infinitives in inner locative cases

This section investigates the three inner locative case variants of the MA-infinitives. These non-finite clauses do not have an overt subject. I follow Koskinen (1998, p. 341) and assume that the subject of the MA-infinitive in the inner locative cases is the PRO-element. This PRO-element is controlled by the matrix object whenever the object is present, as shown in (385a-c), and otherwise by the matrix subject, as in (386). The three inner locative case variants share their essential structural properties and although their semantic properties differ, they are considered uniformly.

(385) MA-infinitives in inner locative cases

a. Pekka $i$ näki Merjan $j$ [ PRO$_{*i/j}$ ostamassa kirjaa ] .
   Pekka.NOM saw Merja.ACC buy.MA/INE book.PAR
   ‘Pekka saw Merja buying a book.’

b. Pekka $i$ haki Merjan $j$ [ PRO$_{*i/j}$ ostamasta kirjaa ] .
   Pekka.NOM fetched Merja.ACC buy.MA/ELA book.PAR
   ‘Pekka fetched Merja when she was buying a book.’

c. Pekka $i$ lähetti Merjan $j$ [ PRO$_{*i/j}$ ostamaan lahja ] .
   Pekka sent Merja.ACC buy.MA/ILL present.PAR
   ‘Pekka sent Merja to buy a present.’

(386) Pekka $i$ lähti [ PRO$_i$ ostamaan ruokaa ] .
   Pekka went buy.MA/ILL food.PAR
   ‘Pekka went to buy some food.’

The fact that the PRO-element can be licensed by the matrix object suggests that the MA-infinitive occupies a structural position below the object. This observation is supported by the data from reflexive binding. For example, in (387a), the binding relation can be established between both the matrix object and the matrix subject. As a comparison, examples (b-c) show that the MALLA- and the MATTA-infinitives allow the reflexive to refer to the sentence subject only.\(^{108}\)

(387) a. Pekka $i$ pyysi Merjaa $j$ [ vahtimaan koiransa$_{i/j}$ ] .
   Pekka.NOM asked Merja.PAR watch.MA/ILL dog.PAR.PX/3SG
   ‘Pekka asked Merja to watch his/her dog.’

b. Pekka $i$ auttoi Merjaa $j$ [ löytämällä kiikarinsa$_{i*/j}$ ] .
   Pekka.NOM helped Merja.PAR find.MALLA binoculars.ACC.PX/3SG

\(^{108}\)The licensing conditions for the PRO-elements and the possessive suffixes are thus different. Whereas the licensing of PRO is strictly local and the only available correlate for PRO in (387a) is the matrix object, the possessive suffix is able to refer to the subject past the direct object argument. I assume that the third-person possessive suffix is licensed by an anaphoric *pro* within the noun phrase that has the same distribution for reflexives (see Section 2.4).
‘Pekka helped Merja by finding his binoculars.’

   Pekka.NOM helped Merja.PAR find.MATTA binoculars.PAR.PX/3SG
   ‘Pekka helped Merja without finding his binoculars.’

The licensing of the PRO-argument together with the binding data in (387) above indicate that in the inner locative cases, the MA-infinitive occupies the complement position (see also the discussion in Koskinen, 1998, pp. 343-346). The assumed syntactic structure for sentence (387a) is provided in (388). Here the structure is the same as the double object construction (215) (on page 121) that has been assumed for the adposition phrases.

(388)

Furthermore, I adopt the proposal of Nikanne (1989) that the semantic case is assigned to the non-finite verb by a P-head located on top of the non-finite clause. In this way, the MA-infinitive forms a prepositional phrase that aligns with the observation that it has approximately the same distribution as the PPs that assign semantic case in general (Nikanne, 1989; Vainikka, 1989, pp. 249-253).

The MA-infinitive in the complement position allows extraction of both the direct object, as in (389b) and adjuncts, as in (c) (Vainikka, 1989, p. 257).

   Pekka.NOM saw Merja.ACC buy.MA/INE gift.PAR mother.ALL.PX/3SG
   ‘Pekka saw Merja buying a gift to her mother.’
b. Mitä Pekka näki Merjan [ostamassa _]?  
what.PAR Pekka.NOM saw Merja.ACC buy.MA/INE  
‘What did Pekka see that Merja was buying?’

c. Kenelle Pekka näki Merjan [ostamassa lahjaa _]?  
who.ALL Pekka.NOM saw Merja.ACC buy.MA/INE gift.PAR  
‘To whom did Pekka see that Merja was buying a gift?’

However, extraction is not the only available strategy for wh-movement; the inner locative case variants of the MA-infinitives seem to contain an edge position that is available for internal wh-movement. The internal wh-movement and pied-piping are illustrated in (390a-c).

(390) a. [Mitä ostamassa _] Pekka näki Merjan _?  
what.PAR buy.MA/INE Pekka.NOM saw Merja.ACC  
‘What did Pekka see Merja was buying?’

b. [Mitä ostamasta _] Pekka haki Merjan _?  
what.PAR buy.MA/ELA Pekka.NOM fetched Merja.ACC  
‘What was Merja buying when Pekka fetched her?’

c. [Mitä ostamaan _] Pekka lähti _?  
what.PAR buy.MA/ILL Pekka.NOM went  
‘What did Pekka go to buy?’

Assuming that the MA-infinitives are headed by Ps, the edge position for the internal wh-movement would thus be the edge of P, and the optional pied-piping would be another

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109Vainikka (1989, p. 257) points out that the MA-infinitives can move in tact. In examples (1a-b), the movement of the non-finite clause has been triggered by the yes/no question particle -kO. In (a), the -kO-particle is attached to the first word of the fronted MA-infinitive, and in (b), it is attached to the whole non-finite clause.

(1) a. (?)[Solmion-ko ostamassa] Pekka kävi _?  
tie.GEN-kO buy.MA/INE Pekka.NOM went  
‘Was it to buy a tie that Pekka dropped by?’ (Vainikka, 1989, p. 257)

b. [Solmion ostamassa-ko] Pekka kävi _?  
tie.GEN buy.MA/INE-kO Pekka.NOM went  
‘Was it to buy a tie that Pekka dropped by?’

The observations here are supported by (2), which was evaluated to be grammatical by Koskinen (1998, p. 348) (glosses are mine).

(2) [Mitä ostamaan] sinä Pekan lähetit?  
what.PAR buy.MA/ILL you.NOM Pekka.GEN sent?  
‘What did you send Pekka to buy?’

Examples (390a-c) and (1)-(2) indicate that the pied-piping of the MA-infinitive to the front of the sentence is optionally available, although extraction is the preferred strategy for wh-movement.
shared property between the PPs and MA-infinitives. I will return to the optional pied-piping in Section 10.6.

9.6 The A-infinitive

Finnish has three basic non-finite clause types with a typical distribution of a complement: the MA-infinitive in the inner locative cases (examined in the previous section), the VA-construction (to be discussed in the next section) and the A-infinitive. None of these non-finite clause types pose restrictions on extraction. Extraction from the A-infinitive was already examined in connection with the DPs in Section 7.2.2.1 and the APs in Section 8.2.3.1.

The A-infinitive typically appears without a lexical subject, in which case the thematic subject is the matrix clause subject (391a). Overt subjects take the genitive case, as in (b), and no ϕ-inflection occurs (c).

(391) The A-infinitive

   Pekka.NOM wanted eat.A apples.PAR
   ‘Pekka wanted to eat some apples.’

   Pekka.NOM ordered Merja.GEN eat.A apples.PAR
   ‘Pekka ordered Merja to eat some apples.’

(1) a. Pekka toi omenoita [ lasten syödä] .
    Pekka.NOM brought apples.PAR children.GEN eat.A
    ‘Pekka brought some apples in order for the children to eat.’

b. Pekka toi omenan [ lasten syödä] .
    Pekka.NOM brought apple.ACC children.GEN eat.A
    ‘Pekka brought an apple in order for the children to eat.’

Movement of the A-adjunct as well as extraction from it are not permitted, as illustrated in (1a-b). Semantically, the meaning of the non-finite is ‘in order to eat,’ which points to an interpretation as an adjunct.

(2) a. * Kenen Pekka toi omenoita [ _ syödä] ?
    who.GEN Pekka.NOM brought apples.PAR eat.A

b. * [ Kenen syödä] Pekka toi omenoita _?
    who.GEN eat.A Pekka.NOM brought apples.PAR

110 The A-infinitive has an adjunct form, which is illustrated in (1a). The subject is in the genitive case and the non-finite clause object is part of the main clause, as may be observed in the case alternation between (a-b). The usage as an adverbial has been more common in the past (Leino, 2003, p. 52); example (1) is from (Setälä 1973 [1880]: 106).
c. Pekka käski [minun syödä omenoita].
Pekka.NOM ordered I.GEN eat.A apples.PAR
‘Pekka ordered me to eat some apples.’

I accept the account by Koskinen (1998, p. 261) that the subjectless A-infinitives are control constructions involving a PRO-subject, as in (392). The PRO-element is controlled by the matrix subject.

(392) Merja haluaa [PRO syödä omenoita].
Merja.GEN wants eat.A apples.PAR
‘Merja wants to eat some apples.’

The lack of tense variation, as well as the absence of ϕ-inflection, suggest that the T-projection is not present in the A-infinitive.

9.6.1 Extraction

Examples (393) show that the A-infinitive allows the extraction of the direct object (a), genitive subject (b), and adjuncts (c).

(393) a. Mitä Pekka halusi [PRO syödä _]?
what.PAR Pekka.NOM wanted eat.A
‘What did Pekka want to eat?’
b. Kenen Pekka käski [ _ syödä omenoita]?
who.GEN Pekka.NOM ordered eat.A apples.PAR
‘Whom did Pekka order to eat some apples?’
c. Milloin Pekka aikoi [PRO syödä _ omenoita]?
when Pekka.NOM intended eat.A apples.PAR
‘When did Pekka intend to eat some apples?’

Subject extraction is thus possible, on par with the ϕ-agreement constraint on subject extraction. In other words, although the subject appears in the genitive case and in the specifier position inside the non-finite clause, there is never ϕ-inflection on the A-infinitive verb. Since the subject of the non-finite verb does not enter into Agree in terms of the ϕ-features, ϕ-agreement does not prevent subject extraction.

9.6.2 Internal wh-movement

In this section, I will show that A-infinitives do not undergo pied-piping nor do they allow internal wh-movement. As the examples (394a-c) below show, neither the object wh-constituent, nor the genitive subject, can pied-pipe the A-infinitive to the front of the sentence.

(394) a. * [Mitä PRO syödä _] Pekka halusi _?
what.PAR eat.A Pekka.NOM wanted
‘*What to eat Pekka wanted?’
The data from relative clauses support the observation. In (395b), the object of the A-infinitive is a relative pronoun, which can be moved to the edge of C. Nevertheless, the relative pronoun is not able to trigger the pied-piping of the non-finite clause, as shown in (c). Sentences (396a-b) illustrate the same phenomenon when the subject argument is replaced by a wh-phrase.

Nevertheless, the whole A-infinitive can be topicalized. It therefore seems that in finite clauses, the non-finite clause can be disconnected from the selecting verb. This was not the case for the A-infinitives in the complement of the nouns and adjectives.\(^{111}\)

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\(^{111}\) Similar observations were made by Vainikka (1989), regarding the A-infinitive not being able to be raised to the front of the sentence, as illustrated in (1a-b). Vainikka (1989, p. 275) marks (c) is ungrammatical. However, the sentence improves if the constituent that the -kO-particle attaches to is emphasized. Nevertheless, sentences (c-d), in which the A-infinitive is fronted, preserving the word order, are better than the other alternatives:

(1) (Vainikka, 1989, p. 275)

a. *? [ Suklaata-ko PRO varastaa __ ] Jukka yritti __ ?
   chocolate.\(\PAR\)\(-kO\) steal.A Jukka.NOM tried
   ‘Was it to steal the chocolate that Jukka tried?’
The example above is evidence that the movement of the A-infinitive is possible in principle, but internal wh-movement to the edge is unfeasible. The A-infinitive constitutes a \( vP \); there is little evidence for the other functional heads above the \( v \)-projection in the A-infinitives. The \( v \) head does not seem to be able to function as a probe for the internal wh-movement to the edge and the pied-piping is impossible as well. In fact, any type of fronting of the A-infinitive is only marginally acceptable. Nonetheless, assuming that the \( vP \) is a phase in Finnish (see Section 4.3), the edge of the \( v \) should be available as an intermediate landing site for the wh-movement that targets higher projections. This means that the edge of A-infinitive seems to function only as a temporary landing site for the wh-phrase. At this point, I will not address this problem further. Note, however, that the VA-construction investigated in the next section is similar to the A-infinitives in this respect.

Finally, although it seems that the A-infinitive does not contain the discourse-related edge position, the examples below seem to suggest the contrary. For instance, the left periphery of the A-infinitive can function as a final landing site for wh-phrases (398a-b), head movement in yes/no questions (c), and relative pronouns (d).

(398) a. Pekka mietti, mitä tehdä_.
Pekka.NOM wondered what,PAR do.A
‘Pekka wondered what to do.’

b. Pekka pohti, milloin lähteä-kotiin.
Pekka.NOM wondered when go.A home.ILL
‘Pekka wondered when to go home.’

c. Pekka mietti, lähteää-kö_kotiin.
Pekka.NOM wondered go.A-\( kO \) home.ILL
‘Pekka wondered whether to go home.’

d. *? [ Suklaata PRO varastaa-ko ] Jukka_yritti_ ?
chocolate.PAR steal.A-\( kO \) Jukka.NOM tried
‘Was it to steal the chocolate that Jukka tried?’

c. ? [ PRO varastaa suklaata-ko] Jukka_yritti_ ?
steal.A chocolate.PAR-\( kO \) Jukka.NOM tried
‘Was it to steal the chocolate that Jukka tried?’

d. ? [ PRO varastaa-ko suklaata] Jukka_yritti_ ?
steal.A-\( kO \) chocolate.PAR Jukka.NOM tried
‘Was it to steal the chocolate that Jukka tried?’
Nevertheless, the presence of the complementizer että, ‘that,’ in (399) suggests that the edge position is, in fact, offered by a C-head, or a combination of the ForceP and FocusP as proposed for Finnish C-domain in Section 5.4 for finite clauses. In addition, as an equivalent to the finite clauses, the presence of että, ‘that,’ is optional in each of examples (398a-d). We can therefore conclude that the A’-movement in these examples would not target the edge of vP, but instead, it would target the edge of a higher functional projection.\textsuperscript{112}

\begin{align*}
(399)\quad &\text{Pekka mietti, että mitä tehdä }_. \\
&\text{Pekka.NOM wondered that what.PAR do.A} \\
&\text{‘Pekka wondered what to do.’}
\end{align*}

It thus seems that a discourse-related functional projection selects the vP, checks the uninterpretable [wh]-feature of the wh-phrase, and triggers the EPP-movement to the edge. In Finnish, CPs do not undergo pied-piping in wh-questions, as was demonstrated in Section 5.5, and this is true in this context as well.

\section{9.7 The VA-construction}

The VA-construction differs from the other non-finite clause types in that it appears only as a complement of a finite verb, whereas the others can also occur within noun phrases and adjective phrases. The VA-construction does not pose restrictions on the extraction of arguments or adjuncts. In addition, limited pied-piping with an internal wh-movement can occur in the absence of the genitive subject.

Section 2.5 established that the VA-construction has morphological forms for the past tense (-\text{nUr}), illustrated in (400a), and for the present/future tense (-\text{vA}), as in (b). In addition, both tenses have a passive variant, as shown in (c-d). Furthermore, the four verb forms are traditionally participial forms, but the VA-construction is not treated as a participial phrase in this thesis.

\begin{align*}
(400)\quad &\text{The VA-construction} \\
&\text{a. Pekka muistaa [ tavaneeensa hänet aikaisemminkin] .} \\
&\text{Pekka.NOM remembers met.VA/PST.PX/3SG s/he.ACC earlier.too} \\
&\text{‘Pekka remembers to have met him/her also earlier’}
\end{align*}

\textsuperscript{112}Koskinen (1998, p. 284) arrives to the same conclusion.
I.NOM know  s/he.GEN meet.VA/PRS Merja.ACC
‘I know that he/she will meet Merja.’

I.NOM noticed  cake.PAR tasted.PASS.VA/PST
‘I noticed that the cake had been tasted.’

d. Minä tiesin [ kakkua maistettavan] .  
I.NOM knew  cake.PAR taste.PASS.VA/PRS
‘I knew that the cake will be tasted.’

Following Vainikka (1995), I assume that the VA-construction contains a projection T for tense, and that the genitive subject raises to the specifier of the TP, as illustrated in (401).

(401)

When the active form does not contain a subject, the thematic subject is the matrix clause subject and the non-finite verb receives a possessive inflection, as in the above example (400a). However, the presence of an overt genitive subject does not trigger \( \phi \)-inflection (400b). The \( \phi \)-inflection therefore differs from the noun phrases and other non-finite clauses in which the pronominal subject always patterns like the empty pro-subject. This pattern is reflected in the examples below:

(402) a. *hänen auto / hänen autonsa  
s/he.GEN car  s/he.GEN car.PX/3SG
‘his/her car’

b. hänen lähtevän / *hänen lähtevänsä  
s/he.GEN leave.VA/PRS  s/he.GEN leave.VA/PRS.PX/3SG
‘him/her to leave’
Due to the exceptional $\phi$-agreement, the extraction of the subject is possible, as the next section will explain.

### 9.7.1 Extraction

Being a non-finite clause complement, the VA-construction allows the extraction of complements and adjuncts:

(403) a. Kenet Pekka muistaa [tavenneensa _]?
   who.ACC Pekka.NOM remembers meet.VA/PST.PX/3SG
   ‘Who does Pekka remember to have met?’

   b. Milloin Pekka muisteli [tavenneensa Merjan _]?
      when Pekka.NOM recalled meet.VA/PST.PX/3SG Merja.ACC
      ‘When did Pekka recall he met Merja?’

In addition, the VA-construction permits subject extraction, as shown in (404a-b). As outlined in the previous section (examples (402)), the VA-construction does not inflect for the $\phi$-features of an overt pronominal subject, although the $\phi$-inflection is manifested in the presence of a silent pro-subject, as in (403a-b) above. For example, the pronominal subject *sinun*, ‘you.Gen,’ does not trigger the $\phi$-inflection on the VA-infinitival verb in the example below. I will assume that whereas silent pro-subject enters into Agree with the non-finite verb, the overt subject does not.

(404) a. Luulen [sinun tapaavan Merjan].[1]
    think.PRS.1SG you.Gen meet.VA/PRS Merja.ACC
    ‘I think you will meet Merja.’

   b. Kenen luulet [ _ tapaavan Merjan]?
      who.Gen think.PRS.2SG meet.VA/PRS Merja.ACC
      ‘Who do you think will meet Merja?’

Thus, the VA-construction behaves in the same way as the A-infinitive in terms of the extraction of an overt genitive subject and of following the $\phi$-agreement constraint on subject extraction. I will not address distribution of the $\phi$-features within the VA-construction. Instead, I merely note that there exists a discrepancy between the overt and covert arguments within the VA-construction that are not present in the other non-finite clause types in Finnish.

### 9.7.2 Internal wh-movement

This section will focus on the pied-piping of the VA-construction. As an alternative to extraction, internal wh-movement and pied-piping is marginally available, as is demonstrated in (405). The data from relative clauses support this observation: whereas extraction is always possible (406a), pied-piping provides a marked alternative (b).
(405)  ? [ Mitä kirjaa etsivänsä _] Pekka väitti _?  
  which.book.search.VA/PRS.PX/3SG Pekka.NOM claimed  
  ‘Which book did Pekka claim to be searching for?’

(406)  a. pyörä, jonka Pekka myönsi [ ostaneensa _]  
  bike, which.ACC Pekka.NOM admitted buy.VA/PST.PX/3SG  
  ‘the bike which Pekka admitted to have bought’

  b.  ? pyörä, [ jonka ostaneensa _] Pekka kyllä myönsi _.  
  bike, which.ACC buy.VA/PST.PX/3SG Pekka.NOM surely admitted  
  ‘a/the bike which Pekka surely admitted to have bought’

To provide an additional example of pied-piping, the yes/no particle -kO may target the  
DP at the edge of the non-finite clause below, and the VA-construction is pied-piped to to  
the edge of C.

(407)  [ Kirjaa-ko etsineensä _] Pekka kertoi _?  
  book.search.VA/PRS.PX/3SG Pekka.NOM told  
  ‘Was it to have searched a book that Pekka told us about?’

It thus seems that subjectless VA-constructions display both strategies, extraction and  
internal movement together with pied-piping. Nevertheless, the presence of the geni-  
tive subject blocks the wh-movement of the non-finite clause: in example (408b), the  
VA-construction contains a genitive subject (Merjan) that prevents the wh-movement of  
the direct object to the edge. Similarly, the movement introduced by the -kO-particle is  
blocked (c). The data (409) from relative clauses support this observation.

(408)  
  Pekka.NOM claimed Merja.GEN searched.VA/PST bike.PAR  
  ‘Pekka claimed that Merja was searching for a bike.’

  b.  * [ Mitä Merjan etsineen _] Pekka väitti _?  
  what Merja.GEN searched.VA/PST Pekka.NOM claimed

  c.  *? [ Pyörää-kö Merjan etsineen _] Pekka väitti  
  bike.-kO Merja.GEN searched.VA/PST Pekka.NOM claimed  
  ?  
  Merja.GEN  
  ‘Was it searching for a bike that Pekka claimed Merja to have done?’

(409)  
  a. pyörä, jota Pekka tiesi [ Merjan etsivän _]  
  bike which.PAR Pekka.NOM knew Merja.GEN search.VA/PRS  
  ‘the bike which Pekka knew that Merja would search for’

  b.  *? pyörä, [ jota Merjan etsivän _] Pekka kyllä tiesi _.  
  bike which.PAR Merja.GEN search.VA/PRS Pekka.NOM surely knew
Thus, on par with the other non-finite clause types, the presence of the overt genitive argument prevents movement to the edge position. I propose that the genitive subject occupies the edge position in all these contexts.

9.8 Summary

This chapter has examined the A′-movement properties of Finnish non-finite clauses. First, the Finnish non-finite clauses, apart from the A-infinitive, contain an edge position for internal wh-movement, and the edge position is required for the pied-piping in wh-questions. In other words, Finnish non-finite clauses provide evidence for the edge generalization (86).

The second observation deals with the adjunct / complement distinction in terms of A′-movement: adjuncts are islands, whereas complements are not. However, the speaker experiment on the extraction conditions shows that approximately 30% of Finnish speakers allow an extraction of an object argument out of the non-finite clauses that typically occupy an adjunct position in a sentence. To account for this result, it was proposed that in order to allow extraction, the non-finite clause has to occupy the complement position. These observations support finding 5 in Section 4.6, that extraction conditions are specific to the structural position of the phrase.

The third observation concerns the structure of the non-finite clauses and especially the position of the genitive argument. The presence of an overt genitive subject blocks the internal wh-movement in temporal construction, E-infinitive, MATTA-infinitive, and VA-construction whenever it appears inside a non-finite clause.113 It was proposed that the overt genitive subject fills the edge position that would be the target of A′-movement. So the non-finite clauses provide evidence for finding 3 in Section 4.6 that the edge position can be obtained by A-movement as well. Furthermore, the edge position of a non-finite clause can be considered to be a “mixed” position: it may host both A-moved and A′-moved elements. The A-movement to the edge position is discussed in Section 10.3.1.

The fourth point is that evidence verifies the ϕ-agreement constraint on subject extraction (113) that applies to the non-finite clauses in Finnish: non-finite clauses that show ϕ-inflection in the presence of a personal pronoun do not allow subject extraction, regardless of the structural position. The relevant data concerning the ϕ-agreement constraint on subject extraction will be summarized in Section 10.7 in the next chapter.

113 Of the rest of the non-finite clauses, rationale clause and MA-infinitive in inner locative cases do not take an overt subject. In addition, the presence of an overt subject in MALLA-infinitive is marginal and not addressed here. These non-finite clauses also permit the internal wh-movement to the edge.
This chapter has now concluded the investigation of Finnish phrase structures. In the following chapter, I will discuss the central findings that this thesis has set out to investigate. In addition, this chapter will present summaries of the relevant data as well as useful generalizations for future research.
Chapter 10

Discussion of the resulting generalizations

Chapters 5-9 have analyzed the basic syntactic constructions in Finnish by investigating their A’-movement properties. This chapter will provide the across-the-board generalizations from the gathered data and offer relevant examples and discussion, and will present a discussion about the central findings reported in 4.6.

The chapter is organized as follows: The first part concentrates on the properties of the edge position and pied-piping. Section 10.1 outlines the domains that undergo pied-piping in Finnish. These domains obey the edge generalization, which is discussed in Section 10.2. Section 10.3 addresses the different mechanisms for obtaining the edge position within a phrase. The snowball movement of wh-phrases and recursive pied-piping is discussed in Section 10.4. In addition to the central findings, this chapter addresses some open questions regarding the edge generalization (Section 10.5), and optional pied-piping in Finnish (10.6).

The remainder of the chapter is dedicated to island conditions. Subject extraction and ϕ-agreement constraint on subject extraction are discussed in Section 10.7 and the Adjunct Island Condition in Section 10.8. Section 10.9 then provides concluding remarks for the thesis.

10.1 The inventory of pied-piped phrases in Finnish

One of the main goals of this thesis has been to identify the types of phrases that display properties of the discourse-related edge position. The center of attention was on the edge position that contributes to the triggering of the pied-piping of a phrase. Apart from finite CPs, the successive cyclic movement through phrase edges was not analyzed. This section provides an inventory of the phrase types that were recognized as undergoing pied-piping and whose left edge implements discourse properties. Pied-piped phrases in Finnish include DPs, PPs, APs (both regular and participial), AdvPs, and most non-finite clauses, as the following data illustrates:

(410) The determiner phrase (DP)
‘Whose bike did you borrow?’

(411) The adposition phrase (PP)

[ Mitä kohti he kävelivät? what.PAR towards they.NOM walked

‘What did they walk towards?’

(412) The adjective phrase (AP)

[ Minkä värinen Pekan talo on? what.GEN colored.NOM Pekka.GEN house.NOM is

‘Which color is Pekka’s house?’

(413) Participial adjectives (agentive participle)

[ Kenen kunnostaman pyörän Merja osti? who.GEN repaired.MA/PTCP.ACC bike.ACC Merja.NOM bought

‘Who repaired the bike Merja bought?’

(414) The adverb phrase (AdvP)

[ Miten nopeasti Sirkku käveli? how fast Sirkku.NOM walked

‘How fast did Sirkku walk?’

(415) Non-finite clauses undergo pied-piping

a. The temporal construction

[ Kenet tavatessaan Pekka pysähtyi? who.ACC meet.ESSA/PRS.PX3/SG Pekka.NOM stopped

‘When meeting whom did Pekka stop?’

b. The MATTA-infinitive

[ Ketä tapaamatta Pekka lähti? who.PAR meet.MATTA Pekka.NOM left

‘Who didn’t Pekka meet when he went home?’

c. The MALLA-infinitive

[ Ketä seuraamalla Pekka löysi tänne? who.PAR follow.MALLA Pekka.NOM found here.ILL

‘By following whom did Pekka find his way here?’

The non-finite clauses that typically occupy an adjunct position in the structure and undergo pied-piping together with internal wh-movement are listed below:
d. The rationale clause

\[
\text{Mitä ostaakseen } Pekka \text{ meni kaupunkiin }?
\]
\[\text{what.PAR buy.KSE.PX/3SG Pekka.NOM went city.ILL}\]

‘For buying what did Pekka go to the city?’

e. The E-infinitive

\[
\text{Mitä laulellen } Pekka \text{ korjasi pyörää }?
\]
\[\text{what.PAR sing.E Pekka.NOM fixed bike.PAR}\]

‘While singing what did Pekka fix the bike?’

In addition, some typical non-finite complement clauses prefer extraction, such as the VA-construction and the MA-infinitives in the inner locative cases, but they allow movement to the edge as well, as is evident in the examples below. The only non-finite clause type that does not allow internal wh-movement in Finnish is the A-infinitive.

(416) a. The MA-infinitive in inner locative cases (inessive)

\[
\text{Mitä tekemässä } Pekka \text{ näki Merjan }?
\]
\[\text{what.PAR do.MA/INE Pekka.NOM saw Merja.ACC}\]

‘What was Merja doing when Pekka saw her?’

b. The VA-construction

\[
?\text{Mitä löytävänä } Pekka \text{ tiesi }?
\]
\[\text{what.PAR find.VA/PRS.PX/3SG Pekka.NOM knew}\]

‘What did Pekka know that he would find?’

All the pied-piped phrase types outlined above require the wh-phase to occupy the edge during pied-piping, following the edge generalization (86) that will be discussed in the next section. However, a question now arises: What is the common denominator between the various phrase types that contain a discourse-related edge and that undergo pied-piping? Or, alternatively: What do the phrases that fail to undergo pied-piping in Finnish have in common? These questions are for future research; see Brattico (2010c), for some preliminary thoughts on this topic.

10.2 Edge position and Finnish wh-movement

All the pied-piped phrases listed in the previous section require that the wh-phrase that triggers the pied-piping in wh-questions occupies a left peripheral position within the pied-piped phrase. This property holds for wh-movement languages cross-linguistically (Heck, 2004; Horvath, 2006, among others) According to the edge generalization (86)/(417) by Heck (2004, 2008), the edge position is required for pied-piping.

(417) Edge generalization (Heck, 2008, p. 88)

If a wh-phrase \(\alpha\) pied-pipes a constituent \(\beta\), then \(\alpha\) has to be at the edge of \(\beta\).
In this thesis, the edge position of a pied-piped phrase $\beta$ has been conceived as the specifier of $\beta$ or an element adjoined to $\beta$. The data examined in this thesis suggest that the edge generalization is valid for Finnish wh-questions and relative clauses; I will review the relevant data in this section. The relevance of the edge generalization for other A′-movement types is addressed in Section 10.5 with examples of constructions that do not follow the edge generalization.

As discussed in Section 4.2 on the basis of wh-movement to the edge of C, Finnish is a single wh-fronting language, in which only one wh-phrase moves to the edge of C, as opposed to the in-situ wh-questions and to the multiple wh-fronting languages. The relevant examples (68)-(70) from Section 4.2 are repeated below.

(418) Chinese (Bošković, 2002, p. 352)

John gei-le shei shenme?
John give-PERF who what
‘What did John give to whom?’

(419) Finnish

Mitä Pekka antoi kenelle?
what.PAR Pekka.NOM gave who.ILL
‘What did Pekka give to whom?’

(420) Bulgarian (Bošković, 2002, p. 352)

Na kogo kakvo dade Ivan?
to who what gave Ivan
‘What did Ivan give to whom?’

I propose that single wh-fronting applies for Finnish pied-piped domains as well. In the following, I will show that these two properties apply generally to all the phrases that display edge-properties: the edge position is required for a correct interpretation of the wh-phrase and for the grammaticality of the relative pronoun. Second, only one element occupies the edge at a time.

We will first recapitulate the relevant data from the finite CPs. If none of the wh-phrases in the Finnish finite clause occupies the edge of C, as in (421a), then the sentence is interpreted as an echo question. In comparison, a relative pronoun that does not occupy the edge of C yields an ungrammatical expression, as (422a) illustrates.

(421) a. Pekka osti minkä?
Pekka.NOM bought what.ACC
‘Pekka bought what?’
b. Minkä Pekka osti _?
   what.ACC Pekka.NOM bought
   ‘What did Pekka buy?’

(422) a. * kirja, Pekka osti jonka
   book Pekka.NOM bought which.ACC
   ‘a/the book which Pekka bought’

Second, if the sentence contains more than one wh-phrase, only one of the wh-phrases
moves to the edge (Hakulinen & Karlsson, 1979, p. 283, see also Section 4.2). For exam-
ple, in a single-pair question (423a) and in a pair-list question (b), the subject wh-phrase
occupies the edge of C and the object can remain in-situ. Example (c) shows that the
movement of the object wh-phrase is not available in this context.

(423) a. Kuka osti mitä?
   who.NOM bought what.PAR
   ‘Who bought what?’

   b. Kuka osti mitä-kin?
   who.NOM bought what.PAR-kin
   ‘Who bought what?’

   c. *? Kuka mitä osti _?
   who.NOM what.PAR bought

Turning now to pied-piped phraes: both properties of the single wh-fronting languages
given above can be witnessed in Finnish internal wh-movement. If the wh-phrase does
not occupy the edge of the pied-piped phrase, as in (a), the sentence is an echo question,
whereas (b) is a well-formed wh-question. Comparable examples from relative clauses
are given under (425) below.

(424) a. [ Auttaessaan ketä ] Pekka kaatui _?
   help.ESSA/PRS.PX/3SG who.PAR Pekka.NOM fell
   ‘Pekka fell when he was helping whom?’

   b. [ Ketä auttaessaan ] Pekka kaatui _?
   who.PAR help.ESSA/PRS.PX/3SG Pekka.NOM fell
   ‘Who was Pekka helping when he fell?’

(425) a. * mies, [ auttaessaan jota ] Pekka kaatui _
   man help.ESSA/PRS.PX/3SG who.PAR Pekka.NOM fell
   ‘the man who Pekka was helping when he (=Pekka) fell’
The second piece of evidence of single wh-fronting within a pied-piped phrase is from the multiple questions below, in which all the wh-phrases are contained inside a single DP. Both a single-pair question (426b) and a pair-list question (c) can be successfully formed if the first wh-phrase occupies the edge and the second one stays in-situ. The same applies to other pied-piped phrase types as well. Example (427b) is a pair list question from a temporal construction. In Finnish, a pair-list question is formed by attaching a particle -kin to the latter wh-phrase, as in (426c) and (427b).

   Pekka.NOM waited Merja.GEN visit.PAR cafe.INE
   ‘Pekka waited for Merja’s visit at the cafe’

   b. [ Kenen vierailua missää] Pekka odotti _?
      who.GEN visit.PAR where.INE Pekka.NOM waited
      ‘Whose visit to where did Pekka wait for?’

   c. [ Kenen vierailua missä-kin] Pekka odotti _?
      who.GEN visit.PAR where.INE-kin Pekka.NOM waited
      ‘Whose visit to where did Pekka wait for?’

(427) a. Merja kyllästyi [ kaikkien ostettua jotakin].
   Merja.NOM got.bored all.GEN buy.ESSA/PST something.ACC
   ‘Merja got bored after everybody had bought something.’

   b. [ Kenen tehtyä mitä-kin] Merja kyllästyi _?
      who.GEN do.ESSA/PST what.PAR-kin Merja.NOM got.bored
      ‘Who had done what when Merja got bored?’

Finally, multiple A’-movement to the edge of the temporal construction (or the other constructions with internal wh-movement) is not available. The temporal construction cannot host two phrases with discourse properties at the edge, as is apparent in examples (428a-b) below. Sentence (b) seems to be ungrammatical even as an echo question.

   who.PAR Pekka.ILL-hAn buy.ESSA/PST/PX/3SG Merja.NOM got.bored

   b. * [ Pekalle-han mitä ostettuaan] Merja kyllästyi _?
      Pekka.ALL-hAn what.PAR buy.ESSA/PST/PX/3SG Merja.NOM got.bored

The above evidence thus suggests that the typological classification of Finnish as a single wh-fronting language applies to internal wh-movement.

A further piece of evidence concerning the relevance of internal wh-movement to the interpretation of wh-questions comes from Finnish multiple questions with a pair-list reading. If the first wh-phrase is embedded in a pied-piped phrase, but does not occupy the edge position, then a multiple question cannot be formed (cf. Huhmarniemi & Vainikka,
This is shown in (429a). Note that an echo question interpretation of this example is not possible. The multiple question is formed only if the edge generalization holds for the pied-piped phrase, as in (b).

(429)

a. * [ Tehdessään mitä ] Pekka näki kenet-kin _?
do.ESSA/PRS.PX/SG what.PAR Pekka.NOM saw who.ACC-kin

b. [ Mitä tehdessään ] Pekka näki kenet-kin _?
what.PAR do.ESSA/PRS Pekka.NOM saw who.ACC-kin

‘What was Pekka doing when he saw whom?’

I thus assume that the wh-phrase remains within the pied-piped phrase in (429b). However, let us consider briefly an alternative approach in which the wh-phrase moves independently of the non-finite clause to the edge of C and the non-finite clause undergoes remnant movement, as in (430). In this structure, the wh-phrase occupies the edge and has the scope over the whole finite clause, while the linear form of the sentence is the same as in example (429b).

(430) Mitä [ [INF tehdessään ] [TP Pekka näki kenet-kin ] ] ?
what.PAR do.ESSA/PRS.PX/3SG Pekka.NOM saw who.ACC-kin

‘What was Pekka doing when he saw whom?’

However, Finnish C-domain contains at most one position for A’-movement (Vilkuna, 1989, 1995; Vainikka, 1989; Kenesei, 1994; Koskinen, 1998, see also Section 5.4). This position is here referred to as the specifier of FocusP. In other words, the non-finite clause cannot undergo remnant movement to left periphery of C because this position is already filled with the wh-phrase (and the lower Topic position is filled with the nominative subject). In addition, the non-finite clause in (430) is an extraction island in this context and therefore, extraction of the wh-phrase would constitute an island violation.

This means that the interpretation of the interrogative sentence is dependent on the position of the wh-phrase within the pied-piped phrase, following the edge generalization (86)/(417). I will devote the rest of this section to reviewing a few of the well-known examples of violations of the edge generalization in other single wh-fronting languages, and show that these violations are not tolerated in Finnish.

Some wh-fronting languages that generally obey the edge generalization allow it to be violated in specific contexts. According to Grimshaw (2000), pied-piping past a lexical category is not possible (cf. Cowper, 1987; Webelhuth, 1992), as witnessed in the following examples:

(431)

a. * I wonder[DP pictures of whom] John bought?

b. * I wonder [ proud of whom] Mary was?
However, the wh-word does not need to occupy the edge if the intervening element is functional, such as a preposition in the English examples (432a-b).

(432)  
   a. [ To whom] did you talk _?
   b. [ In what manner] did he die _?

   Pied-piping past a P-head is not possible in Finnish, as discussed in Section 6.2. In most PPs in Finnish, the PP-internal word order allows the wh-phrase to appear at the edge of a P. One potential counter-example to consider is the adposition keskellä, ‘in the middle,’ that assigns a partitive case to the argument DP but does not allow it to move to the edge. Consequently, sentence (b) is ungrammatical, and (c) is an echo question. However, this adposition can take a genitive argument, which appears in a DP-P order, as in (d) and a wh-question can be formed. In addition, according to Hakulinen et al. (2004, §701), certain Finnish adpositions such as ilman ‘without’ that do not normally accept the DP-P order may accept them in wh-questions and relative clauses (see examples in fn. (61) and (179) in Section 6.2.1).

(433)  
         Pekka.NOM stood middle forest.par
       ‘Pekka stood in the middle of a/the forest.’
   b. *? [ Mitä keskellä_] Pekka nom seisoi _?
         what.par middle Pekka.NOM stood
   c. [ Keskellä mitä] Pekka nom seisoi _?
         middle what.par Pekka.NOM stood
       ‘Pekka stood in the middle of what?’
   d. [ Minkä keskellä] Pekka nom seisoi _?
         what.gen middle Pekka.NOM stood
       ‘In the middle of what did Pekka stand?’

   Finnish PPs thus display either internal wh-movement to the edge, or provide an alternative strategy, in which the wh-phrase obtains the edge via A-movement. Nevertheless, a question now arises as to what happens if neither an internal wh-movement nor such an alternative strategy was not available. Could the edge generalization then be violated in Finnish as a last resort strategy for wh-question formation? I would like to propose that in Finnish, pied-piping from other than edge positions is not available even as a last resort strategy.

   First, if the edge position of a pied-piped phase is already filled with some other element, the internal wh-movement to the edge becomes impossible. Section 10.3 summarizes these examples and shows that the filled edge prevents both pied-piping and wh-question formation.
Second, sometimes the word order within a phrase is fixed so that the wh-phrase cannot obtain the edge even when an edge position was available. For example, as outlined in Section 7.3.1.2, the second genitive argument of a Finnish DP cannot undergo wh-movement past the first one; this is illustrated in (434b). Regardless of the movement restriction, the in-situ wh-phrase in (c) triggers an echo interpretation. In addition, example (d) shows that the first genitive argument does not occupy the edge position by default: an insertion of an overt D is possible. This means that the edge of D is available for movement, but the second wh-phrase cannot reach that position. Comparable examples for relative pronouns are given under (435) below.

(434)  a. Pekka harmitteli [isän auton ostamista].
    Pekka.NOM regretted father.GEN car.GEN buying.PAR
    ‘Pekka regretted Father’s buying of the car.’

    b. *[Minkä isän _ ostamista] Pekka harmitteli _?
       what.GEN father.GEN buying.PAR Pekka.NOM regretted

    c. [Isän minkä ostamista] Pekka regretted _?
       father.GEN what.GEN buying.PAR Pekka.NOM regretted
       ‘Pekka regretted Father’s buying of what?’

    d. [Mitä isän auton ostamista] Pekka regretted _?
       which.PAR father.GEN car.GEN buying.PAR Pekka.NOM regretted
       ‘Which car-buying incident of Father’s did Pekka regret?’

(435)  a. *auto, [isän jonka ostamista] Pekka harmitteli _
       car father.GEN which.GEN buying.PAR Pekka.NOM regretted

    b. *auto, [jonka isän _ ostamista] Pekka harmitteli _
       car which.GEN father.GEN buying.PAR Pekka.NOM regretted

The evidence above reveals that the edge generalization (417) cannot be violated in Finnish, not even to rescue the derivation. The unavailability of pied-piping from the complement position is observed for other wh-movement languages as well, which has led some researchers to propose that pied-piping from anywhere else than edge/specifier positions is not available at all (Kayne, 1994; Koopman, 1997; Koopman & Szabolcsi, 2000).

However, the conditions on pied-piping are not equally strict in all contexts. It is well-known that appositive relative clauses and main clauses allow more violations cross-linguistically for the edge generalization, whereas pied-piping in restrictive relative clauses and embedded questions is more restricted (Webelhuth, 1992; Kayne, 1994; Heck, 2004). The less restricted type of pied-piping is referred to as “massive pied-piping” by Heck (2008, pp. 160-178) (for further discussion, see Cable, 2007, p. 340). For example, the complement of N is able to pied-pipe the NP in the matrix clause (436a), but not in the subordinate clause (b). The same is true for example, for the VP under (437).
I will briefly address the question of the existence of the massive pied-piping in Finnish in the following. This thesis has analyzed Finnish wh-questions and relative clauses mostly in parallel positing that the same restrictions hold in both domains. However, some differences naturally arise between the two clause types. First, while in-situ relative pronouns have no interpretation at all, wh-phrases can occur in-situ in Finnish multiple questions and echo questions. The second difference is that while fronted wh-phrases interact with the second-position clitic particles, such interpretations are absent in (restrictive) relative clauses. Third, the in-situ relative pronouns do not trigger pied-piping, whereas the in-situ wh-phrases with echo-reading may do so. Two examples of pied-piping in echo questions are the following:

\[(438)\]
\[
a. \quad [\text{Kuvia } \text{kenestä}] \text{Pekka näytti }? \\
\quad \text{pictures.PAR who.ELA Pekka.NOM showed} \\
\quad \text{‘Pictures of whom did Pekka show?’}
\]
\[
b. \quad [\text{Aivan kenen näköinen}] \text{Pekka oli }? \\
\quad \text{just who.GEN looking.NOM Pekka.NOM was} \\
\quad \text{‘Exactly like whom did Pekka look like?’}
\]

In my opinion, the above examples cannot be used as a wh-questions. In addition, the equivalent relative clauses are ungrammatical as witnessed in the examples below.

\[(439)\]
\[
a. \quad *[\text{presidentti, [ kuvia josta}] \text{Pekka omistaa?} \\
\quad \text{president pictures.PAR who.ELA Pekka.NOM owns} \\
\quad \text{‘the president, pictures of whom Pekka owns’}
\]
\[
b. \quad *?[\text{isoisä, [ aivan jonka näköinen}] \text{Pekka oli }? \\
\quad \text{grandfather just who.GEN looking.NOM Pekka.NOM was} \\
\quad \text{‘the grandfather just like whom Pekka looked like’}
\]

Nevertheless, the existence of massive pied-piping, for example, in Finnish colloquial speech cannot be ruled out on the basis of the investigations in this thesis. Furthermore, Section 10.5 will discuss examples from Finnish clitic particles that suggest that the edge position is not required in all instances of pied-piping in Finnish. The next section proceeds to the properties of the edge position in different contexts.
10.3 Different ways of obtaining the edge position

One of the main concerns of this thesis was to determine the mechanism of how the edge position is obtained within a pied-piped phrase, and this is referred to as finding 3 in Section 4.6. The discourse-related edge position can be filled in three ways: (i) A′-movement, (ii) base-generation, and (iii) A-movement. I have assumed throughout this study that internal wh-movement is an instance of A′-movement. This section contains the relevant examples of each type and offers some discussion on this topic.

10.3.1 A′-movement

The first instance of a phrase that displays A′-movement to the edge is naturally the finite CP in (440). It is important to note that the canonical word order in Finnish is SVO and that the object wh-phrase is base-generated within the VP, according to the assumptions in 3.4, and the object case is assigned by v. The thematic role and case-assignment thus support the A′-movement analysis. As we have seen several times in the previous sections, Finnish non-finite clauses display the same canonical SVO word order, and similar properties with regard to the VP-internal object position and object case. This means that the wh-phrase occupies the edge of the non-finite as a result of A′-movement.

(440) The finite CP
a. Pekka etsi kirjaa.
   Pekka.NOM searched book.PAR
   ‘Pekka searched for a book.’

b. Mitä Pekka etsi _?
   what.PAR Pekka.NOM searched
   ‘What did Pekka search for?’

(441) The temporal construction
   Pekka.NOM got.tired search.ESSA/PRS.PX/3SG book.PAR
   ‘Pekka got tired while searching for a book.’

b. [ Mitä etsiessään ] Pekka väsyi _?
   what.PAR search.ESSA/PRS.PX/3SG Pekka.NOM got.tired
   ‘What was Pekka searching for when he got tired?’

I proposed in Section 7.3.1.2 that the genitive DP undergoes internal movement within the DP. For example, the genitive argument moves past a numeral in (442a-b).

(442) Determiner phrases
   Merja.NOM fixed those.ACC two Pekan.GEN red.PAR bike.PAR
   ‘Merja fixed those two red bikes of Pekka’s.’
b. [ Kenen kaksi punaista polkupyörää] Merja korjasi?
   who.GEN two red.PAR bike.PAR Merja.NOM fixed
   ‘Whose two red bikes did Merja fix?’

The diagnostic properties of A'-movement are not discussed further here; I have considered some additional diagnostic properties of A'-movement in Huhmarniemi (2010).

10.3.2 Base-generation

The first example of the base-generation to the discourse-related edge position is offered by the wh-phrases that are base-generated as the head of the DP. The second example is from the adjunction site within the PPs and APs. Finally, I will discuss some examples that suggest that a wh-phrase or a question particle can be base-generated directly to the edge of C.

Let us first establish that if the wh-phrase is base-generated as the head of the DP, it occupies the edge position and triggers pied-piping:

(443) The edge of D

[Mikä polkupyörä] katosi?
   which.NOM bike.NOM disappeared
   ‘Which bike disappeared?’

Other examples of base-generation are found in adposition phrases and adjective phrases. In both phrase types, the edge position is filled by an adjoined adverb. The wh-phrase cannot, however, move past the adverb but receives an echo interpretation below the adverb; see the relevant discussion in Sections 6.2 and 8.2.4.

(444) Adposition phrases

[Kuinka suoraan kohti lentokenttää] otat kurssin _?
   how straight towards airport.PAR take.PRS.2SG course.ACC
   ‘How straight towards the airport will you take the course?’

(445) Adjective phrases

[Kuinka Merjan näköinen] hän on _?
   how Merja.GEN looking.NOM s/he.NOM is
   ‘How much does he/she look like Merja?’
Finally, a discourse particle can be base-generated at the edge position in finite CPs. For example, the complementizers *jos*, ‘if,’ in (447a) and *kun*, ‘when,’ in (b) can take discourse particles. For further examples of the clitic particles on complementizers, see Hakulinen et al. (2004, §813).

(447) a. Hän kysyi, jos-ko minä puhun englantia.  
    s/he asked if-ko I.NOM speak English.PAR  
    ‘He/She asked if I spoke English.’

b. Ei mitään hätää, kun-han otamme kylmän rauhallisesti.  
    not.3SG anything worry.PAR when-hAn take.PRS.IPL cool calmly  
    ‘Nothing to worry about as long as we take it easy.’

The next section will investigate A-movement to specifier positions that function as discourse-related edge positions as well.

10.3.3 A-movement

In addition to A′-movement and base-generation, the data from Finnish adposition phrases and non-finite clauses suggest that the element can attain the edge position via A-movement. In both constructions, the genitive subject at the specifier position blocks internal wh-movement to the edge.

First, according to Manninen (2003a); Brattico (2010a) the genitive case assigning adposition heads bear an EPP-feature that triggers the A-movement of the argument DP from the complement to the edge of the P, resulting the order in (448a). The genitive argument can then function as a pied-piper, as shown in (b).

(448) a. Pekka käveli [ Merjan edellä].  
    Pekka.NOM walked who.GEN before  
    ‘Pekka walked before Merja.’

b. [ Kenen edellä] Pekka käveli _?
    who.GEN before Pekka.NOM walked  
    ‘Before whom did Pekka walk?’

I proposed in Section 6.2.2 that there is no evidence for the further A′-movement of the genitive argument within the PP. The main argument came from the placement of adverbials; the relevant examples are repeated under (449). PPs can contain an adverb phrase adjoined to the PP, as in (a). The wh-phrase cannot move past this adjunct, as in
(b). However, example (c) attests to the adverb functioning as a pied-piper in the same context. Finally, the adverb is not an intervening element, because it does not prevent the long-distance wh-movement past it in other contexts, such as (d).

(449) a. suoraan kaupungin ohi
   right city.GEN past
   ‘right past the city’

b. * minkä suoraan ohi
   what.GEN right past

c. [ Miten suoraan kaupungin ohi] Pekka ajoi?
   how straight city.GEN past Pekka.NOM drove
   ‘How straight past the city did Pekka drive?’

d. Mitä Pekka otti kurssin [ suoraan kohti ]?
   what.PAR Pekka.NOM took course.ACC straight towards
   ‘What did Pekka take the course straight towards?’

If the PP contained an additional projection above the landing site of the A-movement, the A'-movement to the Focus projection past the adjunct should be possible. I therefore conclude that the presence of a higher discourse-related projection within above the PP is not justified.

Finnish non-finite clauses provide another context in which the edge position can be obtained via A-movement. Examples (450a-b) from temporal construction show that an A-moved genitive subject blocks the internal movement to the edge of the non-finite adverbal clause. The object wh-phrase can nevertheless occupy a lower position, in which case the sentence is an echo question. However, the genitive subject is itself able to trigger pied-piping, as in (d), which shows that it occupies the edge. The genitive argument blocks the A'-movement to the edge in the MATTA-infinitive, E-infinitive, and in the VA-construction as well, as was demonstrated in Chapter 9.

   Merja.NOM got.bored Pekka.GEN search.ESSA/PRS book.PAR
   ‘Merja got bored when Pekka was searching for a/the book’

b. * [ Mitä Pekan etsiessä ] Merja pitkästyi ?
   what.PAR Pekka.GEN search.ESSA/PRS Merja.NOM got.bored

c. [ Pekan mitä etsiessä ] Merja pitkästyi ?
   Pekka.GEN what.PAR search.ESSA/PRS Merja.NOM got.bored

d. [ Kenen etsiessä kirjaa] Merja pitkästyi ?
   who.GEN search.ESSA/PRS book.PAR Merja.NOM got.bored
   ‘Who was searching for a/the book when Merja got bored?’
It was proposed in Section 9.3.3 that the temporal construction contains a T-head that enters into Agree with the genitive subject and that triggers the EPP-movement of the subject to its specifier. The relevant structure is repeated in (451).

\[ (451) \]

The genitive argument thus occupies the outermost specifier position inside the non-finite clause. I propose that the A’-movement targets this same position when the subject is absent or silent and when it remains within the vP, see Section 9.3.3.

There are alternative possibilities to approach the blocking effect caused by the genitive argument. For example, the genitive argument could be an intervening element that does not allow movement past it. I will briefly demonstrate that the intervention approach is problematic in this context.

First, genitive subjects are not intervening elements in all contexts. For example, it is possible for the wh-movement to cross the genitive subject of the VA-infinitive, as in (452a), and the A-infinitive, as in (b).

\[ (452) \)

The second argument against the intervention approach is that the genitive subject is not an intervener in the sentences that display long-distance relationships such as multiple questions. Example (453a) is from a temporal construction, and example (b) illustrates MATTA-infinitive. This means that the genitive argument seems to be an intervener only in the movement to the local edge and not in long-distance relationships.

\[ (453) \]

222
b. Where did they walk without Merja noticing what?

The third point is that it is not evident which property of the genitive argument would cause the intervention effect with the wh-movement in examples (450a-c). The genitive subject neither contains a wh-feature nor can it be associated with a focus feature. Finally, ordinary genitive subjects cannot be interpreted as quantifiers, which can display the effects of wh-intervention in some contexts (Beck, 1996).

It therefore seems that the edge position of the temporal construction is not distinctively an A- or an A'-position. If the internal wh-movement targets the same position as the A-movement of the genitive subject, the edge position would represent a “mixed” position in terms of the A/A' properties. However, this observation is in line with the findings from Finnish finite clause subject position, which displays such mixed properties, as argued by Holmberg & Nikanne (2002) (following, among others, the approach proposed by Diesing (1990) for Yiddish). Koskinen (1998) arrives at a similar conclusion and proposes that Finnish non-finite clauses contain a mixed topic position similar to that of the finite clauses.

The Finnish data thus supports the account in which a discourse status of an element at the peripheral position is not connected to the syntactic position itself, but rather, to the uninterpretable discourse features of the element that make the element active and available for A'-movement.

10.4 Snowball wh-movement

The recursive pied-piping proceeds in a systematic fashion in Finnish: if a phrase at the edge can pied-pipe the containing constituent, this constituent can again function as a pied-piper at an edge position. This is a cross-linguistic tendency as well; according to Heck (2008), the recursive pied-piping follows generalization (94)/(454):

(454) **Generalization on Recursive Pied-Piping**

Heck (2008, p. 76)

If a wh-phrase $\alpha$ can pied-pipe a constituent $\beta$, and if $\beta$ is in a canonical position to pied-pipe $\gamma$, then $\alpha$ can also pied-pipe $\gamma$.

The previous sections provided examples of pied-piping and internal wh-movement for the different phrase types in Finnish, and some of the examples have already illustrated recursive pied-piping. I have collected some of the central examples from recursive pied-piping for presentation in this section.

Examples (455) illustrate the recursive pied-piping of a DP by a wh-phrase at D. This sentence contains a single embedding in (a), two embeddings in (b), and three in (c). Ex-
amples (456) present the recursive embedding of the genitive wh-phrase in the equivalent contexts.

(455)  

a. [ Mitä koiraa] sinä hoidat _?
     which.PAR dog.PAR you.NOM take.care
     ‘Which dog are you taking care of?’

b. [ [ Minkä koiran] jäljet] sinä nääit _?
     which.GEN dog.GEN tracks.ACC you.NOM saw
     ‘Which dog’s tracks did you see?’

     which.GEN dog.GEN puppies.GEN tracks.ACC you.NOM saw
     ‘Which dog’s puppies’ tracks did you see?’

(456)  

a. [ Kenen koiraa] sinä hoidat _?
     who.GEN dog.PAR you.NOM take.care
     ‘Whose dog are you taking care of?’

b. [ [ Kenen koiran] jäljet] sinä nääit _?
     who.GEN dog.GEN tracks.ACC you.NOM saw
     ‘Whose dog’s tracks did you see?’

     who.GEN dog.GEN puppies.GEN tracks.ACC you.NOM saw
     ‘Whose dog’s puppies’ tracks did you see?’

Pied-piping from the specifier of a DP does not pose restrictions on the level of embedding, as observed for other languages as well. To take an example of other modifiers, examples (457a-b) illustrate pied-piping by a participial adjective (VA-participle). First, the wh-phrase replaces the determiner position within a DP, which modifies a noun phrase. Subsequently, this noun phrase is again embedded inside a non-finite adjective that occupies the attribute position within a DP. The word order within the non-finite adjective is fixed, but since the wh-phrase occupies the edge at each level of the embedding, pied-piping is possible.

(457)  

a. Pekka oli tulossa [ johonkin maahan matkustamista
     Pekka.NOM was coming some.ILL country.ILL traveling.PAR
     valmiselevasta] kokouksesta.
     plan.VA/PTCP/PRS.ELA meeting.ELA
     ‘Pekka was coming from a meeting that planned traveling to some country.’

     which.ILL country.ILL tarveling.PAR plan.VA/PTCP/PRS.ELA
     kokouksesta] Pekka oli tulossa _?
     meeting.ELA Pekka.NOM was coming
     ‘Which country did the meeting from where Pekka was coming prepare traveling to?'
We will next turn to examples that involve an internal wh-movement that occurs inside the pied-piped phrase. In (458a), the PP containing the wh-phrase is embedded in an infinitival adjunct clause. The wh-phrase is first moved to the edge of the PP, which is then pied-piped to the front of the non-finite clause, and the non-finite clause is finally pied-piped to the edge of the matrix C. The unmarked word order of the corresponding declarative sentence is given in (b).

(458)

a. [Mitä\textsubscript{i} kohti \textsubscript{-i}\textsubscript{j} kävellessään \textsubscript{-j}\textsubscript{k} Pekka näki merjan \textsubscript{-k}]?

  Merja

  ‘What was Pekka walking towards when he saw Merja?’

b. Pekka näki merjan [kävellessään \textsubscript{-i}\textsubscript{j} kohti puistoa]

  ‘Pekka saw Merja when he was walking towards a/the park.’

I proposed earlier that there are different alternative means for the wh-phrase to occupy the edge. Sometimes the wh-phrase undergoes an internal wh-movement to the edge position (in DPs, PPs, and non-finite clauses in Finnish), but sometimes the edge position is achieved by means of base-generation or A-movement. When the wh-phrase undergoes an internal wh-movement, the derivation forms an instance of the snowball movement, which is more familiar from the head movement and the derivation of head-final orders (e.g. Julien, 2000; Aboh, 2004a; Cinque, 2005; Travis, 2006).

In the snowball wh-movement, the wh-phrase proceeds to a higher edge positions, dragging a larger and larger structure along with it. Example (459) illustrates how the snowball wh-movement proceeds.

(459)
To illustrate further the recursive pied-piping in other types of non-finite clauses, let us consider an example of a rationale clause (460). This sentence contains a non-finite adjunct clause, which contains a PP with a complement DP, which again contains a genitive possessor argument *viranomaisen* ‘official’s.’ When the content question is formed by replacing the most deeply embedded genitive argument by a wh-phrase, the wh-phrase introduces an internal wh-movement within the PP and the non-finite clause, and the result is given in (b).

(460)

(a) Pekka osti imurin [siivotakseen ennen viranomaisen käyntiä].
‘Pekka bought the vacuum in order to clean before the official’s visit.’

(b) [ [ [Minkä viranomaisen käyntiä] ennen _i_] _j_] _k_ siivotakseen _j_.
Pekka osti imurin _k_?
‘In order to clean before which official’s visit did Pekka buy the vacuum?’

Pied-piping is thus a fully productive operation in Finnish and it takes place in successive cyclic manner. The examples of recursive pied-piping show that the means of attaining the edge position are not relevant for the general mechanism, instead, the edge-properties are related to the left-peripheral elements of phrases.

The examples of recursive pied-piping above reinforces the argument that the edge position is present in the various phrase types in Finnish. In addition, the internal wh-movement shares several properties that are typically associated to the A′-movement to the edge of C, such as pied-piping, intervention effects, and quantifier scope changes. More examples can readily be construed. This naturally strengthens the possibility that internal wh-movement is based on the same movement operation or implementation.

### 10.5 Pied-piping with other types of A′-movement in Finnish

So far, the focus of pied-piped structures has been on Finnish wh-questions and relative clauses, whereas other types of A′-movement have been considered only in passing. These other types of A′-movement comprise the movement triggered by second-position clitic particles: -kO, -hAn and -pA, illustrated in examples (461a-c), and contrastive focus movement, illustrated in (462). Both movement types involve pied-piping, but the trigger of pied-piping and its structural position are more difficult to detect than with wh-movement. I will discuss these movement types in the following.
Second-position clitic particles

a. Juhlista-ko Pekka oli tulossa _?
   party.ELA-ko Pekka.NOM was coming
   ‘Was it a party that Pekka was coming from?’

b. Juhlista-han Pekka oli tulossa _.
   party.ELA-hAn Pekka.NOM was coming
   ‘It was a party that Pekka was coming from.’

c. Juhlista-pa Pekka oli tulossa _!
   party.ELA-pA Pekka.NOM was coming
   ‘It was a party that Pekka was coming from!’

Contrastive focus

Juhlista Pekka oli tulossa _.
party.ELA Pekka.NOM was coming
‘It was a party where Pekka was coming from.’

Whereas wh-movement can be investigated by examining the properties of a single wh-word and its position at the edge, the second-position clitic particles attach to both heads and phrases, as outlined in Section 5.3. For example, the clitic particle -hAn can attach either a constituent at the edge of the pied-piped phrase, such as a DP at the edge of a PP in (463a), or a whole pied-piped constituent at the edge of a C, as in (b). The example (c) illustrates head movement.

Contrastive focus

Juhlista Pekka oli tulossa _.
party.ELA Pekka.NOM was coming
‘It was a party where Pekka was coming from.’

I would like to propose that the second-position clitic particles are associated with phrase edges much in the same way as are wh-phrases and relative pronouns. Earlier approaches to Finnish clitic particles have treated the particles as sentence-level phenomena and have associated the clitics with C (Nevis, 1986; Vainikka, 1989; Holmberg, 2003). However, Holmberg (2008) examines the distribution of the Finnish question particle -kO inside a DP and suggests that the particle has both [Q] and [focus]-features. I adopt Holmberg’s proposal and suggest that clitic particles can attach to phrase-internal positions.

However, I propose that the particles can trigger internal movement within pied-piped phrases as well. The temporal construction illustrates that the unmarked alternative (464a)
is formed by attaching the yes-no question particle -kO to the DP at the edge position. Example (b) shows the marked alternative which does not involve movement to the edge (cf. Huhmarniemi & Brattico, 2009). This construction requires prosodic emphasis on the DP. However, movement to the edge of C is required for grammaticality (c).\footnote{Example (464c) may be acceptable if the scope of the particle is the full sentence.}

(464) The particle -kO in the temporal construction

\begin{enumerate}
\item a. [ Merjan-ko ] tavatessaan Pekka pysähtyi _? \\
\hspace{1cm} Merja.ACC-kO meet.ESSA/PRS.PX/3SG Pekka.NOM stopped \\
\hspace{1cm} ‘Was it Merja who Pekka met when he stopped?’
\item b. [ Tavatessaan Merjan-ko ] Pekka pysähtyi _? \\
\hspace{1cm} meet.ESSA/PRS.PX/3SG Merja.ACC-kO Pekka.NOM stopped \\
\hspace{1cm} ‘Was it Merja who Pekka met when he stopped?’
\item c. * Pekka pysähtyi [ tavatessaan Merjan-ko ] ? \\
\hspace{1cm} Pekka.NOM stopped meet.ESSA/PRS.PX/3SG Merja.ACC-kO
\end{enumerate}

The A′-movement to the edge of C can be triggered by contrastive focus, as in example (462) above. The contrastive focus movement in Finnish is not triggered by any morphologically visible property of the constituent, and it is therefore difficult to trace the locus of the contrastive focus within a fronted complex constituent. However, the semantic and prosodic properties of the constituents provide a way to identify the trigger of the movement. For example, (465a-b) illustrate two alternative emphasizing possibilities for a fronted phrase.

(465) a. [ Pekan pyörää varten ] Merja hankki lampun _! \\
\hspace{1cm} Pekka.GEN bike.PAR for Merja.NOM got lamp.ACC \\
\hspace{1cm} ‘It was for Pekka’s bike that Merja bought the lamp!’
\item b. [ Pekan pyörää varten ] Merja hankki lampun _! \\
\hspace{1cm} Pekka.GEN bike.PAR for Merja.NOM got lamp.ACC \\
\hspace{1cm} ‘It was for Pekka’s bike that Merja bought the lamp!’
\end{enumerate}

In addition, let us recall from Section 5.3.2 (example (140)) that a phrase that contains a contrastively focused constituent does not have to move to the edge of a C. In other words, sentences (466a-b) are equally well-formed as sentences (465a-b).

(466) a. Merja hankki lampun [ Pekan pyörää varten ] ! \\
\hspace{1cm} Merja.NOM got lamp.ACC Pekka.GEN bike.PAR for \\
\hspace{1cm} ‘It was for Pekka’s bike that Merja bought the lamp!’
\item b. Merja hankki lampun [ Pekan pyörää varten ] ! \\
\hspace{1cm} Merja.NOM got lamp.ACC Pekka.GEN bike.PAR for \\
\hspace{1cm} ‘It was for Pekka’s bike that Merja bought the lamp!’
The same is true for echo questions; neither primary nor secondary movement is required, but the prosodic emphasis is typically present, as in the examples below:

(467) a. Merja hankki lampun \[kenen pyörää varten\] ?
Merja.NOM got lamp.ACC who.GEN bike.PAR for
‘Merja bought the lamp for whose bike?’

b. Merja hankki lampun \[Pekan mitä varten\] ?
Merja.NOM got lamp.ACC Pekka.GEN what.PAR for
‘Merja bought the lamp for Pekka’s what?’

It was argued in Section 5.3.2 that the information structural property of the focus that is present in both contrastively focused elements and echo questions does not alone necessitate movement. Instead, the obligatory A′-movement is triggered by features that associate with the sentential force. This means that movement to the edge of C is obligatory in wh-questions, imperative clauses, and sentences in which the clitic particle relates to sentential force (-kO, -hAn, and -pA-particles) as opposed to the clitic particles that only encode focus, such as -kin and -kAAn. For example, as discussed in Holmberg (2008), the -kin-particle can be licensed in-situ, as in example (468), although it can appear at edge positions as well.

(468) Me ajettiin Ollin vanhalla-kin autolla.
we.NOM drove Olli’s old.ADE-kin car.ADE
‘We went in Olli’s old car, too.’ (Holmberg, 2008, p. 19)

Thus, it seems that the edge-generalization can be violated in contexts other than wh-movement. First, movement triggered by contrastive focus is optional regardless of the movement domain. In addition, leaving the trigger of pied-piping in-situ represents the marked alternative for the clitic particles. The clitic particles thus form a special case, which is not addressed further in this thesis.\textsuperscript{115}

10.6 Optional pied-piping

Both mechanisms on A′-movement, extraction and pied-piping, serve to implement an A′-movement to the edge of a phrase, such as wh-movement to the edge of a finite C. It is typical that only one of these strategies is available at a time, and pied-piping is sometimes seen as a form of a “last resort” strategy for implementing wh-movement in those contexts where extraction is not available (see Heck, 2008, pp. 117-118, and the references therein).

\textsuperscript{115}One reason to not address this issue is that Finnish lacks research on the relation between the prosodic properties of the sentence and its information content (as noted in a different context by Hakulinen et al., 2004, §1370).
Nevertheless, I will propose in this section that relying solely on the last resort strategy does not seem to suffice as an explanation for the optional pied-piping in Finnish. Examples of the relevant contexts include PPs, DPs, APs, and certain non-finite clauses. Some examples of optional pied-piping can be accounted for by relying on the ambiguity of the structural position of the phrase; this is the case in particular for PPs and for certain non-finite clauses. However, not all instances of optional pied-piping fall into this category.

First, examples (469)-(470) illustrate the optional pied-piping for the MATTA- and MALLA-infinitives that typically occupy an adjunct position. For both non-finite clause types, extraction of the object argument exists as an alternative for some Finnish speakers; however, pied-piping is still preferred movement strategy. Those examples are listed below. The same observation was available for the other types of non-finite clauses that typically occupy an adjunct position as well (see Chapter 9).

(469) The MATTA-infinitive

a. Pekka käveli kotiin [näkemättä Merjaa].
Pekka.NOM walked home.ILL see.MATTA Merjaa.PAR
‘Pekka walked home without seeing Merja.’

b. % Ketä Pekka käveli kotiin [näkemättä _]?
   who.PAR Pekka.NOM walked home.ILL see.MATTA
   ‘Who didn’t Pekka notice when he walked home?’

c. [Ketä näkemättä _] Pekka käveli kotiin _?
   who.PAR see.MATTA Pekka.NOM walked home.ILL
   ‘Without seeing whom did Pekka walk home?’

(470) The MALLA-infinitive

a. Pekka rentoutui lukemalla [tätä kirjaa].
Pekka.NOM relaxed read.MALLA this.PAR kirjaa.PAR
‘Pekka relaxed by reading this book.’

b. % Mitä kirjaa Pekka rentoutui [lukemalla _]?
   which.PAR book.PAR Pekka.NOM relaxed read.MALLA
   ‘Which book did Pekka read for relaxing?’

c. [Mitä kirjaa lukemalla _] Pekka rentoutui _?
   which.PAR book.PAR read.MALLA Pekka.NOM relaxed
   ‘By reading which book did Pekka relax?’

I proposed in Section 9.5 that these two variants of the MA-infinitives typically occupy an adjunct position, in which case they are extraction islands and undergo pied-piping (see also Toivonen, 1995). However, the extraction examples suggest that non-finite clauses can occupy the complement position as well and that they allow extraction. The alternative wh-movement strategies therefore follow the complement/adjunct distinction and
an explanation for the optional pied-piping can be accounted for by the ambiguity of the structural position for these non-finite clauses.

The second example of optional pied-piping comes from the Finnish partitive-case assigning PPs that occupy the complement position. These PPs allow an extraction of the partitive DP (471a). However, the pied-piping strategy is available as well. The optional pied-piping can again be accounted for by structural ambiguity.

\[(471)\]
\[\text{a. } \text{Mitä } \text{Pekka } \text{juoksi } [\text{kohti } _]\?\]
\[\text{what.PAR Pekka.NOM ran towards}\]
\[\text{‘Towards what did Pekka run?’}\]
\[\text{b. } [\text{Mitä } \text{kohti } _]\text{Pekka } \text{juoksi } _?\]
\[\text{what.PAR towards Pekka.NOM ran}\]
\[\text{‘What did Pekka run towards?’}\]

The third group of non-finite clauses that display optional pied-piping is the inner locative case variants of the MA-infinitives. Pied-piping seems to exist as an alternative strategy in both verbal domains (472a-b) and nominal domains (473). Pied-piping represents the marked strategy in these contexts.

\[(472)\]
\[\text{a. } \text{Mitä } \text{Pekka } \text{näki Merjan } \text{ostamassa } _?\]
\[\text{what.PAR Pekka.NOM saw Merja.ACC buy.MA/INE}\]
\[\text{‘What did Pekka see Merja buy?’}\]
\[\text{b. } [\text{Mitä } \text{ostamassa } _]\text{Pekka } \text{näki Merjan } _?\]
\[\text{what.PAR buy.MA/INE Pekka.NOM saw Merja.ACC}\]
\[\text{‘What did Pekka see Merja buy?’}\]

\[(473)\]
\[\text{a. } \text{Ketä } \text{Pekka } \text{järjesti } [\text{matkan } [\text{auttamaan } _]\?\]
\[\text{who.PAR Pekka.NOM organized trip.ACC help.MA/ILL}\]
\[\text{‘Who did Pekka organize a trip to help?’}\]
\[\text{b. } [\text{Ketä } \text{auttamaan } _]\text{Pekka } \text{järjesti matkan } _?\]
\[\text{who.PAR help.MA/ILL Pekka.NOM organized trip.ACC}\]
\[\text{‘Who did Pekka organize a trip to help?’}\]

The explanation in terms of the ambiguous syntactic position for these non-finite clauses is not as attractive as for the MATTA- and MALLA-infinitives because there is less evidence for the adjunct position.\textsuperscript{116} For example, MA-infinitives in inner locative cases have

\textsuperscript{116}However, semantically, MA-infinitives in inner locative cases may be interpreted additional modifiers, for example in (1).

\[(1)\]
\[\text{Pekka } \text{näki Merjan } \text{kaupassa ostamassa jäätelöä.}\]
\[\text{Pekka.NOM saw Merja.ACC shop.INE buy.MA/INE ice-cream.PAR}\]
\[\text{‘Pekka saw Merja in the shop buying an ice-cream.’}\]
been analyzed as complements by Toivonen (1995). I will leave the question for future research.

The fourth group is the DP-internal PP-adjuncts of the eventive nominal heads that trigger both extraction and pied-piping (474a-b) (see also example (266) in Section 7.2.3). In this case, both alternatives are equally acceptable and have the same propositional content. However, the sentences may have different information contents.\(^{117}\)

\[(474)\]

a. Missä Asko suositteli \[ käämistä \] ?
   where.INE Asko.NOM recommended visiting.PAR
   ‘Where did Asko recommend visiting?’

b. [ Missä käämistä ] Asko suositteli ?
   where.INE visiting.PAR Asko.NOM recommended
   ‘Where did Asko recommend visiting?’

To summarize, some instances of optional pied-piping (MATTA- and MALLA-infinitives and PPs) can be accounted for by assuming that these phrases are ambiguous between the syntactic complement and adjunct positions. However, the data from the MA-infinitives in inner locative cases, APs, and DPs are more controversial and cannot be readily accounted for by relying on structural ambiguities. An unexplored option here would be to look at semantic and information structural properties of the expression, whether pied-piping would be preferred in some discourse contexts and extraction in others.

### 10.7 Subject extraction and ϕ-agreement

Certain phrase types do not allow the extraction of subjects or of subject-like elements. This restriction was identified by Ross (1967) as the Left Branch Condition. In this thesis, I have investigated the range of phrases that display the Left Branch Condition in Finnish. I have proposed that the unavailability of subject agreement correlates with the presence of ϕ-Agree between the subject and the predicate. Section 4.5.3 introduced the ϕ-agreement constraint on subject extraction in Finnish (113)/(223)/(475):

\[(475)\] The ϕ-agreement constraint on subject extraction

The extraction of a subject from a ϕ-agreement phrase is not possible.

The ϕ-agreement phrase is a phrase that has the possibility of displaying overt ϕ-feature agreement with an overt pronoun.

For example, when an adposition such as läheillä, ‘near,’ assigns the genitive case to a pronominal argument, as in (476b), the adposition head receives a possessive inflection

\(^{117}\)The pied-piping option is nevertheless not available in the presence of an overt determiner/demonstrative, as discussed in Section 7.2.3.
and the word order is fixed. Furthermore, other DPs can enter into the same syntactic configuration without causing overt φ-agreement on the adposition head (a). In this construction, extracting any type of DP-argument is impossible, as shown for wh-movement in (477a) and for the movement triggered by the question particle -kO in (b).

(476) a. Pekka asuu kaupungin lähellä.  
Pekka.NOM lives city.GEN near  
‘Pekka lives near a/the city.’

b. Pekka asuu hänen lähellään.  
Pekka.NOM lives s/he.GEN near.PX/3SG  
‘Pekka lives near him/her.’

(477) a. * Minkä Pekka asuu _ lähellä?  
what.GEN Pekka.NOM lives near

b. * Hänen-kö Pekka asuu _ lähellään?  
s/he.GEN-kO Pekka.NOM lives near.PX/3SG

In contrast, if the adposition assigns the partitive case, there is no overt φ-agreement on the adposition head, as shown in (478a-b). Extraction is available when the PP occupies the complement position. This is presented in examples (479a-b).\textsuperscript{118}

(478) a. Pekka asuu lähellä häntä.  
Pekka.NOM lives near s/he.PAR  
‘Pekka lives near him/her.’

b. Pekka asuu häntä lähellää _ .  
Pekka.NOM lives s/he.PAR near  
‘Pekka lives near him/her.’

(479) a. Ketä Pekka asuu liian lähellä _ ?  
who.PAR Pekka.NOM lives too near  
‘Who does Pekka live too near?’

b. Häntä-kö Pekka asuu liian lähellä _ ?  
s/he.PAR-kO Pekka.NOM lives too near  
‘Is it him/her who Pekka lives too near?’

The two adposition phrase types differ (at least) in three respects: (i) the case of the DP-argument, (ii) the presence of an obligatory EPP-movement, and (iii) the presence of φ-agree. I suggest that the unavailability of subject extraction can be attributed to the presence of the φ-Agree. In addition, the φ-agreement constraint on subject extraction holds for the genitive case assigning adpositions phrases, non-finite clauses, DPs, APs, and AdvPs and for certain types of finite clauses.

\textsuperscript{118}The adverb liian, ‘too,’ in example (479a) fills in the edge of the PP and prevents the wh-question formation via pied-piping, which leaves extraction as the only alternative. The presence of the adverb does not have any effect on the extraction conditions of the PPs that assign genitive case.
First, the examples of a non-finite clause show that neither the genitive case nor the specifier position of the subject suffice to account for the constraint on subject extraction: both A-infinitive (480a) and VA-construction in (b) take the genitive subject but do not restrict the subject extraction in (b). On the other hand, neither non-finite clause type displays $\phi$-agreement with an overt pronominal subject.

(480) a. Kenen Pekka käsiki _lähteä?
   who.GEN Pekka.NOM ordered _ leave.A
   ‘Who did Pekka order to leave?’

b. Kenen Pekka näki _lähtevän?
   who.GEN Pekka.NOM saw _ leave.VA/PRS
   ‘Who did Pekka see leaving?’

On the other hand, certain non-finite clauses that allow an extraction of the object, do not allow an extraction of the subject in an equivalent context. The relevant examples involve the temporal adjunct, the MATTA-infinitives and the E-infinitive. I have included below the relevant examples of the MATTA-infinitive:

(481) The object extraction is accepted by some Finnish speakers

   Pekka.NOM left discuss.MATTA this.PAR topic.PAR
   ‘Pekka left without discussing this topic.’

b. % Mitä aihetta Pekka lähti [ käsittelemättä _ ] ?
   which.PAR topic.PAR Pekka.NOM left discuss.MATTA
   ‘Which topic did Pekka leave without discussing _?’

(482) The extraction of the subject is impossible

a. Pekka lähti [ Merjan huomaamatta]
   Pekka.NOM left Merja.GEN notice.MATTA
   ‘Pekka left without Merja noticing.’

b. * Kenen Pekka lähti [ _ huomaamatta ] ?
   who.GEN Pekka.NOM left notice.MATTA

(483) A pronominal subject causes $\phi$-agreement on the verb

   Pekka.NOM resigned I.GEN know.MATTA-PX1/SG
   ‘Pekka resigned without me knowing.’

The properties examined for each phrase type are summarized in Table 10.7. The extraction of the subject from the finite complement clause seems to be restricted by several properties; it is therefore left aside here. In addition, the non-finite adjuncts in the table cover the non-finite clauses that take an overt subject: temporal construction, E-infinitive, and MATTA-infinitive. The rationale clause and MA-infinitives in inner locative cases are not included because they do not take overt subjects and therefore, subject extraction
cannot be examined. Table 10.7 shows that all phrase types that resist subject extraction exhibit a \( \phi \)-agreement between the subject and the predicate.

<table>
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<th>VA-inf</th>
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<td>–</td>
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</tbody>
</table>

Table 10.1: Subject-related properties in various phrase types in Finnish

Assuming that the \( \phi \)-agreement is the common denominator between the phrases that resist subject extraction, there is one residual problem: The distinction shown in Table 10.7 is not always visible (apart from finite clauses) – a possessive agreement is only realized with pronouns. In finite clauses, the \( \phi \)-agreement surfaces in the presence of all subjects. When there is no agreement, the agreement inflection defaults to the third-person singular agreement. Possessive suffixes nevertheless default to zero-agreement and surface only in special contexts. I have proposed in this thesis that the syntactic property responsible for the \( \phi \)-agreement constraint on subject extraction is the presence of abstract Agree between the subject and the relevant head. For example, the genitive case assigning P would enter into abstract Agree with the argument DP regardless of the type of the argument, with morphologically visible outcome only in the presence of a subclass of DPs: personal pronouns and pro-elements.

The observation that the \( \phi \)-agreement restricts \( A' \)-movement is familiar from the literature of subject extraction. For example, Boeckx (2003) and Richards (1997) propose that checking a strong \( \phi \)-feature underlies subject freezing in so called ‘anti-agreement languages.’ In anti-agreement, the local extraction of the subject argument causes an impoverished or absent verbal morphology (Ouhalla, 1993; Richards, 1997; Richards, 2001).

10.8 Finnish obeys the Adjunct Island Condition

The final condition under investigation was the Adjunct Island Condition (104)/(484) on \( A' \)-movement:

(484) Adjunct Island Condition (Johnson, 2002)

If an XP is located in an adjunct position, the XP is a strong island.

The Adjunct Island Condition applies well for constituents that do not display ambiguity with regard to the structural position in Finnish. However, sometimes the distinction
between complement and adjunct positions is not obvious from the thematic properties of the predicate. For instance, PPs and MA-infinitives can be ambiguous between the structural position. However, I have proposed in this thesis that when it can be established independently that the phrase occupies an adjunct position, then it is an extraction island.

10.9 Conclusions

This thesis examined Finnish A′-movement by concentrating on two main subjects: the existence of a discourse-related edge position within different types of phrases, and the island conditions that restrict the movement to the edge.

First, it was established that the edge position of the wh-phrase is a prerequisite for the pied-piping in wh-questions and relative clauses. The investigation included an inventory of the pied-piped phrases that contain an edge position. It was shown that once the wh-phrase occupies the edge position, the DPs, PPs, APs, AdvPs, and several types of non-finite clauses undergo wh-movement. The presence of a discourse-related edge position is thus a recurring property of Finnish syntactic constructions.

Another research objective was to investigate the structural status of the discourse-relate edge position among phrases. It was suggested that there is no unified mechanism to obtain the edge position; an element can occupy the edge via base-generation, A-movement, or A′-movement. In addition, Finnish finite CPs provide evidence for the existence of a separate discourse-related Focus projection. However, no such evidence was found from the other phrase types. In Finnish, the edge position seems to be the outermost specifier position of a phrase, or, for certain adverb phrases, an adjunction site.

The focus on the investigation of island effects was on the Adjunct Island Condition and subject extraction. Finnish A′-movement was shown to obey the Adjunct Island Condition and the apparent counterexamples were proposed to result from the structural ambiguity of certain types of phrases. In addition, the availability of subject extraction was examined in a variety of phrase types and a form of anti-agreement constraint in terms of ϕ-features was proposed to regulate the subject extraction.

One of the central goals of this thesis was to provide an overall view of Finnish A′-movement that serves as a basis for future research on the subject. Finnish A′-movement offers several interesting starting points for future research, such as the role of the edge position and pied-piping in A′-movement more generally, the successive cyclic movement via phrase edges, and the influence of the ϕ-agreement on extraction. Moreover, Finnish multiple questions will provide another unexplored line of research that will shed light on the semantic properties of interrogative sentences.

Finnish internal wh-movement provides an instance of discourse-related movement that is not tied to the properties of finite clauses; instead, the movement takes place in
a variety of phrases during the derivation of the phrase at hand. In addition, the internal
wh-movement shifts the focus to the elementary properties of movement; an investigation
of the discourse properties at the phrase-level can offer us new information about the
grammatical movement.
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Appendix: Three questionnaires for grammaticality estimations
Laadi mallivastaukset kielioppiharjoitukseen kevät 2010

Tehtäväsi on laatia mallivastaukset edistyneille suomen kielen opiskelijoille tarkoitettuun harjoitustehtävään. Tehtävässä harjoitellaan tarkentavien kysymysten esittämistä keskustelutilanteessa. Tyypillinen keskustelutilanne on esimerkiksi:

- Minä sain joululahjaksi erään kirjan.
- Minkä kirjan sait joululahjaksi?


Tehtävä, johon on mallivastaus:
Pekka aikoi ostaa erään auton.
Minkä auton arvelet että ________________________________________________?

Esim.: Pekka aikoi ostaa erään auton.
Minkä auton arvelet, että Pekka aikoi ostaa?

Tehtävä, johon ei ole mallivastausta:
Pekka näki linnun, joka rakensi pesää erääseen puuhun.
Mihin puuhun luulet, että ________________________________________________?

Esim.: Pekka näki linnun, joka rakensi pesää erääseen puuhun.
Mihin puuhun luulet, että Pekka näki linnun...______________________________?

Tehtävä, johon on mallivastaus:
Pekka aikoo matkustaa ulkomaille.
Keneltä kuulit, että ___________________ _________________

Esim.: Pekka aikoo matkustaa ulkomaille.
Keneltä kuulit, että Pekka aikoo matkustaa ulkomaille?

Yksi valtuutettu vastusti puiston kunnostamista, jota alueen asukkaat kannattivat.
Minkä alueen asukkaat Pekka luuli, että ________________________________________?

Esim.: Yksi valtuutettu vastusti puiston kunnostamista, jota alueen asukkaat kannattivat.
Minkä alueen asukkaat Pekka luuli, että yksi valtuutettu vastusti puiston kunnostamista?

Uuden ostoskeskuksen avajaiset aiheuttivat häiriöitä päätielle.
Mitä häiriöitä radiossa väitettiin, että ____________________________________________

Esim.: Uuden ostoskeskuksen avajaiset aiheuttivat häiriöitä päätielle.
Mitä häiriöitä radiossa väitettiin, että uuden ostoskeskuksen avajaiset aiheuttivat häiriöitä päätielle?

Eräs ystäväni tuhlasi kaikki rahansa uuteen autoon.
Kuka arvelisit, että _________________________________________________________

Esim.: Eräs ystäväni tuhlasi kaikki rahansa uuteen autoon.
Kuka arvelisit, että eräs ystäväni tuhlasi kaikki rahansa uuteen autoon?

Uuden ostoskeskuksen avajaiset aiheuttivat päätielle ruuhkia.
Missä radiossa väitettiin, että __________________________________________________

Esim.: Uuden ostoskeskuksen avajaiset aiheuttivat päätielle ruuhkia.
Missä radiossa väitettiin, että uuden ostoskeskuksen avajaiset aiheuttivat päätielle ruuhkia?

Lintu päästettiin lentämään sisään olohuoneen ikkunasta.
Mikä lintu Pekka kertoi, että _____________________________________________

Esim.: Lintu päästettiin lentämään sisään olohuoneen ikkunasta.
Mikä lintu Pekka kertoi, että lintu päästettiin lentämään sisään olohuoneen ikkunasta?
Linnun täytyi lentää olohuoneen ikkunasta, jonka eräs ohikulkija avasi.

Kuka Pekka kertoi, että ________________________________________________________________?

Yksi valtuutettu muutti kantansa puistoasiassa.

Kuka luultiin, että ________________________________________________________________?

Pekka tuhlasi kaikki rahansa uuteen autoon.

Keneltä sinä kuulit, että ________________________________________________________________?

Olohuoneen ikkunasta lensi sisään joku lintu.

Mikä lintu kerrottiin, että ________________________________________________________________?

Yksi valtuutettu vastusti puiston kunnostamista lainaa ottamalla.

Minkä puiston kunnostamista Pekka luuli, että ________________________________________________________________?

Linnun annettiin lentää sisään olohuoneen ikkunasta.

Minkä linnun Pekka kertoi, että ________________________________________________________________?

Yhden valtuutetun on mahdotonta päättää kantaansa puistoasiassa.

Kenen valtuutetun Pekka luuli, että ________________________________________________________________?

Uuden ostoskeskuksen avajaiset aiheuttivat ruuhkan, joka häiritsi työpaikkaliikennettä.

Mitä liikennettä radiossa väitettiin, että ________________________________________________________________?

Yhtä valtuutettua ei kuunneltu puistoasiassa.

Ketä valtuutettua Pekka luuli, että ________________________________________________________________?

Yhden valtuutetun täytyi muuttaa kantansa puistoasiassa.

Kenem valtuutetun Pekka luuli, että ________________________________________________________________?
Linnun on mahdotonta rakentaa pesä räystääseen.

Kuka sinulle kertoi, että __________________________________________?  
ei mallivastausta [ ]

Kiitos ajastasi!
Jos haluat, voit kirjoittaa tähän kommentteja tehtävästä.
Laadi mallivastaukset harjoitustehtäviin

Työnäsi on laatia mallivastaukset harjoitustehtäviin, jotka on laadittu edistyillei
suomen kielen opiskelijoille. Tehtävissä tulee täyttää tuhjoen kohtaan oikea
verbimuoto. Jos verbimuoto löytyy edeltävästä lauseesta, toisinaan se

Pekka ei käyttänyt elokuvalippua.

– Miksi hän jätti elokuvalippunsa _________________________ ?

Veit nei perutti auton suoraan autotallin ovea päin.

– Mitä veljesi jätti peruuttamassa _________________________ ?

Nukiin rauhallisesti hoitajan valvossa.

– Mitä nukuit rauhallisesti _________________________ ?

Vartija käski häirikön kerätä tavaramaa.

– Mitä vartija käski _________________________ tavaramaa?

Kaikki ajattelevat vanhentuessaan lähestyvää kuolemaa.

– Mitä kukaan ei voi vanhenta _________________________ ?

Hoitaja kompastui auttaessaan äitiäni.

– Ketä hoitaja kompastut _________________________ ?

Veit nei korjasi tilanteen kertomalla vaimolleen tapahtuneesta.

– Mitä veljesi korjasi tilanteen _________________________ vaimolleen?

Työnäsi on laatia mallivastaukset harjoitustehtäviin, jotka on laadittu edistyillei
suomen kielen opiskelijoille. Tehtävissä tulee täyttää tuhjoen kohtaan oikea
verbimuoto. Jos verbimuoto löytyy edeltävästä lauseesta, toisinaan se
tulee päätellä itse.

Harjoitustehtävän on kuitenkin eksynyt virheitä. Virheet tekevät oikean
verbimuodon löytämisen vaikeaksi tai mahdotottomaksi. Jos epäilet että

Esimerkkivastaus joka on kunnossa:

Olen lapsesta asii halunnut matkustaa Australiaan.

– Mihin olet aina halunnut _________________________ ?

Esimerkkivastaus virheelliseen tehtävään:

Olen lapsesta asii halunnut matkustaa Australiaan.

– Mihin olet aina halunnut _________________________ ?
Joskus tentin voi läpäistä lukematta tenttikirjaa.
– Mitä kirjaa sinä olet valmistunut _________________________ ?
  OK VIRHE SINÄ RAJALLA

Opettaja lähti kotiin tapaamatta kaikkien oppilaiden vanhempia.
– Kenen vanhempia opettaja lähti kotiin _________________________ ?
  OK VIRHE SINÄ RAJALLA

He häipyivät aina valvojan huomaamatta.
– Sinunko he häipyivät tänään _________________________ ?
  OK VIRHE SINÄ RAJALLA

Veljensi kolaroi auton kertomatta vaimolleen.
– Kenelle veljensi kolaroi auton _________________________ ?
  OK VIRHE SINÄ RAJALLA

He lähtiivät huomaamatta nurkassa istuvaa tyttöä.
– Ketä he lähtiivät _________________________ ?
  OK VIRHE SINÄ RAJALLA

Pekka ei vienta lomaansa ainakaan lukemalla tenttikirjaa.
– Mitä kirjaa hän rentoutuu _________________________ ?
  OK VIRHE SINÄ RAJALLA

Tiedän, että lapset leikkivät pihalla.
– Mitä arvelet lasten _________________________ pihalla?
  OK VIRHE SINÄ RAJALLA

Vartija käski hänen kerätä tavaran.
– Mitä vartija käski hänen _________________________ ?
  OK VIRHE SINÄ RAJALLA

Lääkäri antoi lähetteen verikokeisiin näkemättä potilasta.
– Ketä lääkäri antoi lähetteen verikokeisiin _________________________ ?
  OK VIRHE SINÄ RAJALLA

He häipyivät aina valvojan huomaamatta.
– Kenet he häipyivät tänään _________________________ ?
  OK VIRHE SINÄ RAJALLA

Pekka siivoaa aina huoneensa valittamatta lentokoneen kirjaa.
– Mitä Pekka on aina siivoaa _________________________ ?
  OK VIRHE SINÄ RAJALLA

Tiedän, että osa lapsista leikkii pihalla.
– Kenen arvelet _________________________ pihalla?
  OK VIRHE SINÄ RAJALLA
Anvioi lopuksi allaolevat kysymyslauseet, ovatko ne mielestäsi suomen kielen mukaisia (OK), virheellisiä (VIRHE) vai siinä rajalla?

Opettaja ei ollut kysynyt mielestään perällä venäläisestä kirjallisuudesta:
– Miten opettaja luonnehti Pushkinin runoutta?
   OK VIRHE SIINÄ RAJALLA
– Kuka hän väitti että tämän kirjan kirjoitti?
   OK VIRHE SIINÄ RAJALLA
– Kenen opettaja huijoi kirjoitteenen "Koolleet sielut"?
   OK VIRHE SIINÄ RAJALLA
– Mitä hän kertoi että Tolstoi kirjoitti viimeisenä elinvuotenaan?
   OK VIRHE SIINÄ RAJALLA
– Kuka hän väitti että kirjoittaa esimerkiksi tämän kirjan?
   OK VIRHE SIINÄ RAJALLA
– Kenen opettaja väitti että kirjoitteenen "Koolleet sielut"?
   OK VIRHE SIINÄ RAJALLA
– Mitä hän väitti että kirjoitti esimerkiksi Tolstoi?
   OK VIRHE SIINÄ RAJALLA

Kiitos ajastasi!
Jos haluat, voit jättää tähän kommentteja tehtävästä.

Pekka matkusti kertomatta ystävilleen.
– Kenelle Pekka matkusti ________________ ?
   OK VIRHE SIINÄ RAJALLA

Yksi oppilas ei huonnututta välttämättöminä päättyi aikaa sitten.
– Minkä oppilaan välttämätt ölä päättyi ________________ ?
   OK VIRHE SIINÄ RAJALLA

Pekka tiesi että hän rentoutuu parhaiten lukemalla jotain.
– Mitä Pekka rentoutuu ________________ ?
   OK VIRHE SIINÄ RAJALLA

Kaikki löysivät perille seuraamalla jotakuta paikallista.
– Ketä Pekka löysi perille ________________ ?
   OK VIRHE SIINÄ RAJALLA

Pekka matkusti kertomatta ystävilleen.
– Kenelle Pekka matkusti ________________ ?
   OK VIRHE SIINÄ RAJALLA

Yksi oppilas ei huonnutu välttämättöminä päättyi aikaa sitten.
– Minkä oppilaan välttämättöminä päättyi ________________ ?
   OK VIRHE SIINÄ RAJALLA

Pekka tiesi että hän rentoutuu parhaiten lukemalla jotain.
– Mitä Pekka rentoutuu ________________ ?
   OK VIRHE SIINÄ RAJALLA

Kaikki löysivät perille seuraamalla jotakuta paikallista.
– Ketä Pekka löysi perille ________________ ?
   OK VIRHE SIINÄ RAJALLA

Kiitos ajastasi!
Jos haluat, voit jättää tähän kommentteja tehtävästä.
Laadi mallivastaukset harjoitustehtävään kevät 2011


Esimerkkivastaus tehtävään joka on kunnossa:

Olen lapsesta asti halunnut matkustaa Australiaan.  
– Mihin olet aina halunnut _________________________ ?

   OK          VIRHE          SIINÄ RAJALLA

Pekka laittaa ruokaa Merjalle.
– Kenelle Pekka _________________________ ruokaa?

   OK          VIRHE          SIINÄ RAJALLA

Esimerkkivastaus virheelliseen tehtävään:

Pekka laittaa ruokaa Merjalle.
– Kenelle Pekka _________________________ ruokaa?

OK          VIRHE          SIINÄ RAJALLA
Pekka lähti kovasti voivotellen.
– Mitä Pekka lähti _________________________ ?

OK VIRHE SIINÄ RAJALLA

Äiti kaatui viedessään ruokia pöytään tarjottimella.
– Millä äiti kaanui _________________________ ruokia pöytään?

OK VIRHE SIINÄ RAJALLA

Pekka pelastui melomalla täyttä vauhtia saaren rantaan.
– Millo kova Pekka pelastui _________________________ ?

OK VIRHE SIINÄ RAJALLA

Vartija käski häirikön kerätä tavaransa.
– Kenen vartija käski _________________________ tavaransa?

OK VIRHE SIINÄ RAJALLA

Isä kompastui etsessään sukkia.
– Kenelle isä kompastui _________________________ sukkia?

OK VIRHE SIINÄ RAJALLA

Pekka saapui vihellellen.
– Mitä Pekka saapui _________________________ ?

OK VIRHE SIINÄ RAJALLA

Tiesin että lapset leikkivät pihalla piilosta.
– Mitä tiesin lasten _________________________ pihalla?

OK VIRHE SIINÄ RAJALLA

Lapset juoksentelivat rannalla keräillen simpakankuoria.
– Mitä lapset juoksentelivat rannalla _________________________ ?

OK VIRHE SIINÄ RAJALLA

Vartija käski häirikön kerätä tavaransa.
– Kenen vartija käski _________________________ tavaransa?

OK VIRHE SIINÄ RAJALLA

Opettaja itki opiskeluiden nähden.
– Kenen opettaja itki _________________________ ?

OK VIRHE SIINÄ RAJALLA

Etsijät löysivät eksyneen mummon seuraamalla pelastuskoira.
– Ketä etsijät löysivät mummon seuraamalla _________________________ ?

OK VIRHE SIINÄ RAJALLA

Nukuin rauhallisesti hoitajan valvoessa äitini unta.
– Kenen nukuin rauhallisesti _________________________ äitini unta?

OK VIRHE SIINÄ RAJALLA
Ajattelin lähteä tänään retkelle.
- Mihin sinä ajattelit ________________________ ?

OK VIRHE SIINÄ RAJALLA

He lähtivät huomaamatta nurkassa istuvaa tyttöä.
- Keta he lähtivät ________________________ ?

OK VIRHE SIINÄ RAJALLA

Rauhoitan lapset laulaen tuutulaulua.
- Mitä lauha sinä rauhoitat lapset ________________________ ?

OK VIRHE SIINÄ RAJALLA

Hoitaja kompastui auttaessaan äitiäni.
- Ketä hoitaja kompastui ________________________ ?

OK VIRHE SIINÄ RAJALLA

Kiitos ajastasi!
Jos haluat, voit jättää tähän kommentteja tehvästä.