KIN: A descriptive perspective on a Finnish additive/scalar suffix

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1 Introduction

1.1 Goals of this paper

This paper is an overview of the main data to be covered in my doctoral dissertation. The main character of the dissertation is KIN, an additive and/or scalar focus-sensitive suffix that can often be translated in English as *also/too*, *even*, or *either*. The small capitals are used to abstract over the two phonological variants of the suffix, *–kin* and *–kAAn*. Of these two variants, the distribution of the vowel-harmonic *–kAAn* is more strictly regulated: it is usually assumed to appear in the presence of negation (Karttunen and Karttunen, 1976). Both variants attach to the end of a word, being preceded by all tense, person, number, case, and possessive suffixes, and followed only by Finnish second-position clitics (Hakulinen et al., 2004).

In addition to the morphologically dependent KIN, Finnish also has unbound additives, such as *myös* 'also/too' and *jopa/edes* 'even'. As (1a) illustrates, KIN is often ambiguous between an additive reading related to *myös*, as in (1b), and a scalar reading related to *jopa*, as in (1c).

(1) Additive and scalar focus particles in Finnish

a. $[\text{Joni}]_F$kin korjasi pyörän
Joni.NOM.KIN fix.PAST.3SG bike.ACC
'(Even) $[\text{Joni}]_F$ fixed a bike (too)'

b. Myös $[\text{Joni}]_F$ korjasi pyörän
also Joni.NOM fix.PAST.3SG bike.ACC
'$[\text{Joni}]_F$ fixed a bike, too'

c. Jopa $[\text{Joni}]_F$ korjasi pyörän
even Joni.NOM fix.PAST.3SG bike.ACC
'Even $[\text{Joni}]_F$ fixed a bike'

The main research questions that I will answer in my thesis are:

> RQ1: What is KIN? Is it an operator itself, an agreement marker that attaches to hosts moving through a specific projection, or a phonological reflex of the presence of a focus-sensitive operator?
>
> RQ2: What are the possible meanings related to the presence KIN? What lies behind the variation in meaning due to changes in the position of focus-marking and KIN?

In this paper, I focus on first subquestion of RQ2. The goal is to provide a description of the main data to be accounted for by the analysis of KIN proposed in my thesis, and briefly

overview the scarce previously existing work on KIN on its different uses. Some partial answers to the second subquestion of RQ2 will also be discussed when necessary in terms of the data description.

1.2 Structure of this paper

This paper is structured as follows. Section 2 is a background section that begins by covering what could be called the standard semantic account of additivity in the framework of alternative semantics, and then spells out some syntactic assumptions concerning the structure of Finnish. Sections 3 to 5 describe the properties of KIN according to its host. Each section contains a description of the relevant data followed by a brief presentation of previous work on the topic. Section 6 concludes, and a list of all abbreviations used in the glosses of the examples can be found at the end of the paper in Section 7.

2 Background

2.1 Background on additive and scalar particles

In this section, I first give a brief overview of the analysis of focus particles in alternative semantics. We then discuss two issues regarding additives and scalars: the first concerns the behaviour of additives and scalars in downward-entailing contexts, and the second concerns the additive meaning component of scalars such as *even*.

2.1.1 Additive and scalar particles in alternative semantics

Additive and scalar particles are two subclasses of *focus particles*, the third main subclass being that of exclusives (König, 1991). In English, the three classes of focus particles can be exemplified with *too* (additive), *even* (scalar), and *only* (exclusive).

In the framework of alternative semantics, focus particles are modelled as focus-sensitive sentential operators (Rooth, 1985, 1992, a.o.): this is because the meaning contribution they make – truth-conditional or not – depends on the position of focal stress in the sentence. For example, the pair of sentences in (2) only differ in what is F(ocus)-marked (signalled henceforth with the subscript F). When the subject *Joni* is pronounced with focal stress, the felicitous use of *too* requires there to be some other contextually salient or relevant individual, distinct from Joni, that fixed a bike as well. When focal stress is on the object *bike*, however, the contribution of *too* is to require that Joni fixed something besides a bike.

(2) a. [Joni]$_{\text{F}}$ fixed a bike, too
b. Joni fixed a [bike]$_{\text{F}}$, too

In the framework of Rooth (1985, 1992), focus interpretation involves a set of focus alternatives, generated based on F-marking. These alternatives are incorporated into the meaning of the sentence through a special semantic value. The *ordinary semantic value* and the *focus semantic value* of a given expression are derived in parallel, so that at the sentential level, the ordinary semantic value corresponds to a proposition, the *prejacent*, and the focus semantic value corresponds to a set of propositions, the *focus alternatives*. The prejacent is included in the set of focus alternatives.

(3) The generation of ordinary (o) and focus (f) semantic values for *[Joni]$_F$ fixed a bike*
a. $[\![[_{\text{VP}}$ fixed a bike$]]\!]^o = \lambda x \lambda w.x$ fixed a bike in w
b. $[\![[_{\text{VP}}$ fixed a bike$]]\!]^f = \lambda x \lambda w.x$ fixed a bike in w
c. $[\![[_{\text{DP}}$ Joni$]_{\text{F}}]\!]^o =$ **joni**
d. $[\![[_{\text{DP}}$ Joni$]_{\text{F}}]\!]^f = \{$**joni**, **pentti**, ...$\}$

e. $[\![[\text{Joni}]_{\text{F}}$ fixed a bike$]\!]^o = \lambda w.$**joni** fixed a bike in w

f. $[\![[\text{Joni}]_{\text{F}}$ fixed a bike$]\!]^f = \{\lambda w.$**joni** fixed a bike in w, $\lambda w.$**pentti** fixed a bike in w, ...$\}$

As (3a-b) show, the ordinary and focus semantic values of phrases with no F-marking are identical. The effect of F-marking is seen in the difference between (c) and (d), where the F-marked *Joni* leads to the generation of a set of alternatives (other individuals). When the ordinary semantic value of the subject DP is composed with the ordinary semantic value of the VP, the result is the proposition in (e) (the set of worlds in which Joni fixed a bike). The pointwise functional composition of the focus semantic value of the DP with the focus semantic value of the VP results in the set of propositions in (f) (the set of sets of worlds in which x fixed a bike, where x is of the same semantic type as the F-marked DP). These alternatives can be quantified over by focus-sensitive operators such as *too*, *even* or *only*, as in the sentences in (4):

(4) a. $[\text{Joni}]_{\text{F}}$ fixed a bike, too

b. Even $[\text{Joni}]_{\text{F}}$ fixed a bike

c. Only $[\text{Joni}]_{\text{F}}$ fixed a bike

In the case of the additive *too* in (4a), some contextually relevant or salient focus alternative distinct from the prejacent is required to be true. The exclusive *only* in (4c) excludes such states of affairs, and requires that all focus alternatives not entailed by the prejacent be false. Under the standard approach (Karttunen and Peters, 1979), the scalar *even* in (4b) imposes a likelihood ordering among the alternatives: the prejacent must be the least likely of them.

While *only* is generally assumed to presuppose the truth of its prejacent, and assert the falsity of non-entailed alternatives (Horn, 1969), *too* and *even* are often argued not to affect the truth-conditions of their host sentence. Instead, they contribute a presupposition or a conventional implicature, which must be fulfilled in order for the use of the focus particle to be felicitous. The non-truth-conditional meaning contributions of additive and scalar focus particles may be given as in (5). These meaning components will henceforth be referred to as ADD and SCAL, respectively. In the definitions, the presupposition is encoded as a definedness condition, marked between dots (cf. Heim and Kratzer, 1998), $<_c$ stands for a context-sensitive likelihood relation, and C for the contextually restricted set of focus alternatives.[1]

(5) a. $[\![\text{ADD}]\!]^{g,c}$: $\lambda w \lambda p.\exists q \in C[q \neq p \wedge q(w)].p(w)$

b. $[\![\text{SCAL}]\!]^{g,c}$: $\lambda w \lambda p.\forall q \in C[q \neq p \rightarrow p <_c q].p(w)$

[1]The quantificational force of ADD and SCAL can be modelled as existential or universal, as long as domain set of the operator is defined in a restricted enough manner (for discussion, see Crnič, 2011). Here, we will adopt the (more usual) existential force for additives and a universal force for scalars.

The meaning of exclusives can be similarly modeled as in (6), with EXH (from *exhaustification*, Fox 2007; Chierchia et al. 2011; Chierchia 2013).

(6) $[\![\text{EXH}]\!]^{g,c}$: $\lambda w \lambda p.p(w).\forall q \in C[p \not\subseteq q \rightarrow \neg q(w)]$

All three operators take two arguments, a world argument w and a propositional argument p (the prejacent). They quantify over a contextually restricted set C of focus alternatives to p in either the definedness condition (5) or in the truth-condition (6). The truth of the assertion is a presupposition in (6) and asserted in (5).

2.1.2 Issue 1: Additives and scalars in downward-entailing contexts

The meaning contribution detailed for SCAL in (5) states that out of all focus alternatives, the one corresponding to the prejacent is the least likely one. This is indeed the case for positive sentences with no negation or other downward-entailing (DE) operators. However, when a scalar focus particle finds itself in the scope of a DE operator, the perceived meaning is in fact the opposite: the prejacent is the most likely of the relevant focus alternatives, not the least likely. A sentence such as (7) then asserts that Mary did not fix a bike, although that would have been the most likely thing for her to fix.

(7) Mary did not even fix a $[\text{bike}]_{\text{F}}$

The fact that negation has this effect on *even* is surprising given that negation is a presupposition hole: it lets presuppositions project past it without modifying them. As Rullmann (1997) notes, this means that the following two assumptions cannot both be true: (i) *even* is in the scope of negation in (7), and (ii) *even* has only the lexical meaning described in (5).

Karttunen and Peters (1979) first proposed that the difference in the meaning of *even* in positive and negative declarative sentences can be derived by interpreting *even* higher than negation. As negation is a well-known scale reversal, and p is less likely than q only if $\neg p$ is more likely than $\neg q$, the relevant difference in meaning can be captured. The approaches that drop assumption (i) are often referred to as scope or movement theories of *even*. The second assumption was first put to question by Rooth (1985), who proposes that *even* is lexically ambiguous between an "ordinary" particle SCAL with the meaning of (5), and a "special" particle SCAL_{NPI} that requires licensing by a DE operator, and encodes a reversed likelihood relation in its meaning ($<_c$ of (5) is switched to $>_c$). This type of approach is often referred to as a lexical ambiguity approach to *even*.

(8) $[\![\text{SCAL}_{\text{NPI}}]\!]^{g,c}$: $\lambda w \lambda p.\forall q \in C[q \neq p \rightarrow p >_c q].p(w)$

As (9) shows, the end result is the same: the derived inference states that Mary's fixing a bike is more likely than her fixing any other alternative to it.

(9) The underlying LF of (7) and the scalar meaning contributed by *even* (= SCAL)

a. [SCAL [not [Mary fixed a [bike]$_F$]]]
The prejacent *Mary did not fix a bike* is less likely than all focus alternatives of the form *Mary did not fix an* x

b. [not [SCAL$_{NPI}$ [Mary fixed a [bike]$_F$]]
The prejacent *Mary fixed a bike* is more likely than all focus alternative of the form *Mary fixed an* x

The same polarity-conditioned difference in meaning can also be seen with ADD, although in this case, English uses two separate words, *too* (or *also*) and *either*:

(10) Additive focus particle in the scope of negation: *too* vs. *either*

a. Mary fixed a [bike]$_F$ too

b. Mary did not fix a [bike]$_F$ either

Example (10a) presupposes that there is some x that is not a bike such that Mary fixed x is true. However, (10b) presupposes that there is some x distinct from a bike such that Mary fixed x is false, or alternatively that there is some focus alternative of the form *Mary did not fix* x that is true. In other words, the same explanations relying on scope and lexical ambiguity can be used to account for the difference in meaning between *too* and *either*.

(11) $[\![\text{ADD}_{\text{NPI}}]\!]^{g,c}$: $\lambda w \lambda p . \exists q \in C[q \neq p \wedge \neg q(w)] . p(w)$

(12) The underlying LF of (10b) and the additive meaning contributed by *either*

a. [ADD [not [Mary fixed a [bike]$_F$]]]
There is some focus alternative of the form *Mary did not fix* x that is true

b. [not [ADD$_{NPI}$ [Mary fixed a [bike]$_F$]]
There is some focus alternative of the form *Mary fixed* x that is false

In the literature on additives and scalars, there are supporters both of the scope approach (Karttunen and Peters, 1979; Crnič, 2011; Wilkinson, 1996; Guerzoni, 2004; Nakanishi, 2012, a.o.) and the lexical ambiguity approach (Rooth, 1985; Rullmann, 1997, 2003; von Stechow, 1991; Schwarz, 2005; Giannakidou, 2007, a.o.). Both conceptual and empirical arguments have been advanced from the two sides of the debate. Due to reasons of space, we will not discuss this fundamental issue further here, although some arguments will be discussed briefly in the subsection below.

2.1.3 Issue 2: The additive component of *even*

In early work on *even*, it was often suggested that the particle has both an additive (existential) and a scalar meaning component (Karttunen and Peters, 1979). Later work, however,

challenged this assumption, mostly on empirical grounds (Krifka, 1991; von Stechow, 1991; Wilkinson, 1996; Rullmann, 1997). Indeed, there seem to be examples where *even* does not give rise to the expected additive inference (Wilkinson, 1996; Rullmann, 1997):

(13) I am sorry I even [opened]$_F$ the book

Wilkinson (1996) proposes (13) as a counterexample to lexical ambiguity theories of *even*: neither *even* nor *even*$_{\text{NPI}}$ lead to an intuitively correct additive inference on the assumption that SCAL and ADD go together on the one hand, and SCAL$_{\text{NPI}}$ and ADD$_{\text{NPI}}$ on the other. She proposes to consider reading, studying, and committing the book to memory as the relevant alternatives to opening in (13). Under the lexical ambiguity approach, where *even* is interpreted in its pronounced position, the expected additive inference would be as follows:

(14) (a) constructed, (b) from Wilkinson 1996, p. 200:
   a. LF: [I am sorry that [ADD$_{\text{NPI}}$ [I [opened]$_F$ the book]]]
   b. There is something other than opening it that I did not do with that book

While the intuitively correct scalar inference is clearly provided by SCAL$_{\text{NPI}}$ in (13), the same does not hold for the related additive component spelled out in (14b): (13) can be felicitously used in a context where the speaker did *all* of the alternative actions with the book. Wilkinson argues that a scope-based theory of *even* yields a better result.

(15) (a) constructed, (b) from Wilkinson 1996, p. 200:
   a. LF: [ADD [I am sorry that [I [opened]$_F$ the book]]]
   b. There is something other than opening it that I am sorry I did with the book

Rullmann (1997) contests this argument and notes that (13) can also be felicitously used in a context where the speaker did *none* of the alternative actions with the book. As Wilkinson's additive inference contains the factive predicate *sorry*, which leads to the presupposition that the speaker did something else with the book, the additive inference predicted by the scope theory is not right either.

To account for (13), Rullmann proposes that the additive component of *even* does "not have independent status, but instead arises indirectly as a pragmatic entailment of the scalar presupposition of *even* combined with the assertion expressed by the sentence in which *even* occurs, given some further plausible assumptions about the use of *even*" (p. 58). More specifically, Rullmann proposes that the use of *even* gives the hearer permission to infer that if a proposition is asserted to be true, and that proposition is relatively very unlikely compared to other alternative propositions, then the more likely alternatives are most likely true as well. In the same vein, if a relatively likely proposition is asserted to be false, then the unlikelier propositions are probably false as well. In other words, Rullmann proposes a filtering

mechanism for the additive inference: it will not arise in cases like (13), where the opening-alternative is ranked as the most likely alternative, but it is not asserted to be false. In fact, the opening-alternative is presupposed to be true due to the presence of the factive predicate. However, as Rullmann notes, the truth of the most likely alternative "I opened the book" does not license any inferences with respect to the other, less likely alternatives, and hence, no additive inference arises.

The same idea is also exploited by Crnič (2011), who supports the scope theory of *even*, and argues for a decomposition of *even* into an additive (ADD) and a scalar (SCAL) component. These components take scope independently of each other, and the latter may or may not be present when *even* is used. Crnič's definitions for SCAL and ADD are given in (16). Note that Crnič adopts an existential quantificational force for SCAL and a universal force for ADD.

(16) Crnič 2011: p. 150

a. $[\![\text{SCAL}]\!]^{g,c}(C, p, w)$ is defined only if $\exists q \in C[p <_c q]$
If defined, $[\![\text{SCAL}]\!]^{g,c}(C, p, w) = 1$ iff $p(w) = 1$

b. $[\![\text{ADD}]\!]^{g,c}(C, p, w)$ is defined only if $\forall q \in C[(p <_c q) \wedge (p \cap q \neq \varnothing) \rightarrow q(w) = 1]$
If defined, $[\![\text{ADD}]\!]^{g,c}(C, p, w) = 1$ iff $p(w) = 1$

Both operators take three arguments; the sister proposition p (the prejacent), a contextually determined subset C of the of focus alternatives of p, and a world argument w. While the assertive meaning is left intact by SCAL, there is a definedness condition on its use. The definedness condition of SCAL requires that there be some focus alternative q in C such that the prejacent is less likely or noteworthy (in the context) than q. The definedness condition of ADD states that every focus alternative q of p, such that q is more likely than p and q is not incompatible with it, is true. The latter conditions are inspired by Rullmann 1997, and have the role of making sure that the additive inference does not concern an alternative that entails the prejacent (making the inference redundant) or an alternative that entails the negation of the prejacent (making the inference contradictory).

Crnič (2011) proposes that the presence or absence of the ADD component correlates with the LF-movement of the SCAL component. In examples where SCAL surfaces in the scope of a DE operator but must (under the scope theory of *even*) move to outscope it in order to trigger a satisfiable presupposition, the ADD component may disappear. This happens when the associate of *even* is *weak*, as in (17) below (Wilkinson, 1996). What is meant by weakness here is that each focus alternative of the associate *open* asymmetrically entails it. That is, F-marking the weak predicate *open* in a sentence induces a contextually restricted set of propositional focus alternatives that contain alternative predicates, such as *read*, and it holds that reading a book entails opening a book, but not vice versa.

(17) Crnič 2011: p. 145, 156

a. John is **sorry** that he *even* [opened]$_F$ the book

b. John is *even* **sorry** that he [opened]$_F$ the book

In (17a), *even* surfaces below *sorry*, a DE factive verb, and associates with the F-marked weak predicate *open*. No additive inference regarding the non-prejacent alternatives of the form *John* x*ed the book* is derived in this case: one cannot infer from the sentence either that John did or did not do something else to the book besides opening it. There is also no additive inference of the form *John is sorry that he* x*ed the book*, as already noted by Rullmann (1997). However, in (17b), where *even* outscopes *sorry* at the surface, Crnič (and Wilkinson (1996)) argues that an additive inference does appear: John is sorry for doing something else to the book besides opening it (perhaps for reading it).

As a proponent of scope-based accounts of *even*, Crnič argues that the scalar component of *even* must move above *sorry* in order for its definedness condition to be met. This is because basic probability theory dictates that when one alternative entails another, it is impossible for the latter to be less likely than the former.

(18) Crnič 2011: p. 15
If a proposition p entails a proposition q, q cannot be less likely than p

The condition in (18) means that whenever *even* is used, its definedness requires that the focus alternatives in C do not entail the prejacent. For this reason, whenever *even* associates with a weak expression such as *open*, the result will be undefined in an upward-entailing context (where the focus alternatives entail the prejacent), but defined if *even* scopes over a DE operator that reverses entailment among the alternatives.

In (17a), repeated below in (19), the association of SCAL with the weak element *open* requires that SCAL move above the DE-operator *sorry* in order for its definedness condition to be met. The LFs that Crnič proposes for this sentence contain an occurrence of both SCAL and ADD, but while SCAL always moves, ADD might in principle either stay in situ, as in (20a), or move to a higher position, as in (20b).

(19) John is **sorry** that he *even* [opened]$_{\text{F}}$ the book
No additive inference derived

(20) Crnič 2011: p. 151

a. [SCAL C_3] [John is sorry [~~[SCAL C_3]~~[ADD C_6] he [opened]$_{\text{F}}$ the book]]

b. [SCAL C_3][ADD C_6][John is sorry [~~[SCAL C_3]~~[~~ADD C_6~~] he [opened]$_{\text{F}}$ the book]]

The scalar presupposition of (20) is satisfied if there is an alternative q to p such that p is less likely than q, which is the case if John is sorry that he e.g. read the book. As for the

additive component, the position of ADD matters: in (20a), all focus alternatives entail the prejacent, *he opened the book*, which means that there can be no focus alternative q such that the prejacent is less likely than it, and hence, no presupposition requiring that each such q be true arises (the antecedent of the conditional in the definedness condition is not true). As this seems intuitively correct for (19), Crnič concludes that the right LF for (19) is (20a). Indeed, in (20b), where ADD is not stranded when SCAL moves at LF in (17), an additive presupposition is expected to arise: in this case, *John is sorry that he opened the book* evokes alternatives that are entailed by it, and as this means that they can be more likely than p, the definedness condition may be fulfilled.

This is, in fact, is the additive interpretation of (17b), repeated below as (21).

(21) John is *even* **sorry** that he [opened]$_{\text{F}}$ the book
Additive inference derived

(22) Crnič 2011: p. 151
[SCAL C_6][ADD C_5] [John is sorry that he [opened]$_{\text{F}}$ the book]

In summary, Crnič assumes a scope-based theory of *even* in non-monotone contexts, which allows him to derive a principled explanation of the loss of an additive inference with *even* in specific contexts. He proposes that only if the relevant conditions on the set of focus alternatives to be considered are fulfilled may the additive component contribute its own presupposition. The account proposed in Crnič 2011 is therefore quite close in spirit to that of Rullmann 1997, although the two authors disagree on how the meanings contributed by *even* are generated in positive and negative (or DE-) sentences.

2.2 Background on Finnish

In this section, I provide a general overview of the syntax and information structure of Finnish.

2.2.1 The syntax of finite clauses in Finnish

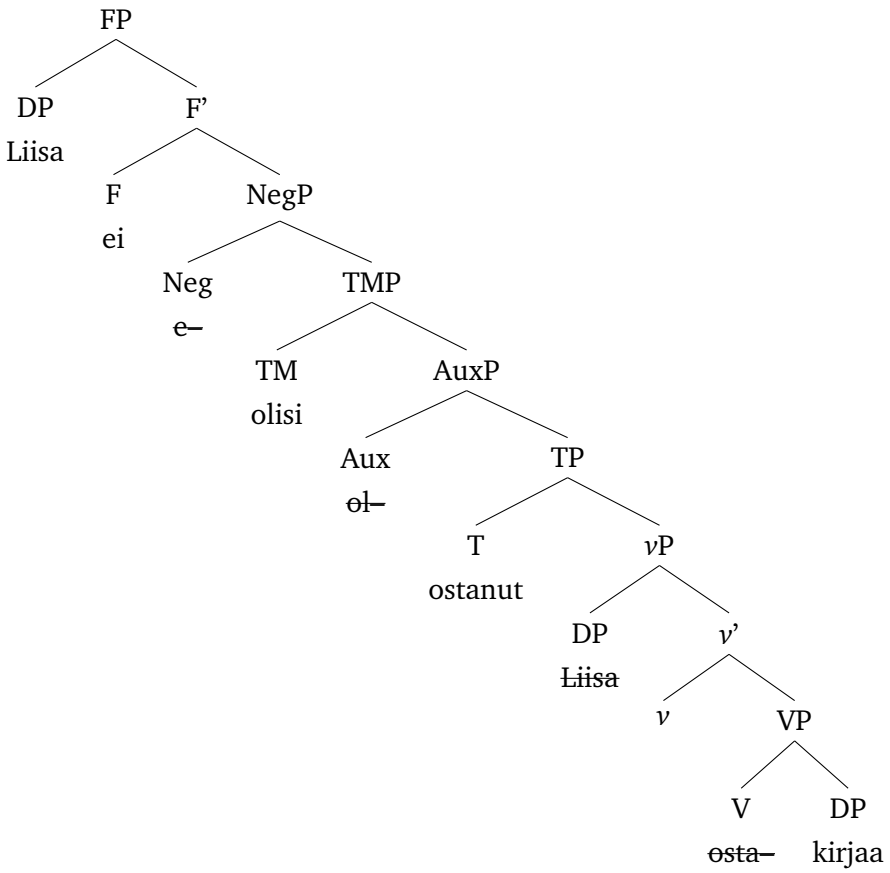
Finnish is an agglutinative language with the basic word order SVO. I assume the structure of the Finnish finite clause to be as in (23) based on Holmberg et al., 1993; Holmberg, 2001, and Holmberg and Nikanne, 2002 (but see also Vainikka, 1989; Mitchell, 1991).

(23) Finite clause structure in Finnish

a. F(inite)P > Neg(ation)P > T(ense)M(ood)P > Aux(iliary)P > T(ense)P > *v*P > VP

b. Liisa ei olisi ostanut kirjaa
Liisa.NOM NEG.3SG be.COND buy.PASTPTC book.PAR
'Liisa would not have bought a/the book'

c.



From bottom up, the finite clause contains a standard *v*P-shell, housing the subject in spec,*v*P and the VP as a complement. Just above *v*P is a projection where present and past participles as well as infinitivals may land; the VP-externality of this projection is argued for by Holmberg and Nikanne (2002) based on adverb positioning. In (23), the verb moves to TP to carry the past participle. The next projection upwards is where the Finnish (non-negative) auxiliary *olla* 'to be' is generated. If present, it moves to the next projection, TMP (for TenseMood, Holmberg and Nikanne 2002), to pick up the conditional suffix *–isi–* in the case of (23). Finnish negation is an auxiliary marked for person and number but not tense, and hence it is arguably generated in a NegP just above TMP. From there, it moves to FP (for FiniteP, Holmberg and Nikanne 2002) in order to be marked for ϕ-features. Spec,FP is the position that houses subjects and/or objects interpreted as topics. Due to an EPP feature in FP, some category must move to spec,FP in Finnish, but it must not necessarily be the subject, and movement to spec,FP is hence uncoupled from ϕ-agreement and case-feature-checking.

2.2.2 Finnish left periphery

According to Vilkuna (1995), the Finnish left periphery contains at least two positions: one for topics and topic-like constituents, and another above it for contrastive constituents ('kontrastive' constituents in Vallduví and Vilkuna 1998).

In Finnish, contrastive expressions evoke alternatives (cf. Rooth, 1985), but they might be discourse-new (rhematic) or discourse-old (thematic), corresponding roughly to contrastive focus and contrastive topic. While contrastive constituents are either very high in the structure (spec-CP in Vilkuna 1995) or in situ, non-contrastive thematic and rhematic constituents occupy lower positions. In Vallduví and Vilkuna 1998, thematic constituents are situated in the IP (more specifically, in spec-IP) and rhematic constituents stay in the VP. The relevant IP position is called FP in Holmberg et al. 1993 and Holmberg and Nikanne 2002. As mentioned above, Holmberg and Nikanne argue that this position is the highest position of the IP, and hosts both subjects and topics (for example, the discourse-old objects of the OVS order).

(24) $[_{CP}$ ... $[_{IP}$ ... $[_{VP}$ ...]]]
[+K, ±Rh] [−K, −Rh] [−K, +Rh]

In her discussion of the Finnish left periphery, Kaiser (2006) notes that Finnish also allows topics to precede kontrastive constituents in restricted contexts, namely, in the presence of preposed negation:

(25) a. * Jussi HEVOSEN osti
Jussi.NOM horse.ACC buy.PAST.3SG
'Jussi bought a HORSE'

b. Ei Jussi HEVOSTA ostanut
NEG.3SG Jussi.NOM horse.PAR buy.PASTPTC
'Jussi didn't buy a HORSE'

Kaiser proposes that preposed negation lands in a PolP, evoking a TopP just above the position hosting contrastive elements.

(26) a. Without preposed negation:
$[_{KontrastP}$ ... $[_{FP}$ ... $[_{NegP}$ ...]]]

b. With preposed negation:
$[_{PolP}$ ... $[_{TopP}$ ... $[_{KontrastP}$ ... $[_{FP}$ ... $[_{NegP}$ ...]]]]]

For Finnish, a polarity-related projection in the left periphery was first proposed by Holmberg (2001) based on Laka (1990), mainly for the purpose of accounting for the Finnish answer pattern for polar interrogatives.

2.2.3 Word order variation and information structure

The canonical word order of Finnish, SVO, is used when both subject and object are discourse-old, when both are discourse-new, and when the subject is discourse-old and the object is discourse-new (Vilkuna, 1989, 1995).

(27) Ville osti kissan.
Ville.NOM buy.PAST.3SG cat.ACC
'Ville bought a/the cat.' [s_{old} v o_{old}], [s_{new} v o_{new}], [s_{old} v o_{new}]

The other subject-initial word order, SOV, is used when the subject is stressed and interpreted as contrastive (Hakulinen and Karlsson, 1979).

(28) VILLE kissan osti.
Ville.NOM cat.ACC buy.PAST.3SG
'It was Ville who bought the cat.' [S_{contr} o_{old} v]

The first object-initial OVS order is used when the object is discourse-old and the subject is discourse-new (Hiirikoski, 1995).

(29) Kissan osti Ville.
cat.ACC buy.PAST.3SG Ville.NOM
'Ville bought a cat.' [o_{old} v s_{new}]

In the second object-initial order, OSV, when the subject precedes the verb, the object must be stressed and is interpreted as contrastive (Hakulinen and Karlsson, 1979).

(30) KISSAN Ville osti.
cat.ACC Ville.NOM buy.PAST.3SG
'It was a cat that Ville bought.' [O_{contr} s_{old} v]

Verb-initial orders (VSO, VOS) are not as usual as the other orders, but VSO can be felicitously used to emphasise or insist on the truth of the sentence (Välimaa-Blum, 1988; Vilkuna, 1995).

(31) OSTI Ville kissan.
buy.PAST.3SG Ville.NOM cat.ACC
'Ville DID buy a/the cat.' [V_{contr} s_{old} o_{old}]

3 KIN on nouns, adjectives, determiners, adverbials, and postpositions

In this section, we look at data where KIN attaches to a variety of categories: nouns, adjectives, determiners, adverbials, and postpositions. Two types of uses are described: *standard* and *non-standard*. The term 'standard' refers to the fact that these uses can be explained in a quite straightforward way using the standard semantics proposed for additives and scalars in the literature. The non-standard thematic use of KIN is less obviously related to these meanings and seems to require a larger discourse perspective (Section 3.2.1). At the end of each subsection, a brief overview of previous work on the specific type of KIN is provided.

3.1 Standard use

3.1.1 Positive declaratives

When KIN attaches to an F-marked category, the inferences that arise can be fairly described as standard: as shown in the examples below, they can be derived in a straightforward way using the lexical entries for ADD and SCAL.

(32) Definitions of ADD and SCAL, repeated from (5)

a. $[\![\text{ADD}]\!]^{g,c}$: $\lambda w \lambda p.\exists q \in C[q \neq p \wedge q(w)].p(w)$

b. $[\![\text{SCAL}]\!]^{g,c}$: $\lambda w \lambda p.\forall q \in C[q \neq p \rightarrow p <_c q].p(w)$

In all examples below, the prejacent p and the set of contextually relevant focus alternatives ($q \in C$) are given in English in (i). In (ii) and (iii), I give the English glosses with *too* (involving ADD) and *even* (involving here both ADD and SCAL). The formal descriptions of the inferences are omitted, as they can be easily derived based on the definitions above using the given prejacent and focus alternatives.

Let us start with DP-attaching KIN. In (33a), KIN attaches to the F-marked subject proper name, and in (33b) to the F-marked direct object. As it can be easily verified, the inferences derived from the given prejacent and focus alternatives conform to intuitions. For (33a), for example, the additive inference requires that someone else besides Joni fixed a bike, and the scalar inference requires that the focus alternatives are ordered in terms of relative likelihood in such a way that Joni is the least likely person to fix a bike.[2]

[2]Even when the role of the contextual variable C is not explicitly mentioned, we assume throughout this paper that the set of focus alternatives is restricted to contextually salient or relevant alternatives. Admittedly, this begs the question of how contextual saliency and relevance are defined. These questions are left unanswered here.

(33) KIN attaches to a DP

a. [Joni]$_{\text{F}}$kin korjasi pyörän
Joni.NOM.KIN fix.PAST.3SG bike.ACC

i. Prejacent p: Joni fixed a bike
Focus alternatives q: {Joni fixed a bike, Mari fixed a bike...}

ii. '[Joni]$_{\text{F}}$ fixed a bike, too'

iii. 'Even [Joni]$_{\text{F}}$ fixed a bike'

b. Joni korjasi [pyörän]$_{\text{F}}$kin
Joni.NOM fix.PAST.3SG bike.ACC.KIN

i. Prejacent p: Joni fixed the bike
Focus alternatives q: {Joni fixed the bike, Joni fixed the lamp...}

ii. 'Joni fixed the [bike]$_{\text{F}}$, too'

iii. 'Joni even fixed the [bike]$_{\text{F}}$'

Inside complex DPs, KIN may attach to F-marked determiners, possessors, and adjectives (for more details, see subsection 3.1.3.1 on Holmberg, 2014).

(34) KIN attaches inside a complex DP

a. Joni korjasi [tämän]$_{\text{F}}$kin pyörän
Joni.NOM fix.PAST.3SG this.ACC.KIN bike.ACC

i. Prejacent p: Joni fixed this bike
Focus alternatives q: {Joni fixed this bike, Joni fixed that bike...}[3]

ii. 'Joni fixed [this]$_{\text{F}}$ bike, too'

iii. 'Joni even fixed [this]$_{\text{F}}$ bike'

b. Joni korjasi [Jessen]$_{\text{F}}$kin pyörän
Joni.NOM fix.PAST.3SG Jesse.GEN.KIN bike.ACC

i. Prejacent p: Joni fixed Jesse's bike
Focus alternatives q: {Joni fixed Jesse's bike, Joni fixed Mari's bike...}

ii. 'Joni fixed [Jesse's]$_{\text{F}}$ bike, too'

iii. 'Joni even fixed [Jesse's]$_{\text{F}}$ bike'

c. Joni korjasi [vanhan]$_{\text{F}}$kin pyörän
Joni.NOM fix.PAST.3SG old.ACC.KIN bike.ACC

i. Prejacent p: Joni fixed an old bike
Focus alternatives q: {Joni fixed an old bike, Joni fixed a yellow bike...}[4]

[3]The demonstrative determiner *tämä* 'this' is assumed to evoke other specific entities as its alternatives. This is marked in English with the use of 'this' and 'that'.

[4]The adjective *vanha* 'old' is assumed to evoke other adjectives possibly describing a bike as its alternatives, not only the intuitively salient antonym 'new'.

ii. 'Joni fixed an [old]$_F$ bike, too'

iii. 'Joni even fixed an [old]$_F$ bike'

It is also possible for KIN to attach to temporal or locative adverbials, as in (35).

(35) KIN attaches to an adverbial

a. Joni kävi kaupassa [sunnuntaina]$_F$kin
Joni.NOM go.PAST.3SG store.INE Sunday.ESS.KIN

i. Prejacent p: Joni went grocery shopping on Sunday
Focus alternatives q: {Joni went grocery shopping on Sunday, Joni went grocery shopping on Tuesday...}

ii. 'Joni went grocery shopping on [Sunday]$_F$, too'

iii. 'Joni even went grocery shopping on [Sunday]$_F$'

b. Joni hyppi [sängyllä]$_F$kin
Joni.NOM jump.PAST.3SG bed.ADE.KIN

i. Prejacent p: Joni jumped on the bed
Focus alternatives q: {Joni jumped on the bed, Joni jumped on the trampoline...}

ii. 'Joni jumped on the [bed]$_F$ too'

iii. 'Joni even jumped on the [bed]$_F$'

F-marked postpositions may carry KIN.

(36) KIN attaches to a postposition

a. Säilytin kirjoja kirjahyllyn [päällä]$_F$kin
keep.PAST.1SG books.PAR bookcase.GEN on.top.of.KIN

i. Prejacent p: I kept books on top of the book case
Focus alternatives q: {I kept books on top of the book case, I kept books in the book case...}

ii. 'I kept books [on top of]$_F$ the book case, too'

iii. 'I even kept books [on top of]$_F$ the book case'

b. Virheitä oli lauseen [keskellä]$_F$kin
mistakes.PAR be.PAST.3SG sentence.GEN in.the.middle.of.KIN

i. Prejacent p: There were mistakes in the middle of the sentence
Focus alternatives q: {There were mistakes in the middle of the sentence, There were mistakes in the beginning of the sentence...}

ii. 'There were mistakes [in the middle of]$_F$ the sentence, too'

iii. 'There were even mistakes [in the middle of]$_F$ the sentence'

3.1.2 Negative declaratives

In negative declaratives, the form of KIN is usually *–kAAn*. Cases where the form is *–kin* are discussed in Section 3.1.3.3 (cf. Rullmann, 2003). With *–kAAn*, the inferences are reversed as described above in Section 2.1.2 for English. In the case of negative declaratives, determining the relevant prejacent and focus alternatives requires one to take a stand with respect to the scope vs. lexical ambiguity debate of Section 2.1.2. In this paper, we will follow Rooth (1985) and Rullmann (1997, 2003) and propose that the attested reversal in the meaning of ADD and SCAL is encoded in the lexical meaning of their NPI-counterparts.

(37) Definitions of ADD_{NPI} and SCAL_{NPI}, repeated from (8) and (11):

a. $[\![\text{ADD}_{\text{NPI}}]\!]^{g,c}$: $\lambda w \lambda p.\exists q \in C[q \neq p \wedge \neg q(w)].p(w)$

b. $[\![\text{SCAL}_{\text{NPI}}]\!]^{g,c}$: $\lambda w \lambda p.\forall q \in C[q \neq p \rightarrow p >_c q].p(w)$

In other words, the form of the alternatives in negative declaratives is the same as in the corresponding positive declaratives, as negation is not included in the prejacent. It should be noted at this point that this assumption is not innocuous, and the choice must be fully justified in the thesis. As the NPI-theory of *even* is not based on languages where the relevant meaning is (at least on the surface) contributed by a suffix, the choice between scope and lexical ambiguity for KIN depends on how the syntax and the semantics of the structures best fit together.

With this caveat in mind, I provide below the negated versions of (33)-(36). The prejacents and focus alternatives are as in the positive sentences, and the inferences can be derived by applying the operators in (37).

(38) Negated versions of (33)-(36)

a. [Joni]$_{\text{F}}$kaan ei korjannut pyörää
Joni.NOM.KAAN NEG.3SG fix.PASTPTC bike.PAR
'[Joni]$_{\text{F}}$ had not fixed a bike either' or 'Even [Joni]$_{\text{F}}$ had not fixed a bike'

b. Joni ei korjannut [pyörää]$_{\text{F}}$kään
Joni.NOM NEG.3SG fix.PASTPTC bike.PAR.KAAN
'Joni had not fixed a [bike]$_{\text{F}}$ either' or 'Joni had not even fixed a [bike]$_{\text{F}}$'

c. Joni ei korjannut [tätä]$_{\text{F}}$kään pyörää
Joni.NOM NEG.3SG fix.PASTPTC this.PAR.KAAN bike.PAR
'Joni had not fixed [this]$_{\text{F}}$ bike either' or 'Joni had not even fixed [this]$_{\text{F}}$ bike'

d. Joni ei korjannut [Jessen]$_{\text{F}}$kään pyörää
Joni.NOM NEG.3SG fix.PASTPTC Jesse.GEN.KAAN bike.PAR
'Joni had not fixed [Jesse's]$_{\text{F}}$ bike either' or 'Joni had not even fixed [Jesse's]$_{\text{F}}$ bike'

e. Joni ei korjannut [vanhaa]$_{\text{F}}$kaan pyörää
Joni.NOM NEG.3SG fix.PASTPTC old.PAR.KAAN bike.PAR
'Joni had not fixed an [old]$_{\text{F}}$ bike either' or 'Joni had not even fixed an [old]$_{\text{F}}$ bike'

f. Joni ei käynyt kaupassa [sunnuntaina]$_F$kaan
Joni.NOM NEG.3SG go.PASTPTC store.INE Sunday.ESS.KAAN
'Joni did not go grocery shopping on [Sunday]$_F$ either' or 'Joni did not even go grocery shopping on [Sunday]$_F$

g. Joni ei hyppinyt [sängyllä]$_F$kään
Joni.NOM NEG.3SG jump.PASTPTC bed.ADE.KAAN
'Joni did not jump on the [bed]$_F$ either' or 'Joni did not even jump on the [bed]$_F$

h. En säilyttänyt kirjoja kirjahyllyn [päällä]$_F$kään
NEG.1SG keep.PASTPTC books.PAR bookcase.GEN on.top.of.KAAN
'I did not keep books [on top of the]$_F$ book case, either' or 'I did not even keep books [on top of the]$_F$ book case'

i. Virheitä ei ollut lauseen [keskellä]$_F$kään
mistakes.PAR NEG.3SG be.PASTPTC sentence.GEN in.the.middle.of.KAAN
'There were no mistakes [in the middle of]$_F$ the sentence, either' or 'There were even no mistakes [in the middle of]$_F$ the sentence'

3.1.3 Previous work

In this section, we look at three previous accounts of KIN on its standard use and in the specific positions relevant to this section: the syntactic account proposed by Holmberg (2014), the dialogue game approach of Vilkuna (1984), and the classic Montagovian account of Karttunen and Karttunen (1976).

3.1.3.1 Holmberg 2014

Holmberg 2014 is an investigation of the syntax of two focus-related particles in Finnish: the question particle KO (subject to vowel harmony, surfacing either as *–ko* /ko/ or as *–kö* /kø/), and the additive particle KIN. Holmberg adopts a Minimalist perspective on the topic and proposes an analysis that relies on feature-checking (Chomsky, 1995, 2001).

The proposal that he puts forth is that the two particles, KIN and KO, are very much alike in their featural make-up: both have an uninterpretable or unvalued[5] focus feature, [uFoc], which needs to enter in an Agree-relation with an interpretable counterpart, [Foc]. As Chomsky (2001) argues that Agree holds between a probe (carrying an uninterpretable feature) and a c-commanded goal (carrying the relevant interpretable feature), Holmberg proposes that KIN and KO must both c-command an expression carrying [Foc] from their merge position. The main difference between KIN and KO is that in addition to the uninterpretable focus

[5]Holmberg equates unvalued and uninterpretable features following Chomsky 2001. See Pesetsky and Torrego 2007 for a different position.

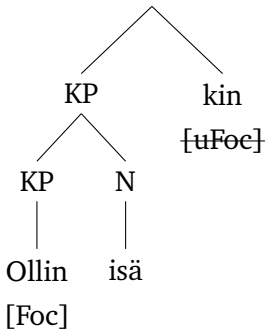
feature, KO also has an interpretable interrogative feature, [Wh], which enters in an Agree-relation with a [uWh]-carrying interrogative C, which moreover forces the KO-constituent to move to its specifier due to an [EPP] feature (Chomsky, 2000). Holmberg suggests that the two particles also differ slightly in where exactly in the structure they may be adjoined (although the c-command requirement between [uFoc] and [Foc] must always be established), but as we are here more interested in KIN than KO, I refer the reader to Holmberg 2014 for the technical details regarding KO, and only discuss his account of KIN in this subsection.

In short, Holmberg proposes that KIN is able to merge anywhere in the syntactic structure as long as it c-commands an expression that carries [Foc] (or alternatively, an expression that is F-marked). This constraint is very much in line with the semanticists' proposal that focus-sensitive operators must c-command their F-marked associate (Jackendoff, 1972; Rooth, 1985; Tancredi, 1990). Syntactically, agreement with the interpretable [Foc] leads to the deletion of the uninterpretable [uFoc] on KIN, which is signalled by barring. This is illustrated in (39) for a complex KP (KasePhrase), where the head is the noun *isä* 'father', and a possessor KP sits in its specifier.

(39) Holmberg 2014: (47)

a. Ollin isäkin
Olli.GEN father.NOM.KIN
'(Even) Olli's father (too)'

b.



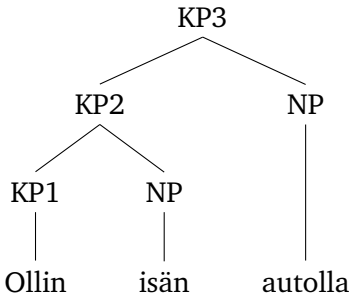
Holmberg mainly discusses the placement of KIN inside complex DPs, although he notes in passing that KIN can also attach to other categories, for example to the finite verb. And although Holmberg is not very explicit on the formal details, he assumes that KIN is pronounced as attached to the category it finds itself adjacent to. Therefore, no movement of F-marking containing NPs or KPs is assumed.

In (40)-(43), I provide the relevant trees with complex DPs and KIN from Holmberg 2014. In all positions in which KIN is marked with a star, it fails to c-command [Foc]-carrying (F-marked) element.

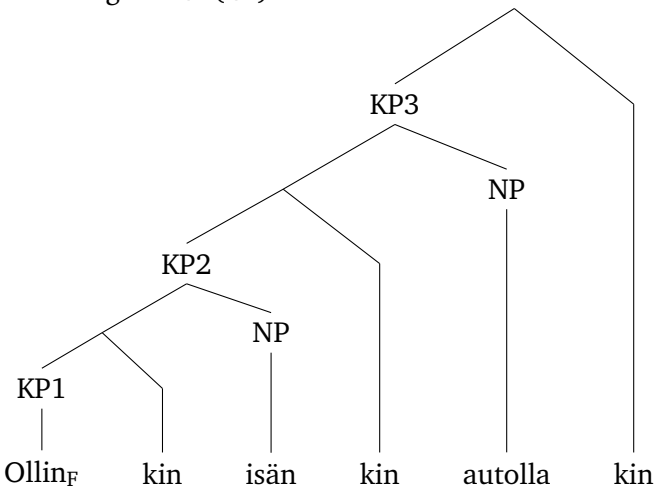
(40) Holmberg 2014: (41)

Ollin isän autolla
Olli.GEN father.GEN car.ADE

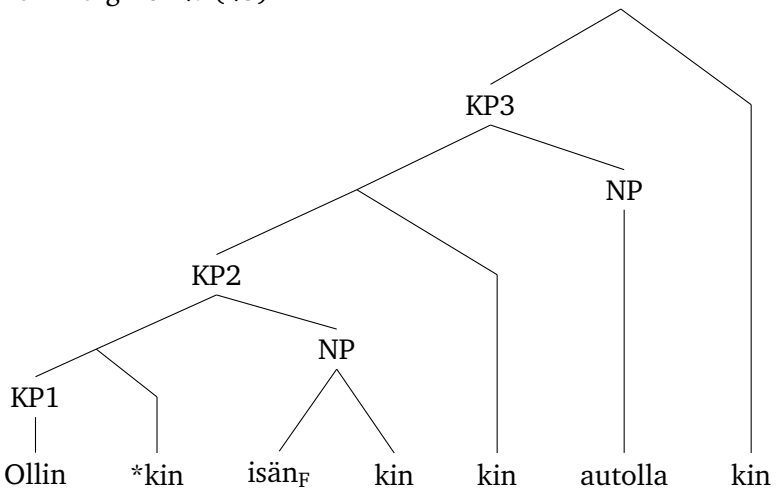
'With Olli's father car'



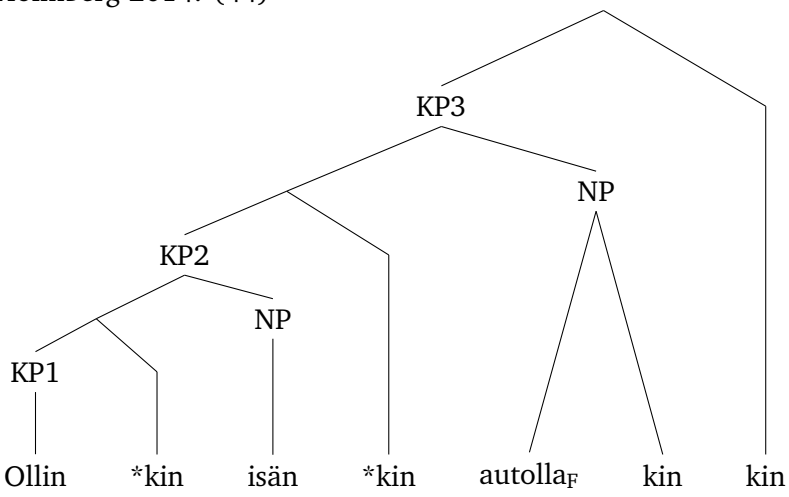
(41) Holmberg 2014: (42)



(42) Holmberg 2014: (43)



(43) Holmberg 2014: (44)



It should be noted that (41)-(43) do not show all logically possible adjunction sites for KIN. In (41), for example, KIN could in principle also adjoin directly to the F-marked NP *Ollin*, and although the result would be ungrammatical, it could also attach to the NP *isän*. In other words, in all trees, the possibility of adjoining KIN to a NP or a KP is in principle only restricted by the c-command requirement. For Holmberg, two different adjunction positions may lead to the same cliticisation results; in (42), for example, whether KIN adjoins to the NP *isän* or to KP2 makes no difference for pronunciation.

A question that arises in view of the trees in (41)-(43) is the justification of these two kinds of attachment (NP and KP). At face value, it seems that there is some redundancy in KIN being able to adjoin to either. Such redundancy should be supported by the data. Holmberg's data, however, does not provide empirical evidence for NP-adjunction. As it is never the case that a KP-adjoining KIN does not c-command an F-marked category inside the closest lower NP, while a KIN adjoined to that NP does, there are no cases where an NP-attaching KIN is grammatical, but a (local) KP-attaching KIN is not. However, the reverse situation is attested. Consider (42), where F-marking is on the NP *isän*. If KIN attaches to the NP *autolla*, it will not c-command [Foc], which will rule out the configuration. It may, however, attach to KP3, as from this position, it does c-command [Foc]. In either case, KIN is pronounced in the same position, cliticised to *autolla*. Therefore, the data provides no direct empirical evidence for the NP-attachment of KIN.

Holmberg acknowledges that two general constraints proposed in the syntactic literature pose problems for his account. Firstly, there is a general ban on right-adjunction (Kayne, 1994), which would rule out the adjunction of KIN and KO in the manner described above. The second constraint only concerns some movement properties he proposes for KO that violate the Left Branch Condition. The ban on right-adjunction is a serious issue for his account of KIN, however, and of course leads one to ask specific questions concerning the syntactic

and semantic nature of the suffix: is KIN a head, an operator, or something completely different? These questions are outside the goals of this paper, but will hopefully given satisfactory answers in the thesis.

3.1.3.2 Vilkuna 1984

In her 1984 paper, entitled *Is it possible to understand the kin-particle?*, Vilkuna sets out to give an analysis of KIN based on Carlson's (1983; 1984) theory of dialogue games. She argues that the common core of all uses of KIN lies in its function as signaling the *completion*, *development* or *substitution* of a previous public or private game move (*background*).

In (44), I summarise Vilkuna's analysis of the standard use of KIN which involves completion and development of moves (Vilkuna 1984, p. 395 and p. 400). The sentential form X–A–Y represents a sentence schematisation with a background frame (X– ... –Y) and a focalised element A in the middle.

(44) Vilkuna 1984:

i. When another player has performed a background move of the sentential form X–A–Y, any player can complete this move with a move of the form X–$Bkin$–Y

ii. A player who wishes to make the move X–A–Y may choose to develop this private move further and make the stronger, more informative move X–$Bkin$–Y instead

The additive inference is derived using (44a), as shown in (45a): the use of KIN signals that a previous move was incomplete, and provides a completion for it. Vilkuna considers scalar inferences to be cases of private move development, as shown in (45b). Informativity is inversely correlated with likelihood: the more p is likely, the less it is informative.

(45) Analysis of standard use KIN following Vilkuna 1984

a. [Joni]$_F$kin korjasi pyörän
Joni.NOM.KIN fix.PAST.3SG bike.ACC
'[Joni]$_F$ fixed a/the bike (too)'

i. There was a previous public move of the form 'x fixed a/the bike' which was incomplete; this move is completed

b. [Joni]$_F$kin korjasi pyörän
Joni.NOM.KIN fix.PAST.3SG bike.ACC
'Even [Joni]$_F$ fixed a/the bike'

i. There was a possible private move of the form 'x fixed a/the bike' which is less informative than the chosen, developed move (given that Joni is a very unlikely bike-fixer compared to all x)

The dialogue game approach prones a dynamic perspective on the interpretation of KIN and sentences in general. In more recent work, this type of approach to focus particles has been adopted by Beaver and Clark (2008), who propose an analysis of focus-sensitivity that models discourse using Questions Under Discussion (Roberts, 1996, 2004).

3.1.3.3 Karttunen and Karttunen 1976

Karttunen and Karttunen (1976) propose a semantic account of KIN that is couched in a Montagovian framework. Their account makes use of a syntactic rule that generates KIN-sentences from a sentence containing an unbound pronoun (the *scope* argument) and a NP (the *focus* argument). When the rule applies to a scope, the unbound pronoun is replaced with the scope NP to which KIN is attached. Semantically, KIN has no truth-conditional import, but merely contributes a conventional implicature, defined in a meaning postulate. In other words, Karttunen and Karttunen's approach treats KIN as a syncategorematic expression whose presence in a sentence is the reflex of applying the syntactic KIN-rule.

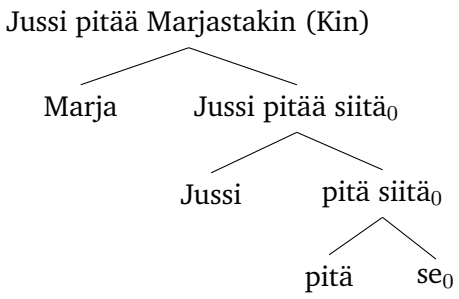
Without going into the details of their account, I replicate below the Kin-rule (which results in the PF form *–kin* of KIN) and a relevant analysis tree from Karttunen and Karttunen (1976, p. 98–99). The numbers between parantheses indicating which Montagovian syntactic rules have been applied at which node have been omitted, and only the point of application of the Kin-rule is shown. What is of interest to us is that the object NP has the elative case form of the unbounded, subscripted pronoun *se*$_0$ up until the point where the focus NP *Marja* is introduced. The Kin-rule applies to the scope (*Jussi pitää siitä*$_0$) and to the focus NP *Marja*, producing the syntactic form where the subscripted pronoun is replaced with *Marja*, and KIN is attached to it.

(46) Karttunen & Karttunen 1976: (23)
Kin-rule:
If ϕ is an affirmative sentence containing an occurrence of an unbound pronoun *se*$_n$ [...][with relevant case-marking] and if α is a noun phrase, then $F_{Kin,n}(\alpha, \phi)$ is a sentence, where $F_{Kin,n}(\alpha, \phi)$ is derived from ϕ by replacing the first occurrence of *se*$_n$ in ϕ with the matching case form of α suffixed with *-kin* and removing the subscripts of all the remaining occurrences of *se*$_n$ and replacing them with the corresponding forms of *hän*$_n$ ['he'/'she'] if α is human

(47) Karttunen and Karttunen 1976: (24)

a. Jussi pitää [Marjasta]$_F$kin
Jussi.NOM like.PRES.3SG Marja.ELA.KIN
'Jussi likes [Marja]$_F$ too'

b.



Semantically, KIN is interpreted using a meaning postulate. Leaving the truth-conditional content of the sentence intact, KIN contributes the additive conventional implicature which, in the case of an NP-focus, expresses the proposition that there is an x distinct from the NP-focus such that x also has the property denoted by the scope argument. In the case of (47), for example, the relevant meaning is that there is some x distinct from Marja such that x has the property of being liked by Jussi. The content of the conventional implicature of KIN therefore depends on what the scope and focus arguments are. While Karttunen and Karttunen only discuss the purely additive meaning contributed by KIN, they note that their account would be readily extendable to cover the scalar use of the particle.

(48) Karttunen and Karttunen 1976: (30)
Meaning expressed by KIN in (47): $\exists x$ [$\neg[x{=}m] \wedge$ pitä$^{e}_{*}(j, x)$]

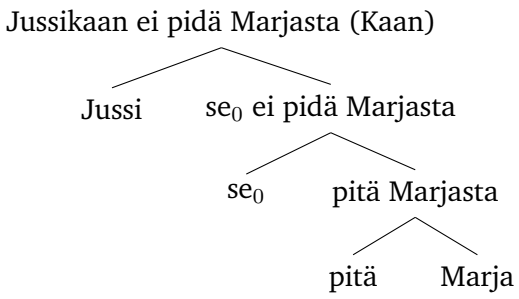
The authors propose that the meaning postulate of KIN is stable across linguistic contexts, while the choice of syntactic rule is conditioned by polarity. As was mentioned before, KIN has two PF realisations, *–kin* and *–kAAn*, of which the latter is subject to vowel harmony. Karttunen and Karttunen propose the rule in (49) for the introduction of *–kAAn*. I illustrate its application with an example from Karttunen and Karttunen 1976.

(49) Karttunen and Karttunen 1976: (42)
Kaan-rule:
If ϕ is a negative sentence containing an occurrence of an unbound pronoun *se*$_n$ [...][with relevant case-marking] and if α is a noun phrase, then F$_{\text{Kaan},n}(\alpha, \phi)$ is a sentence, where F$_{\text{Kaan},n}(\alpha, \phi)$ is derived from ϕ by replacing the first occurrence of *se*$_n$ in ϕ with the matching case form of α suffixed with *-kAAn* and removing the subscripts of all the remaining occurrences of *se*$_n$ and replacing them with the corresponding forms of *hän*$_n$ [‘he’/‘she’] if α is human

(50) Karttunen and Karttunen 1976: (43)

a. [Jussi]$_{\text{F}}$kaan ei pidä Marjasta
Jussi.NOM.KAAN NEG.3SG like.PRES Marja.ELA
‘[Jussi]$_{\text{F}}$ doesn’t like Marja either’

b.



In (50b), Karttunen and Karttunen introduce negation in an implicit step at the same time with the subject *se*$_0$. What is important is that the Kaan-rule applies to a negative scope argument. The meaning postulate of KIN derives the attested meaning, expressing the proposition that there is someone else besides Jussi (j) who has the property of not liking Marja (m).

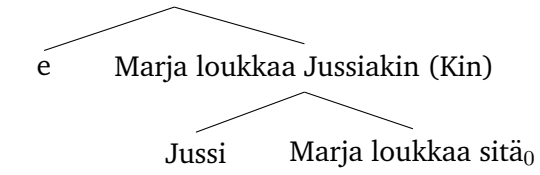
(51) Karttunen and Karttunen 1976: (43c)
Meaning expressed by KIN in (50): $\exists x$ [$\neg[x{=}j] \wedge \neg$pitä$^e_*(x, m)$]

Karttunen and Karttunen therefore account for the *–kin/–kAAn*-alternation by requiring that the syntactic rule that introduces the clitic is sensitive to the polarity of the scope argument. The authors correctly predict that *–kin* is possible in negative sentences as long as it is introduced before negation, and derive the attested meaning. In (52), KIN requires there to be some x distinct from Jussi such that x has the property of being offended by Marja, and in (53), there must be some x distinct from Jussi such that x has the property of not being offended by Marja.

(52) Karttunen and Karttunen 1976: (50a)

a. Marja ei loukkaa [Jussia]$_F$kin
Marja.NOM NEG.3SG offend.PRES Jussi.PAR.KIN
'Marja does not offend [Jussi]$_F$ too'

b.

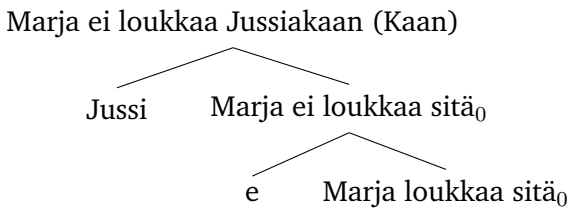


c. $\exists x$ [$\neg[x{=}j] \wedge$ loukka$^e_*(m, x)$]

(53) Karttunen and Karttunen 1976: (50b)

a. Marja ei loukkaa [Jussia]$_F$kaan
Marja.NOM NEG.3SG offend.PRES Jussi.PAR.KAAN
'Marja does not offend [Jussi]$_F$ either'

b.



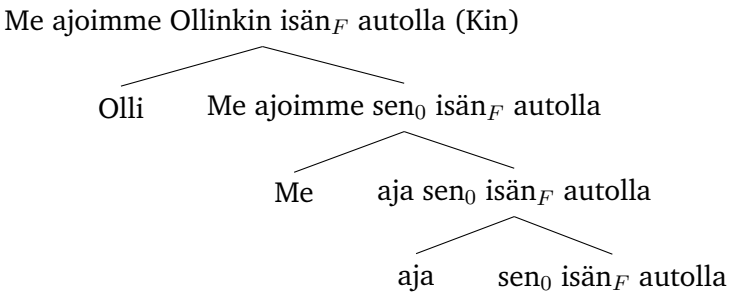
c. $\exists x$ [$\neg[x{=}j] \wedge \neg$loukka$^{e}_{*}(m, x)$]

In summary, Karttunen and Karttunen (1976) propose that KIN is introduced on F-marked categories as the result of the application of a Kin-rule (in case the scope argument is affirmative) or a Kaan-rule (in case the scope argument is negative). They propose an invariable meaning postulate that derives the correct additive conventional implicatures for KIN. As such, Karttunen and Karttunen 1976 represents the scope approach to the meaning variation of additive and scalar focus particles in upward and downward entailing contexts: the difference in meaning is due to the order of application of syntactic rules, and not to a difference in the meaning postulate itself.

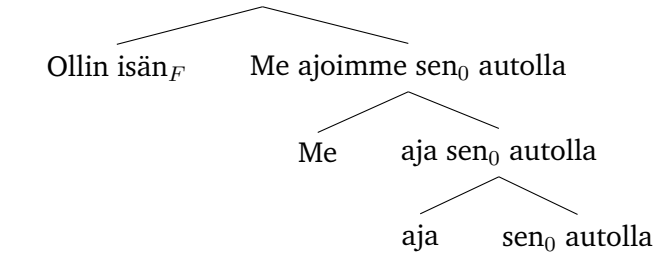
In contrast to Holmberg 2014, the insertion of KIN in Karttunen and Karttunen 1976 takes place at a syntactic level that is high enough to have as its arguments a property (with an unbounded pronoun) and an NP-focus. Recall that in Holmberg 2014, KIN is adjoined inside complex DPs very low in the structure. In terms of data coverage, I believe that Karttunen and Karttunen (1976) are able to derive the same results as Holmberg (2014) as long as the focus-argument is required to be F-marked. I sketch some possible derivations below in (54). If we assume that KIN is literally attached to the focus-argument, and that this focus-argument must contain F-marking, we derive the ungrammaticality of example (54a), in which only the non-F-marked genitive KP1 is pronominalised and fed as an argument to the rule. In (54b-c), I propose two possible pronominalisation patterns; one that covers both KP1 and KP2, and one that only covers KP2. In either case, the suffix is attached to the F-marked KP2 *isän*. The same two possibilities are shown in (54d-e) for KP3-attaching KIN; either the whole DP is pronominalised, or only KP2 and KP3 are.

(54) Applying Karttunen and Karttunen 1976 to a slightly modified (42)

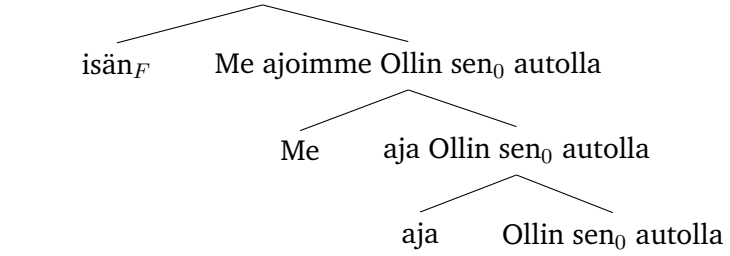
a. * Me ajoimme Ollinkin [isän]$_F$ autolla
we.NOM drive.PRES.3PL Olli.GEN.KIN father.GEN car.ADE
'We drove Olli's [father]$_F$'s car, too'



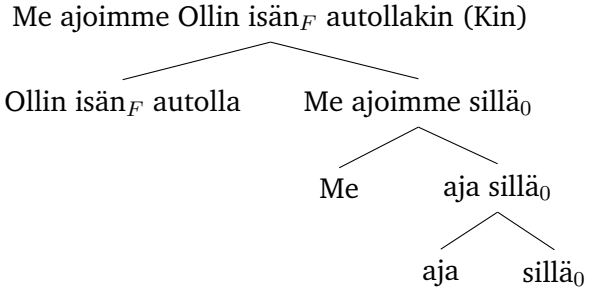
b. Me ajoimme Ollin [isän]$_F$kin autolla
we.NOM drive.PRES.3PL Olli.GEN father.GEN.KIN car.ADE
'We drove Olli's [father]$_F$'s car, too'



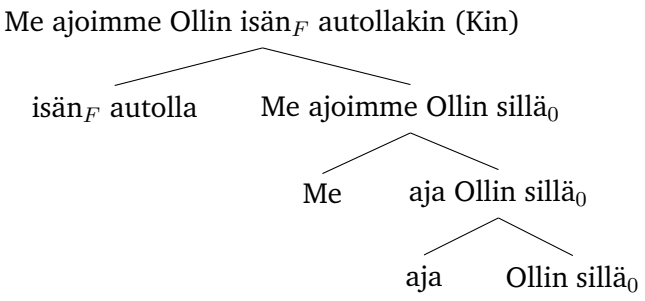
c. Me ajoimme Ollin [isän]$_F$kin autolla
we.NOM drive.PRES.3PL Olli.GEN father.GEN.KIN car.ADE
'We drove Olli's [father]$_F$'s car, too'



d. Me ajoimme Ollin [isän]$_F$ autollakin
we.NOM drive.PRES.3PL Olli.GEN father.GEN.KIN car.ADE
'We drove Olli's [father]$_F$'s car, too'



e. Me ajoimme Ollin $[\text{isän}]_{\text{F}}$ autollakin
we.NOM drive.PRES.3PL Olli.GEN father.GEN.KIN car.ADE
'We drove Olli's [father]$_{\text{F}}$'s car, too'



I will not take position as to which of the options presented above are more plausible than others, as the point is only to show that Karttunen and Karttunen (1976) should be able to handle this kind of data.

3.1.4 Summary

In the beginning of this section, we saw that KIN may attach to DPs, inside DPs, and on adverbials, postpositions, and determiners. F-marking on the host expression leads to the generation of a set of focus alternatives over which KIN quantifies, much in the same way that *too*, *either* and *even* do in English. All of the interpretations discussed in this section make use of classic, Roothian focus alternatives (as described in the background section 2.1.1; Rooth 1985, 1992). Hence, these uses of KIN are referred to as standard.

The most recent work on KIN accents its positional flexibility especially inside complex DPs, while underlining that the commonly assumed requirement that focus-sensitive expressions c-command their F-marked associate is also at force (Holmberg, 2014). Previous work has either taken a larger discourse perspective, proposing that the standard use of KIN falls under completing and developing a private or a public move in a dialogue game (Vilkuna, 1984), or been less oriented on the intonational properties of KIN-sentences (Karttunen and Karttunen, 1976). Indeed, as Karttunen and Karttunen 1976 predates the framework of alternative semantics, the focus-sensitivity of KIN in this paper is made to follow from the definition of the syntactic Kin- and Kaan-rules, which take two arguments, a focus (NP or other category, the choice of which is not discussed) and a scope (a property with an unbound proform). By requiring that the Kin-rule must have a positive scope argument, while the Kaan-rule must have a negative scope argument, Karttunen and Karttunen 1976 is a prime example of a scope-based approach to additives and scalars: the authors keep a single semantic definition (a meaning postulate) for KIN, and derive the semantic reversal effects that are attested with KIN via scope, just as Karttunen and Peters 1979 do with the English *even*.

3.2 Non-standard use

In this section, I describe a non-standard use of noun- and determiner-attaching KIN. Following Vilkuna (1984), I term this use of KIN *thematic*.

3.2.1 Thematic KIN

When KIN attaches to a noun or a determiner, the interpretation may sometimes not correspond to the expected inference based on classic (Roothian) focus alternatives derived by taking the host of the suffix to be F-marked. In (55), for example, there arise no additive inferences to the extent that (a) someone else is washing windows or (b) some other song is a fantastic composition. No scalar inferences pertaining to the expected focus alternatives arise, either.

(55) Vilkuna 1984: p. 397

a. Isä nukkuu, ja äitikin pesee ikkunoita
father.NOM sleep.PRES.3SG and mother.NOM.KIN wash.PRES.3SG window.PL.PAR
'Father is sleeping, and mother is washing windows'

b. Kenraali on suuri johtaja, ja Kissanpolkkakin
general.NOM be.PRES.3SG great.NOM leader.NOM and Flea.Waltz.KIN
on upea sävellys
be.PRES.3SG fantastic.NOM composition.NOM
'The General is a great leader, and Flea Waltz is a fantastic composition'

Other such cases are shown in (56), where (d) shows that the KIN-carrying category is not required to be a subject or a sentence-initial constituent.

(56) Vilkuna 1984: p. 399, 401–402

a. [Anni Sammakkokuninkaalle:] Rauhoitu. Kruunusikin
Anni.NOM Frog.king.ALL calm.down.IMP crown.NOM.PX/2SG.KIN
on vinossa
be.PRES.3SG crooked
'[Anni to the Frog King]: Calm down. Your crown is crooked'

b. [TV-mainos:] Tiilitalo tulee hämmästyttävän
TV-commercial.NOM brick.house.NOM become.PRES.3SG astonishingly
edulliseksi. Tämänkin talon julkisivutiilet vain 11 800 markkaa
cheap.TRA this.GEN.KIN house.GEN facade.bricks.NOM only marks.PAR
'[TV-commercial:] Brick houses are astonishingly cheap. The facade bricks for this house only cost 11 800 marks'

c. Seppälän vanha isäntäkin on kuollut
Seppälä.GEN old.NOM householder.NOM.KIN be.PRES.3SG dead.NOM
'The old householder of Seppälä is dead'

d. Riitta on heittäytynyt vallan nuorekkaaksi. Hän
Riitta.NOM be.PRES.3SG become.PASTPTC very youthful.TRA she.NOM
on ostanut nahkapusakan ja värjännyt
be.PRES.3SG buy.PASTPTC leather.jacket.ACC and dye.PASTPTC
tukkansakin punaiseksi
hair.ACC.PX/3SG.KIN red.TRA
'Riitta has become very youthful. She has bought a leather jacket and died her hair red'

3.2.2 Previous work

3.2.2.1 Hakulinen et al. 2004

The internet version of Hakulinen et al. 2004[6] observe a non-standard use of KIN where the purpose is to signal that the used sentence is just one example (and perhaps the most noteworthy) of some implicit or explicit theme (§842):

(57) Thematic KIN in Hakulinen et al. 2004: §842
Vihreiden puheenjohtaja Pekka Haavisto on televisioesiintyjänä poliitikkojen parhaasta päästä. Sillä hän aikanaan **eduskuntaankin** ponnahti
'When it comes to politicians' TV performance, Pekka Haavisto, leader of the Green League, is one one of the best. That is what got him to the Parliament in the first place'

Hakulinen et al. suggest that in such cases, the whole sentence is focused. As Hakulinen et al. (2004) is a descriptive grammar of Finnish, no explanation as to how this reading could be derived is proposed: it is simply proposed that this is one of the many functions of KIN.

3.2.2.2 Vilkuna 1984

As we saw before in Section 3.1.3.2, Vilkuna (1984) proposes to analyse KIN as signalling the completion, development, or substitution of a public or private discourse move (Carlson, 1983, 1984). Her analysis of the examples in (55) and (56) involve completion or development of a private move. The main idea is that a move can be seen as completing another move if there is some common premise that both moves exemplify or defend.

(58) Vilkuna 1984:
If a background move X–A–Y is completed with Z–$Bkin$–W, then
X–$Y = Z$–W. The minimal requirement for the use of KIN is that there be some common premise such that both moves exemplify or defend it

[6] http://www.scripta.kotus.fi/visk

For example, (59a) can be analysed as signalling that a previously made move that is an exemplification of a common premise was either incomplete, or not the only possible exemplification.

(59) Thematic KIN as in Vilkuna 1984

a. Jonikin korjasi pyörän
Joni.NOM.KIN fix.PAST.3SG bike.ACC
'Joni fixed a/the bike'

i. There was a previous move/there is another possible move of the form 'x' (e.g. 'Mary cleaned the pool') which exemplifies a common premise with (59a) (e.g. 'The children were very helpful on Sunday')

Formally, Vilkuna suggests that this use of KIN involves multiple foci. In such a setting, the shared premise may be explicit, as in (60), or implicit. The premise evokes an explanation, which in turn evokes a main question. The main question can be answered by answering two subquestions, which are formed by using the subjects that are implicitly present in the explanation. These subjects, *mother* and *father*, act as thematic foci, which provide new information in the context of the main question, but are still implicitly present. The rhematic, all new material is represented by the answers to the subquestions.

(60) Kukaan ei leiki kanssani. Isä nukkuu, ja
nobody NEG.3SG play.PRES with.PX/1SG father.NOM sleep.PRES.3SG and
äitikin pesee ikkunoita
mother.NOM.KIN wash.PRES.3SG windows.PAR
'Nobody will play with me. Father is sleeping, and mother is washing windows'

a. [Premise:] Nobody will play with me

b. [Explanation:] Everybody is doing something else

c. [Main question:] What are they doing?

i. [Subquestion 1:] What is father doing?
[Subanswer 1:] Father is sleeping (Father is doing something else)

ii. [Subquestion 2:] What is mother doing?
[Subanswer 2:] Mother is washing windows (Mother is doing something else)

The discourse in (60) is also completely natural if the first subanswer is not mentioned; in fact, even the premise itself can be implicit, as is the case for (56c). Vilkuna argues that on its thematic use, KIN shows up when a speaker is completing his or her own move by putting forth one of the possible sentences that exemplify some private premise the speaker holds. There could be many, and the one that the speaker chooses to utter is often the most remarkable, or most noteworthy: in other words, KIN can be scalar on this use, as noted by Vilkuna (p. 402).

Vilkuna's proposal can be applied to the examples in (56) as follows. In (a), the KIN-sentence provides one noteworthy reason for the Frog King to calm down (there are others). The other examples are not discussed in detail by the author, but we might construct the following premises: in (b), there are other houses that are good examples of inexpensive brick houses; in (c), there might be other bad news to tell; and in (d), there are other things exemplifying Riitta's sudden nostalgia for her youth (as, for example, the explicitly mentioned leather jacket acquisition). As for (56b), both conjuncts could be examples of reasons why the person to whom these opinions are attributed is a bit eccentric.

Vilkuna 1984 is the only formal account of thematic KIN. It should be noted that in current terms, the two-level structure shown in (60) is one of the defining properties of *contrastive topicality* (Büring, 1997, 2003). Büring (2003) proposes that sentences with contrastive topics (CTs) are essentially answers to multiple-*wh* questions with a pair-list interpretation, where one of the *wh*-expressions is used to devise a set of subquestions by means of contrastive topics, and only one of the *wh*-expression is genuinely in focus. Büring proposes to derive a *topic semantic value* for a CT- and F-marking-containing sentence in two steps. In the first step, the non-CT category is replaced with a variable in order to derive a focus semantic value (Rooth, 1985, 1992). In a second step, the CT expression is replaced with another variable. The result is a nested set of alternatives.

(61) Topic semantic values after Büring 2003

a. Who fixed what?

b. Joni_{CT} fixed a bike_{F} and Mari_{CT} fixed a lamp_{F}

i. Step 1: {Joni fixed a bike} $\Rightarrow$ {Joni fixed $y \mid y \in D_e$}

ii. Step 2: {Joni fixed $y \mid y \in D_e$} $\Rightarrow$ {{ x fixed $y \mid y \in D_e$} $\mid x \in D_e$}

Büring; Büring notes that contrastive topics are often assigned a specific prosody in languages such as German or English. This prosodic profile differs from that assigned to genuinely focalised constituents. In the case of KIN, no empirical studies have yet been conducted in order to see what prosodic profiles are linked to which of its uses. Such studies would be instrumental for determining whether a contrastive topic analysis of thematic KIN is plausible.

3.2.3 Summary

Thematic KIN is a non-standard use of noun- and determiner-attaching KIN. Vilkuna (1984) proposes to analyse thematic KIN as a case of completion of a private move by the speaker. The particle is attached to a thematic focus evoked by a main question, and the rest of the sentence corresponds to an actual focus which is congruent with a *wh*-phrase in a subquestion of the main question. Some implicit or explicit premise giving rise to the main question must link the background move and the completing move. On this use, KIN fails to evoke inferences

that make use of the Roothian focus alternatives that one would expect to be used based on the position of KIN. One should note, however, that the literature contains no description of actual prosodic patterns used with thematic vs. non-thematic noun-attaching KIN, so the 'expectedness' is only based on the assumption that the host of KIN in the examples of this section is, indeed, F-marked, and in the right way (cf. the discussion on contrastive topics, Büring 1997, 2003).

4 KIN on verbs and auxiliaries

This section is devoted to the description of verb- and auxiliary-attaching KIN. This type of KIN is particularly interesting because it requires distinguishing cases where the host of the suffix is F-marked from those where it is not. In addition to standard verb-attaching KIN, three kinds of non-standard uses are described in this section. When F-marked, verbs and especially auxiliaries carrying KIN may give rise to inferences that make use not of classic Roothian verb alternatives, but of *polar* alternatives (Section 4.2.1). On some uses, the use of KIN has a confirming or agreeing function, and it might be best analysed on par with the scalar use of SCAL but with modalised focus alternatives (Section 4.2.2). Finally, when the F-marked associate of KIN is not its verbal host, only scalar inferences that make reference to the focus alternatives determined by F-marking arise (Section 4.2.3).

4.1 Standard use

4.1.1 F-marking on the host of KIN

When the host of KIN is an F-marked lexical verb, the standard inferences make reference to classic Roothian focus alternatives, as in (62).

(62) KIN attached to a verbal expression in a positive declarative: standard use

a. Joni [korjasi]$_F$kin tämän pyörän
Joni.NOM fix.PAST.3SG.KIN this.ACC bike.ACC

i. Prejacent p: Joni fixed this bike
Focus alternatives q: {Joni fixed this bike, Joni washed this bike...}

ii. 'Joni [fixed]$_F$ this bike, too'

iii. 'Joni even [fixed]$_F$ this bike'

b. Joni oli [korjannut]$_F$kin Jessen pyörän
Joni.NOM be.PAST.3SG fix.PASTPTC.KIN Jesse.GEN bike.ACC

i. Prejacent p: Joni had fixed Jesse's bike
Focus alternatives q: {Joni had fixed Jesse's bike, Joni had washed Jesse's bike...}

ii. 'Joni had [fixed]$_F$ Jesse's bike, too'

iii. 'Joni even [fixed]$_F$ Jesse's bike'

As was already discussed in Section 3.1, in the case of negative declaratives, determining the exact form of the prejacent and the focus alternatives depends on which account is adopted (scope vs. lexical ambiguity). In this paper, we adopt the lexical ambiguity approach, and negation will not be included in the prejacent or the focus alternatives. Therefore, the

relevant inferences imply the falsity of a focus alternative with ADD_{NPI} and the higher likelihood of the prejacent compared to other focus alternatives with SCAL_{NPI} (see (37) for the definitions).

(63) KIN attached to a verbal expression in a negative declarative: standard use

a. Joni ei [pessyt]$_{\text{F}}$kään Jessen pyörää
Joni.NOM NEG.3SG wash.PASTPTC.KAAN Jesse.GEN bike.PAR
'Joni did not (even) [wash]$_{\text{F}}$ Jesse's bike (either)'

i. Prejacent p: Joni washed Jesse's bike

ii. Focus alternatives q: {Joni washed Jesse's bike, Joni fixed Jesse's bike...}

b. Joni ei ollut [pessyt]$_{\text{F}}$kään Jessen pyörää
Joni.NOM NEG.3SG be.PASTPTC wash.PASTPTC.KAAN Jesse.GEN bike.PAR
'Joni had not (even) [washed]$_{\text{F}}$ Jesse's bike (either)'

i. Prejacent p: Joni had washed Jesse's bike

ii. Focus alternatives q: {Joni had washed Jesse's bike, Joni had fixed Jesse's bike...}

4.2 Non-standard use

4.2.1 F-marking on the host of KIN: Polar alternatives

We saw above in (62) that sentences with F-marked, KIN-carrying verbs may give rise to standard additive and scalar inferences that use Roothian focus alternatives. In fact, these sentences are ambiguous: besides the interpretation described above, they may also be interpreted as conveying the unexpectedness of the described event, as the *although*-clauses of the English translations in (64) make clear.

This interpretation may be modelled by switching to a different set of focus alternatives. In (64), all focus alternative sets consists of two qs that form a polar pair: the prejacent p and its negation $\neg p$. This type of alternatives will be henceforth referred to as *polar focus alternatives*. When polar focus alternatives are used in the interpretation, satisfying the definedness condition of ADD leads to a contradiction: it cannot be that both p and $\neg p$ are true at the same time. The definedness condition of SCAL, however, is satisfiable: it states that the prejacent must be less likely than the other focus alternative. In other words, the prejacent is surprising, or unexpected, relative to its polar pair.

(64) KIN attached to a verbal expression in a positive declarative: non-standard use with polar focus alternatives

a. Joni [korjasi]$_{\text{F}}$kin tämän pyörän
Joni.NOM fix.PAST.3SG.KIN this.ACC bike.ACC
'Joni fixed this bike (although he was expected not to)'

i. Prejacent p: Joni fixed this bike

ii. Focus alternatives q: {Joni fixed this bike, Joni did not fix this bike}

b. Joni oli [korjannut]$_F$kin Jessen pyörän
Joni.NOM be.PAST.3SG fix.PASTPTC.KIN Jesse.GEN bike.ACC
'Joni had fixed Jesse's bike (although he was expected not to have fixed it)'

i. Prejacent p: Joni had fixed Jesse's bike

ii. Focus alternatives q: {Joni had fixed Jesse's bike, Joni had not fixed Jesse's bike}

The negative declarative sentences of (63) are also ambiguous between inferences based on classic focus alternatives, and inferences based polar focus alternatives.

(65) KIN attached to a verbal expression in a negative declarative: non-standard use with polar focus alternatives

a. Joni ei [pessyt]$_F$kään Jessen pyörää
Joni.NOM NEG.3SG wash.PASTPTC.KAAN Jesse.GEN bike.PAR
'Joni did not wash Jesse's bike (although he was expected to)'

i. Prejacent p: Joni washed Jesse's bike

ii. Focus alternatives q: {Joni washed Jesse's bike, Joni did not wash Jesse's bike}

b. Joni ei ollut [pessyt]$_F$kään Jessen pyörää
Joni.NOM NEG.3SG be.PASTPTC wash.PASTPTC.KAAN Jesse.GEN bike.PAR
'Joni had not washed Jesse's bike (although he was expected to)'

i. Prejacent p: Joni had washed Jesse's bike

ii. Focus alternatives q: {Joni had washed Jesse's bike, Joni had not washed Jesse's bike}

In (65b), a polar alternative using inference is possible, although it would be even more salient if KIN was attached to an F-marked auxiliary. In fact, when KIN attaches to the positive auxiliary *olla* 'to be' as in (66a-b), the only available interpretation is one where SCAL quantifies over polar alternatives. It could be that there are no (lexical) Roothian focus alternatives available for plain vanilla auxiliaries. With respect to auxiliaries and KIN, an interesting contrast arises between positive and negative auxiliaries: as shown in (66c), negative auxiliaries may never be the host of either *–kin* or *–kAAn*. Holmberg (2014) proposes in the endnotes that this ban could be due to the nature of negation as a focusing category, but does not develop this argument any further.

There is no difference in the structure of the focus alternatives I propose for (64), (65), and (66), and the only difference in the scalar inferences that they trigger depends on the form of KIN.

(66) KIN attached to an auxiliary: non-standard use with polar focus alternatives

a. Joni [oli]$_F$kin korjannut Jessen pyörän
Joni.NOM be.PAST.3SG.KIN fix.PASTPTC Jesse.GEN bike.ACC
'Joni had fixed Jesse's bike (although he was expected not to have fixed it)'

i. Prejacent p: Joni had fixed Jesse's bike

ii. Focus alternatives q: {Joni had fixed Jesse's bike, Joni had not fixed Jesse's bike}

b. Joni ei [ollut]$_F$kaan korjannut Jessen pyörää
Joni.NOM NEG.3SG be.PASTPTC.KAAN fix.PASTPTC Jesse.GEN bike.PAR
'Joni had not fixed Jesse's bike (although he was expected to have fixed it)'

i. Prejacent p: Joni had fixed Jesse's bike

ii. Focus alternatives q: {Joni had fixed Jesse's bike, Joni had not fixed Jesse's bike}

c. * Joni [ei]$_F$kin/kään korjannut Jessen pyörää
Joni.NOM NEG.3SG.KIN/KAAN fix.PASTPTC. Jesse.GEN bike.PAR

4.2.2 F-marking on the host of KIN: Confirmation

In some cases, the use of KIN on an F-marked verb does not give rise to either of the previously described inferences. On this non-standard use, KIN signals confirmation or agreement. There is a link between the agreeing/confirming use and *so do* -anaphora in English (Hankamer and Sag, 1976), which is clear in the English translations. As (67a-b) show, KIN may express confirmation inside or across speaker boundaries.

(67) KIN attached to a verbal expression: non-standard use with *niin* 'so'

a. Joni sanoi korjaavansa Jessen pyörän, ja niin hän
Joni.NOM say.PAST.3SG fix.PRESPTC.PX/3SG Jesse.GEN bike.ACC and so he.NOM
korjasikin
fix.PAST.3SG.KIN
'Joni said he would fix Jesse's bike, and so he did'

b. – Joni korjasi tämän pyörän
Joni.NOM fix.PAST.3SG this.ACC bike.ACC
'Joni fixed this bike'

– Niin korjasikin
so fix.PAST.3SG
'So he did' or 'Yes'

The target of confirmation or agreement may be either explicit or implicit (inferrable) in the previous linguistic context. This is shown in (68). In (a), the second conjunct confirms an expectation explicitly mentioned in the first conjunct. In the more complex (b), the bold-faced

sentence contains a KIN-carrying modal verb, *voida* 'can'. The meaning of the sentence could be paraphrased with "as the reader might have already deduced, one can indeed separate two levels of politics...".

(68) KIN attached to a verbal expression: non-standard use with confirmation or support of explicit (a) and implicit (b) information

a. Joni sanoi korjaavansa Jessen pyörän, ja varmasti
Joni.NOM say.PAST.3SG fix.PRESPTC.PX/3SG Jesse.GEN bike.ACC and surely
hän korjaakin
he.NOM fix.PRES.3SG.KIN
'Joni said he would fix Jesse's bike, and he surely will'

b. (Malmberg, 2012, p. 26: my translation to English, my bold face)
Deliberatiivisessa demokratiassa politiikantekoa ohjaa pyrkimys yleisen edun tai yhteishyvän toteuttamiseen. Politiikassa ei siis ole kyse erityisinteressien toteuttamisesta, edustivatpa niitä yksilöt tai jotkut yhteiskuntaryhmät. [...] Tässä mielessä deliberatiivinen politiikka eroaa ekspressiivisestä politiikasta, joka tähtää jonkin kannan esilletuontiin pikemmin kuin ratkaisuvaihtoehtojen harkintaan ja päätöksentekoon. Määrittelyn kaksi muuta osaa konkretisoivat deliberatiivisen politiikan toteutumisehtoja – deliberatiivinen käsitys politiikastahan on vaativa, ja siksi sen ihanteen sovitus politiikan arkeen tuo omat rajoituksensa. **Empiirisessä maailmassa voidaankin erottaa kaksi politiikanteon tasoa, deliberatiivisen politiikan korkea ja ei-deliberatiivisen politiikan matala taso.** Parhaimmillaan poliittinen järjestelmä toteuttaa kollektiivisen ongelmanratkaisun avulla yleistä etua, mutta käytännössä näin ei aina ole.

'In deliberative democracy, politics is guided by the intention of acting for the common good and interest. Therefore, politics is not about defending special interests, be they those of individuals or societal groups. [...] In this sense, deliberative politics differ from expressive politics, the goal of which is to put forth specific interests and opinions, instead of weighing the options and making decisions. The two other parts of the definition concretise the conditions on the realisation of deliberative politics – the deliberative view of politics is challenging, and therefore there are certain limits in fitting in this ideal in everyday politics. **In the empiric world, one can separate two levels of politics, the high level of deliberative politics, and the low level of non-deliberative politics.** At best, a political system uses collective problem solving to act for the common good, but in practice, this is not always the case.'

It is not entirely clear whether the confirming and agreeing uses of verb-attaching KIN make use of ADD or SCAL. As the main goal of this paper is descriptive, I will only note that

it seems that in each case, some modalised version of the prejacent of the KIN-sentence is put "on proposal" for the interlocutor or the reader to evaluate, and the KIN-sentence confirms or ratifies with this modalised claim ("He might have fixed the bike", "You might also think that he fixed the bike", or "You might have thought that..."). Note that a modalised p such as *possibly* p is always unilaterally entailed by p (or *necessarily* p), and therefore, the use of p would constitute the confirmation of a weaker alternative by the assertion of a stronger one. In some sense, then, these uses may be best described with SCAL, which has been argued to add monotonically to already-present information in the common ground in the approach to focus-sensitivity in e.g. Beaver and Clark 2008. This idea also seems to lie behind the proposal put forward in Vilkuna (1984) (see the relevant subsection of Section 4.2.4).

4.2.3 F-marking elsewhere than on the host of KIN

In the previous subsection, we discussed the possible interpretations of sentences where KIN attaches to an F-marked verb. This subsection shows that KIN can also be dissociated from its associate (the F-marked element giving rise to focus alternatives). In other words, the host of KIN is not required to be the F-marked associate. This type of structure will here be referred to as *host-associate dissociation*.

The available inferences can be accounted for by assuming that F-marking always determines the form of the focus alternatives, even when the host is not the F-marked associate. In the case at hand, the relevant alternatives are Roothian (based on the position of F-marking). SCAL then imposes a likelihood ordering on those alternatives. Examples are given in (69). For (a), for example, the inference is that Joni was a highly unlikely person to fix Jesse's bike.

(69) KIN attached to an auxiliary, with F-marking elsewhere: non-standard use with classic focus alternatives

a. [Joni]$_{\text{F}}$ olikin korjannut Jessen pyörän
Joni.NOM be.PAST.3SG.KIN fix.PASTPTC Jesse.GEN bike.ACC
'[Joni]$_{\text{F}}$ had fixed Jesse's bike (although someone else was expected to)'

i. Prejacent p: Joni had fixed Jesse's bike

ii. Focus alternatives q: {Joni had fixed Jesse's bike, Mari had fixed Jesse's bike, ...}

b. Joni olikin korjannut [Jessen]$_{\text{F}}$ pyörän
Joni.NOM be.PAST.3SG.KIN fix.PASTPTC Jesse.GEN bike.ACC
'Joni had fixed [Jesse]$_{\text{F}}$'s bike (although he was expected to fix someone else's bike)'

i. Prejacent p: Joni had fixed Jesse's bike

ii. Focus alternatives q: {Joni had fixed Jesse's bike, Joni had fixed Antti's bike, ...}

c. Joni olikin korjannut Jessen pyörän [sunnuntaina]$_{\text{F}}$
Joni.NOM be.PAST.3SG.KIN fix.PASTPTC Jesse.GEN bike.ACC Sunday.ESS
'Joni had fixed Jesse's bike [on Sunday]$_{\text{F}}$ (although he was expected to fix it on some other day)'

i. Prejacent p: Joni had fixed Jesse's bike on Sunday

ii. Focus alternatives q: {Joni had fixed Jesse's bike on Sunday, Joni had fixed Jesse's bike on Monday, ...}

In (69), the use of ADD would not lead to a contradiction (as was the case with verb-attaching KIN and polar alternatives). However, no additive inference is detectable for any example sentence in (69). In fact, these sentences can even be described as conveying an "anti-additive" or exclusive inference, one that could be rephrased with *only*: the prejacent-corresponding focus alternative is inferred to be the only true alternative among the focus alternatives.

Why is this? One possibility is that focus in (69) is interpreted as contrastive (see Section 2.2.3). At least exhaustive contrastivity is incompatible with ADD: if the F-marking conveys that one focus alternative is taken to be true and all others false, then the definedness condition of ADD cannot be met. One problem for such an analysis comes from the fact that the SOV word order (typical of sentences where the subject is interpreted contrastively, see Section 2.2.3) and the OSV word order (typical of sentences with contrastive objects) versions of these sentences are not natural with an auxiliary-attaching KIN.

(70) KIN attached to an auxiliary, with F-marking elsewhere, and SOV/OSV word order

a. ?? [Joni]$_{\text{F}}$ Jessen pyörän olikin korjannut (eikä Ville)
Joni.NOM Jesse.GEN bike.ACC be.PAST.3SG.KIN fix.PASTPTC and.not Ville.NOM
'[Joni]$_{\text{F}}$ had fixed Jesse's bike (and not Ville)'

b. ?? [Jessen]$_{\text{F}}$ pyörän Joni olikin korjannut (eikä Villen
Jesse.GEN bike.ACC Joni.NOM be.PAST.3SG.KIN fix.PASTPTC and.not Ville.GEN
pyörän)
bike.ACC
'Joni had fixed [Jesse]$_{\text{F}}$'s bike (and not Ville's)'

Based on (70), it seems that the absence of an ADD-induced inference in (69) is not due to contrastive focus. However, this does not mean that no type of exhaustification is at play in (69). Host-associate dissociation might perhaps be argued to involve a covert focus-sensitive exhaustification operator, EXH, with a meaning akin to *only* (Fox, 2007; Chierchia, Fox, and Spector, 2011; Chierchia, 2013). If EXH is responsible for the anti-additive inference in (69) and (70), it could also be at play in (64) (with verb-attaching KIN and polar alternatives): while ADD over polar focus alternatives leads to a contradiction, EXH does not. Of course, the application of EXH in this case is vacuous, as the truth of the prejacent p already excludes the

possibility of $\neg p$ being true, so it is debatable whether such an operator could be inserted due to considerations of economy (Fox and Spector, 2015).

4.2.4 Previous work

4.2.4.1 Hakulinen et al. 2004

Hakulinen et al. 2004[7] acknowledge that KIN may attach to finite verbs (§842). The verb-attaching uses are suggested to always be related to some contextual expectation: whether this relation is congruent or incongruent is not determined by the meaning of the particle, but by the context.

(71) Verb-attaching KIN: congruent and incongruent (Hakulinen et al., 2004, §842)

a. Yliopistoon tähtääville ammattikorkeakoulu on hyvä varavaihtoehto, ja heistä neljännes **hakikin** kumpaankin koulutusväylään
'For those who aim to go to the university, the university of applied sciences is a good backup alternative, and a fourth of such people **applied** for both educative systems'

b. Mää luulen et me **otetaanki[n]** se verenpaine kyllä nyt sitte tosta toisesta käsivarresta
'I think that we will **measure** blood pressure from the other arm'

In terms of the classification of this paper, the examples in (71) would be situated in sections 4.2.2 (a) and 4.2.1 (b).

Hakulinen et al. (§843) also note that when verb-attaching KIN is used in a dialogue setting, it may serve to either signal that the speaker has an independent but congruent opinion on the matter at hand, or that the speaker is acting against the expectations of the other dialogue participant or his or her own previous decision. This use would also belong to Section 4.2.2.

4.2.4.2 Vilkuna 1984

Recall that Vilkuna (1984) argues that the common core of all uses of KIN lies in its function as signaling the completion, development or substitution of a previous public or private game move. So far, we have only seen examples of completion and development.

When KIN attaches to verbs, Vilkuna suggests that a previous move is not only completed or signalled as being the sole exemplifier of a common premise; in fact, the new move substitutes the previous move, or some expectation that a previous move makes salient. In the

[7] http://www.scripta.kotus.fi/visk

dialogue game, verb-attaching KIN may function as a means for the player to mark the previous move, or some expectation due to it, as being congruent or identical with the player's own preferences or state of mind. The "expectation fulfilling" KIN is below referred to as *congruent*.

Vilkuna's examples are shown in (72). I have added the background and substituting moves that Vilkuna assumes are at play in her analysis of the examples. In all of the examples in (72), the speaker agrees with the previously proposed move or the expectation due to it. Indeed, they would all fit in with the data of Section 4.2.2 of this paper. The KIN-sentences in (a-b) have no new material with respect to the previous move, while in (c), the KIN-sentence consists in only new material. In (c), the target of confirmation is a background move that can be inferred from the context: if a mouse sews, then it must not be an ordinary mouse.

(72) Verb-attaching KIN: congruent (Vilkuna, 1984, p. 403–404).

a. Hän lupasi tulla ja tulikin
(s)he.NOM promise.PAST.3SG come.INF and come.PAST.3SG.KIN
'(S)he promised to come, and (s)he did'

i. Background move: So (s)he came?

ii. Substituting move: (S)he came

b. – Hän on suloinen
(s)he.NOM be.PRES.3SG cute.NOM
'(S)he is cute'

– Niin onkin
so be.PRES.3SG
'Yes (s)he is'

i. Background move: So (s)he is cute?

ii. Substituting move: (S)he is cute

c. Hiiri ryhtyi ompelemaan kankaasta takkia. Hän
mouse.NOM start.PAST.3SG sew.INF fabric.ELA coat.PAR (s)he.NOM
olikin melko erikoinen hiiri
be.PRES.3SG.KIN rather special.NOM mouse.MOUSE
'The mouse started sewing a coat out of the fabric. It was a rather special mouse'

i. Background move: Maybe it was a rather special mouse?

ii. Substituting move: It was a rather special mouse

In addition to congruent KIN, Vilkuna argues that some cases of verb-attaching KIN in fact substitute the background move with a contradictory one. On this *incongruent* use, KIN serves to contradict an expectation due to the background move. Some examples are given in (73).

(73) Verb-attaching KIN: incongruent (Vilkuna, 1984, p. 404–405).

a. Hiiri ryhtyi ompelemaan kankaasta takkia. Siitä
mouse.NOM begin.PAST.3SG sew.INF fabric.ELA coat.PAR it.ELA
tulikin liivit
become.PAST.3SG.KIN vest. NOM
'The mouse begun to saw the fabric into a coat. It turned out to be a vest'

i. Background move: So it turned out to be a coat?

ii. Substituting move: It turned out to be a vest

b. Nuoren polven japanilaiset ovat omaksuneet
young.GEN generation.GEN Japanese.NOM have.PRES.3PL adopt.PASTPTC
amerikkalaisia ruokatapoja sillä seurauksella, että heidän
American.PL.PAR eating.habits.PAR that.ADE consequence.ADE that they.GEN
lapsensa eivät mahdukaan kouluissa enää vanhoihin
children.NOM.PX/3PL NEG.3PL fit.PRES.KAAN schools.INE anymore old.PL.ILL
pulpetteihin
desks.ILL
'The Japanese of the young generation have adopted American eating habits with the consequence that their children no longer fit in old school desks'

i. Background move: The children fit in old school desks

ii. Substituting move: The children do not fin in old school desks

The examples I have chosen from Vilkuna 1984 show that the incongruent use of verb-attaching KIN should be analysed separately from the congruent KIN. Moreover, the relation between the background move and the substituting move is different in (73a) and (73b): in (a), the two moves seem to differ only in the position of the object, while in (b), the moves differ only in terms of polarity. Therefore, (a) can be assimilated with the host-associate dissociation cases presented in Section 4.2.3, and (b) with cases where SCAL quantifies over polar focus alternatives (Section 4.1.1).

4.2.4.3 Karttunen and Karttunen 1976

Karttunen and Karttunen (1976) is mainly a discussion of noun-attaching KIN (see Section 3.1.3.3), but the authors also note that KIN may give rise to similar patterns of inference when attaching to adjectives and verbs. They suggest that if relevant proforms are introduced for these categories, the same syntactic Kin- and Kaan-rules and the same meaning postulate may be used to account for these cases.

However, Karttunen and Karttunen also signal that some cases of verb-attaching KIN seem to "implicate the existence of some predisposition concerning the truth or falsity of the expressed proposition" (Karttunen and Karttunen, 1976, p. 103). Their example is repeated below.

(74) Karttunen and Karttunen 1976: p. 103
(a) Odotimme Jussin tulevan / (b) Emme odottaneet Jussin tulevan. Jussi tulikin.
'We expected Jussi to come / We did not expect Jussi to come. Jussi came'

Karttunen and Karttunen suggest that the KIN-sentence in (74) may suggest surprise or disappointment, depending on the context. They "feel strongly that the *-kin* in (74) is the very same clitic" (p. 103) that they discuss in the main part of the paper, but contend that they cannot capture its meaning using the proposed syntactic and semantic rules, and that they are "not sure what *-kin* focuses on" (p. 103) in these cases. In this paper, example (a) would be at home in Section 4.2.2 and (b) in Section 4.2.1.

4.3 Summary

In this section, we have seen that the inferences that arise when KIN attaches to a verb depend not only on whether the verb is F-marked, but also on the properties of the verb (lexical vs. auxiliary) and the context. The standard use of KIN involves cases where an F-marked lexical verb evokes classic, Roothian focus alternatives that are quantified over by ADD and/or SCAL. The non-standard uses of KIN may involve three different types of focus alternatives: classic alternatives, polar alternatives, and modalised alternatives. These alternatives may be quantified over by ADD, SCAL and possibly EXH. When the verbal host of KIN is F-marked, we may have SCAL over polar focus alternatives (never ADD due to the ensuing contradiction, but possibly EXH), or possibly over modalised focus alternatives. When the host of KIN is not F-marked, the inferences make use of classic focus alternatives, which can be quantified over by SCAL and potentially EXH.

Previous work underlines the link between verb-attaching KIN and expectations. However, the congruent and incongruent uses of KIN are often lumped together, and the structure of focus alternatives is not considered. Alternative semantics promises a clearer account of the examples by forcing one to specify which type of alternatives and operators are used. Some of the examples still require a larger perspective in terms of discourse and dialogue structure (e.g. Vilkuna, 1984), which is reminiscent of the remarks made on thematic KIN in Section 3.2.1 and 3.2.2. An empirically successful account of KIN will therefore have to incorporate both an alternative semantics and a dynamic semantics component.

5 KIN on *wh*-phrases

This section describes data where KIN (always the variant *–kin*) attaches to an interrogative *wh*-phrase in a context that minimally contains two *wh*-phrases. We refer to these structures as *wh-kin structures*. As the use of KIN in *wh-kin* structures is not obviously related to either ADD or SCAL, there is no division between standard and and non-standard uses in this section.

We begin by going through the data by clause type (Section 5.1), and then discuss the only existing paper on the topic (Huhmarniemi and Vainikka, 2011) (Section 5.2).

5.1 Description of data

The three subsections of this section each deal with a specific clause type. We begin with multiple-*wh* interrogatives (Section 5.1.1), then discuss different types of relative clauses (Section 5.1.2), and finally, look at declarative *wh-kin* structures (Section 5.1.3).

A word of caution is in order before we begin. In this section, the paraphrases of the *wh-kin* structures often use expressions such as *at different times* (for *when*). However, this paraphrase is only partially satisfactory, and in some cases, a more natural paraphrase is *at that time* (still for *when*). When this paraphrase is used, there should still be many such times or moments. Therefore, there is a sense in which KIN in these cases expresses something about an unspecified plurality. Exploring the exact semantics of *wh-kin* structures is outside the scope of this paper, so we leave this matter untouched at this point and only point out that the reader should take the translations of the whole Section 5 with more than one grain of salt.

5.1.1 Interrogative clause type

Finnish simple-*wh*-interrogatives are formed by fronting the *wh*-phrase to CP; multiple-*wh* interrogatives, then, are formed by fronting one *wh*-phrase to CP, and leaving the other in situ (Vainikka, 1989; Vilkuna, 1989, 1995; Kaiser, 2006; Huhmarniemi and Vainikka, 2011; Huhmarniemi, 2012; Brattico et al., 2013).[8] Finnish multiple-*wh* interrogatives behave syntactically much like the multiple-*wh*-interrogatives of many other languages: for example, as the contrast between (75a-b) shows, multiple-*wh* interrogatives give rise to Superiority effects, which means that fronting a hierarchically lower *wh*-phrase over a higher *wh*-phrase is ungrammatical.

(75) a. Kuka osti mitä?
who.NOM buy.PAST.3SG what.PAR
'Who bought what?'

[8] I assume the Copy Theory of Movement (Chomsky, 1993) and signal "movement" by barring the lower copy.

b. * Mitä kuka osti ~~mitä~~?
what.PAR who.NOM buy.PAST.3SG what.PAR

In addition to the *bare*, KIN-less multiple-*wh*-interrogative, Finnish also forms multiple interrogatives with KIN.[9] In terms of interpretation, Huhmarniemi and Vainikka (2011) argue that bare multiple-*wh* interrogatives must receive a single-pair answer (specifying one value for each *wh*-phrase), while *wh-kin* interrogatives must receive a multiple-pair or pair-list answer (specifying a set of pairs of values for the two *wh*-phrases). In what follows, we will describe a number of syntactic properties of *wh-kin* interrogatives.

First, in contrast to the bare multiple-*wh* interrogatives, no Superiority effects arise with *wh-kin* structures, as shown in (76a-b).

(76) a. Kuka osti mitäkin?
who.NOM buy.PAST.3SG what.PAR.KIN
'Who bought what?'

b. Mitä kukakin osti ~~mitä~~?
what.PAR who.NOM.KIN buy.PAST.3SG what.PAR
'What did who buy?'

Second, the syntactic position of KIN is strictly regulated in *wh-kin* interrogatives: it must be attached to the lower *wh*, and it can never attach to the fronted *wh*-phrase.

(77) a. * Kukakin osti mitä?
who.NOM.KIN buy.PAST.3SG what.PAR

b. * Mitäkin kuka osti?
what.PAR.KIN who.NOM buy.PAST.3SG

Third, at least three *wh*-phrases are allowed in a multiple-*wh* interrogative. When more than two *wh*-phrases are used, KIN may attach either only to the lowest *wh*-phrase or to both non-fronted *wh*-phrases.

(78) More than two *wh*-phrases in a *wh-kin* interrogative clause: ✓

a. Kuka osti mitä kenellekin?
who.NOM buy.PAST.3SG what.PAR who.ALL.KIN
'Who bought what for whom?'

[9] Note that both *kin*-marked and *kin*-less versions of multiple-*wh* interrogatives may be embedded.

(i) a. En muista kuka puhui kenelle
NEG.1SG remember.PRES who.NOM speak.PAST.3SG who.ADE
'I don't remember who spoke to whom'

b. En muista kuka puhui kenellekin
NEG.1SG remember.PRES who.NOM speak.PAST.3SG who.ADEKIN
'I don't remember who spoke to whom'

b. Kuka osti mitäkin kenellekin?
who.NOM buy.PAST.3SG what.PAR.KIN who.ALL.KIN
'Who bought what for whom?'

c. * Kuka osti mitäkin kenelle?
who.NOM buy.PAST.3SG what.PAR.KIN who.ALL

d. * Kukakin osti mitä(kin) kenelle(kin)?
who.NOM.KIN buy.PAST.3SG what.PAR.KIN who.ALL.KIN

Fourth, there is no argument-adjunct asymmetry in the fronting possibilities of *wh*-phrases in *wh-kin* interrogatives.

(79) a. Kuka asui missäkin?
who.NOM live.PAST.3SG where.INE.KIN
'Who lived where?'

b. Missä kukakin asui?
where.INE who.NOM.KIN live.PAST.3SG
'Who lived where?'

c. Missä asuit milloinkin?
where.INE live.PAST.2SG when.KIN
'Where did you live when?'

d. Milloin asuit missäkin?
when live.PAST.2SG where.INE.KIN
'Where did you live when?'

Fifth, when the *wh*-phrase carrying KIN is the subject, it is possible to have a plural pronominal doubling subject in an embedded *wh-kin* interrogative (for Finnish subject doubling, see Holmberg and Nikanne, 2002). In this case, the verb must have plural third person inflection, whereas normally, it is inflected for singular third person in *wh-kin* structures. Attested examples of doubled subjects in *wh-kin* interrogatives are hard to find.[10]

(80) Subject doubling in *wh-kin* interrogatives: **✓?** (plural pronominal subject only when *wh-kin* phrase is subject)

a. Sellainen menee jo yli ymmärryksen, mutta mistä sitä
such.NOM go.PRES.3SG already over understanding.GEN, but how it.PAR
tietää mitä **me** kukakin joskus teemme,
know.PRES.3SG what.PAR we.NOM who.NOM.KIN sometimes do.PRES.1PL
jota muut ei vain voi käsittää
that.PAR others.NOM NEG.3SG just can.PRES.3SG understand.INF
'Such things surpass my understanding, but how do you know what those things are that **we** all do sometimes, that other people just cannot understand'

[10]Example (80a) is an attested example from http://keskustelu.suomi24.fi/t/1873498/nyt-miniani.

b. Mitä **ne** kukakin vastustavat?
what.PAR they.NOM who.NOM.KIN oppose.PRES.3PL
'What do they all oppose?'

c. * Kuka **ne** vastustavat mitäkin?
who.NOM they.NOM oppose.PRES.3PL what.PAR.KIN

And finally, the sixth property, which concerns the possibility for the *wh*-phrases of the *wh-kin* structure to be non-adjacent from one another. For *wh-kin* interrogatives, this property is not very interesting to describe, as it is of course the case that the *wh*-phrases are never required to be adjacent to one another: one moves to CP, and the other stays (at least apparently) in situ.

5.1.2 Relative clause type

It is crosslinguistically frequent to use interrogative *wh*-phrases also for the construction of relative clauses. Finnish uses two series of relative pronouns, one with the root *jo–*, and another with the root *mi–* (or *ku–*), the latter of which is also used in interrogative *wh*-phrases (see §104 and the contained references in Hakulinen et al., 2004). Given this morphological overlap, we will here talk as if the relative operator/pronoun is in fact a *wh*-phrase, while contending that it does not lead to an interrogative interpretation.

There are at least three types of *wh-kin* relative clauses: restrictive relative clauses (81a), free relative clauses (81b), and *wh-ever*-type relative clauses (81c). Restrictive relative clauses restrict the domain of reference of the head NP, while free and *wh-ever* relative clauses lack a lexical head altogether. Caponigro (2003) observes that (standard) free relative clauses often have a definite DP paraphrase (*I eat what I want = I eat the things that I want to eat*), while *wh-ever*-type relative clauses often have a universal DP paraphrase (*I will eat whatever you eat = I will eat each thing that you eat*).[11]

(81) a. Söin sitä ruokaa mitä milloinkin oli tarjolla.
eat.PAST.1SG that.PAR food.PAR what.PAR when.KIN be.PAST.3SG offer.ADE
'I ate the food that was available at different times'

b. Söin mitä milloinkin oli tarjolla.
eat.PAST.1SG what.PAR when.KIN be.PAST.3SG offer.ADE
'I ate what was available at different times'

c. Mitä milloinkin oli tarjolla, Jesse söi
what.PAR when.KIN be.PAST.3SG offer.ADE Jesse.NOM eat.PAST.3SG
mahansa täyteen.
stomach.ACC.PX full.ILL
'Whatever was served at different times, Jesse ate his stomach full'

[11] Caponigro (2003) also discusses free relatives that have an existential paraphrase.

We will now describe *wh-kin* relatives in a parallel way to the previous section.

First, the order of the two *wh*-phrases is not completely free in *wh-kin* relatives. However, the restriction is not the same one that applies to interrogative *wh*-phrases (Superiority), as with at least some types of *wh-kin* relative clauses, what matters is the type of the relative operator. The choice of the relative operator could be restricted because of the properties of the head noun (a) or the matrix verb (b). The status of (c) is unclear.

(82) The order of *wh*-phrases in *wh-kin* relatives is not free (cf. 81)

a. * Söin sitä ruokaa milloin mitäkin oli tarjolla.
eat.PAST.1SG that.PAR food.PAR when what.PAR.KIN be.PAST.3SG offer.ADE

b. * Söin milloin mitäkin oli tarjolla.
eat.PAST.1SG when what.PAR.KIN be.PAST.3SG offer.ADE

c. ?? Milloin mitäkin oli tarjolla, Jesse söi
when what.PAR.KIN be.PAST.3SG offer.ADE Jesse.NOM eat.PAST.3SG
mahansa täyteen.
stomach.ACC.PX full.ILL
'Whatever was served at different times, Jesse ate his stomach full'

The second property is in fact shared by all *wh-kin* structures: KIN must not be on the highest *wh*-phrase. No examples are given here.

The third property concerns the number of *wh*-phrases allowed. In contrast to the interrogative type, there can only be two *wh*-phrases in *wh-kin* relative clauses (independently of the relative clause type).

(83) More than two *wh*-phrases in a restrictive *wh-kin* relative clause: ✗

a. Asua siellä, missä tuntuu milloinkin hyvältä
live.INF there where.INE feel.PRES.3SG when.KIN good.ABL
'To live there where one feels good at different times'

b. * Asua siellä, missä tuntuu miksi milloinkin hyvältä
live.INF there where.INE feel.PRES.3SG why when.KIN good.ABL

More than two *wh*-phrases in a free *wh-kin* relative clause: ✗

c. Jesse asui missä milloinkin halusi asua
Jesse.NOM live.PAST.3SG where.INE when.KIN want.PAST.3SG live.INF
'Jesse lived where he wanted to at different times'

d. * Jesse asui missä miksi milloinkin halusi asua
Jesse.NOM live.PAST.3SG where.INE why when.KIN want.PAST.3SG live.INF

More than two *wh*-phrases in a *wh-ever*-type *wh-kin* relative clause: : ✗

e. Ja missä asun milloinkin, ...
and where.INE live.PRES.1SG when.KIN
'And wherever I live at different times, ...'

f. * Ja missä asun miksi milloinkin
and where.INE live.PRES.1SG why when.KIN

The fourth property tracks any asymmetry between argument vs. adjunct *wh*-phrases. Like *wh-kin* interrogatives, *wh-kin* relative clauses allow both arguments and adjuncts in both positions (relative operator or in situ) (see (81), (83) for examples).

The fifth property concerns subject doubling. As in *wh-kin* interrogatives, doubling is again marginally possible with plural pronominal subjects when a subject *wh*-phrase carries KIN.[12]

(84) Subject doubling in *wh-kin* relative clauses: ✓**?** (plural pronominal subject only when *wh-kin* phrase is subject)

a. Olen kerännyt toisille jotakin mitä **he**
be.PAST.1SG collect.PASTPTC others.ALL something what.PAR they.NOM
kukakin ovat tarvinneet/keräävät
who.NOM.KIN be.PRES.3PL need.PASTPTC/collect.PASTPTC
'I've collected, for other peope, something that they have needed/are collecting'

b. Ministerit asuivat missä **he** kukakin
ministers.NOM live.PAST.3PL where.INE they.NOM who.NOM.KIN
halusivat
want.PAST.3PL
'The ministers lived where they wanted'

The sixth and last property concerns adjacency. In *wh-kin* relative clauses, just like in the interrogative type, it is obvious that the two *wh*-phrases are not required to be adjacent to one another. In *wh-kin* relative clauses, the higher *wh*-phrase is the relative pronoun or operator, and the other *wh*-phrase, which carries KIN, may either occupy a position adjacent to it, or be further away from it. Some possible intervenors are shown in (85): subjects (a, b, d), verbs (c, e), and potentially a focus particle type use of the adverb *sitten* 'then' (f).[13]

(85) Adjacency requirement in a restrictive *wh-kin* relative clause: ✗

a. Supersää-sovellus hyödyntää käyttäjän päätelaitteen
superweather.application.NOM exploit.PRES.3SG user.GEN main.terminal.GEN
sijaintitietoja, jotta se voi tarjota
location.information.PL.PAR so.that it.NOM can.PRES.3SG offer.INF

[12]Example (84a) is an attested example from http://2pystyviivaa.blogspot.ch/2013$_1$2$_0$1$_a$rchive.html

[13]Attested examples: (85a) from https://www.sanoma.com/fi/tietosuoja/tuotekohtaiset-tarkennukset/sijaintiperusteiset-palvelut, (85b) from http://uusi.voima.fi/artikkeli/2016/antifasismin-estetiikka/, (85c) from https://www.facebook.com/kylchoir/photos/a.340227246789.162295.14881516789/10151764799126790/, (85d) from http://www.pancomp.com/fi/tuotteet/tyoajanseuranta/, (85e) from http://www.rahtihemmot.com/forum/index.php?topic=2857.66, and (85f) from http://mutsie.bellablogit.fi/2015/09/14/maailman-suloisin/

sääennusteen juuri siihen paikkaan, missä **käyttäjä**
weather.forecast.ACC exactly that.ILL place.ILL where.INE user.NOM
milloinkin on
when.KIN be.PRES.3SG
'The Superweather-application exploits the location information of the user's main terminal, so that it can offer a weather forecast for exactly that place where the user is at that time'

b. Suoran toiminnan strategia on proaktiivinen, yrittäen
direct.GEN action.GEN strategy.NOM be.PRES.3SG proactive.NOM trying
olla askeleen edellä, järjestäytyen nopeasti sinne missä **sitä**
be.INF step.GEN forward.ADE organising quickly there where.INE it.PAR
milloinkin tarvitaan
when.KIN needed.PRES.PASS
'The strategy of direct action is proactive, trying to be one step ahead, and organising quickly there where it is needed at that time'

c. Olet varmasti KYL:n monipuolisimpia laulajia,
be.PRES.2SG surely KYL.GEN versatile.SUPERL.PL.PAR singer.PL.PAR
minkä vuoksi sinua siirretään stemmasta toiseen, aina sinne
which.GEN reason you.PAR move.PRES.PASS part.ELA other.ILL always there
missä **on** milloinkin tarvetta
where.INE be.PRES.3SG when.KIN need.PAR
'You are surely one of the most versatile singers of the KYL choir, and that is why you are moved from one part to the other, always there where there is need at that time'

Adjacency requirement in a free *wh-kin* relative clause: ✗

d. Työntekijöiden on helppo käyttää Pancomp-päätelaitteita,
employe.PL.GEN be.PRES.3SG easy use.INF Pancomp.terminals.PAR
järjestelmän avulla tiedetään, että kaikki työntekijät
system.GEN help.ADE know.PRES.PASS that all.NOM employees.NOM
ovat missä **heidän** milloinkin pitääkin olla
be.PRES.3PL where.INE they.GEN when.KIN should.PRES.3SG.KIN be.INF
'It is easy for the employees to use the Pancomp-terminal, with the help of the system it can be known that all employes are where they are supposed to be at that time'

e. Viikon mittaan tulee sit pysäheltyä missä
week.GEN during come.PRES.3SG then stop.PASTPTC.INF where
sattuu milloinkin olemaan
happen.PRES.3SG when.KIN be.INF
'During the week, I tend to stop where I happen to be at that time'

Adjacency requirement in a *wh-ever*-type *wh-kin* relative clause: ✗

f. Kori ja teline ovat tosi kevyitä, joten koko
basket.NOM and stand.NOM be.PRES.3PL very light.PL.PAR so whole
komeuden voi siirtää helposti vauvanhuoneesta
handsomeness.ACC can.PRES.3SG move.INF heasily baby.room.ELA
makkariin tai olohuoneeseen – missä **sitten** milloinkin haluaa
bedroom.ILL or living.room.ILL where.INE then when.KIN want.PRES.3SG
vauvaa nukutella
baby.PAR make.sleep.FREQ.INF
'The basket and the stand are very light, so they can be moved easily from the baby's room to the bedroom or the living room – wherever it is that you want to try to get your baby to sleep'

5.1.3 Declarative clause type

The third type of *wh-kin* structures consists of *wh-kin* declarative clauses.

As (86) shows, the order of the *wh*-phrases in *wh-kin* declaratives is not fixed (property 1), but KIN must attach to the rightmost *wh*-phrase (property 2).

(86) a. Ville asui milloin missäkin.
Ville.NOM live.PAST.3SG when where.INE.KIN
'Ville lived in different places at different times.'

b. Ville asui missä milloinkin.
Ville.NOM live.PAST.3SG where.INE when.KIN
'Ville lived in different places at different times.'

c. * Ville asui milloinkin missä.
Ville.NOM live.PAST.3SG when.KIN where.INE

d. * Ville asui missäkin milloin.
Ville.NOM live.PAST.3SG where.INE.KIN when

Wh-kin declaratives only allow for two *wh*-phrases (property 3).

(87) More than two *wh*-phrases in a *wh-kin* declarative clause: ✗

a. Ville asui milloin missäkin.
Ville.NOM live.PAST.3SG when where.INE.KIN
'Ville lived in different places at different times.'

b. * Ville asui miksi milloin missäkin.
Ville.NOM live.PAST.3SG why when where.INE.KIN

Subject, object and adjunct *wh*-phrases may all readily appear in *wh-kin* declaratives (property 4). When a subject *wh*-phrase is involved (be it the bare or the KIN-carrying one), the occurence of a lexical or pronominal doubled subject is very natural (property 5). Again,

the doubling subject must be plural, and the verb is inflected for plural as well. Both singular (*kuka(kin)*) and plural (*ketkä(kin)*) forms of the subject *wh*-phrase may be used.[14]

(88) Subject doubling in a declarative *wh*-kin clause: ✓

a. **Ministerit** vastustavat kuka mitäkin ja
ministers.NOM oppose.PRES.3PL who.NOM what.PAR.KIN and
kannattavat mitä sattuu
support.PRES.3PL what.PAR happen.PRES.3SG
'The ministers all oppose different things and support random things'

b. **Kilpailijat** pärjäävät kuka mitenkin
contestants.NOM succeed.PRES.3PL who.NOM how.KIN
'The contestants have different degrees of success'

c. **Muut** tekevät mitä kukakin: kantavat lautoja
others.NOM do.PRES.3PL what.PAR who.NOM.KIN carry.PRES.3PL boards.PAR
ja naulaavat kattopalkkeja
and nail.PRES.3PL rafters.PAR
'The others do different things: they carry boards and nail rafters'

d. Uskosta riippumatta paras kohta on se, kun
faith.ELA independently best.NOM part.NOM be.PRES.3SG that.NOM when
me hiljennymme, miten kukakin
we.NOM quiet.PRES.1PL how who.NOM.KIN
'Regardless of faith, the best part is when we become quiet, in our own different ways'

e. Lukija seuraa **erilaisia varjostusjoukkioita**, jotka
reader.NOM follow.PRES.3SG different.PL.PAR shadowing.groups.PAR that.NOM
varjostavat ketkä mitäkin ja jopa törmäilevät
shadow.PRES.3PL who.PL.NOM what.PAR.KIN and even collide.PRES.3PL
toisiinsa Moskovan öisillä kaduilla
each.other.ILL Moscow.GEN nightly.PL.ADE streets.ADE
'The reader follows differeng shadowing groups, which shadow different things and even bump into each other on the nightly streets of Moscow'

f. Ja **toteuttajat** ovat sitten olleet ketkä
and implementors.NOM be.PRES.3PL then be.PASTPTC who.PL.NOM
milloinkin
when.KIN
'And there have been different implementors at different times'

[14]Attested examples: (88a) from http://www.tekniikkatalous.fi/arkisto/2005-04-21/Ministerit-vastustavat-kuka-mitäkin-ja-kannattavat-mitä-sattuu-3275525.html, (88b) from http://www.lansi-savo.fi/mielipide/kolumnit/kolumni-esko-olisi-ollut-varma-miljonaari-330578, (88c) from http://www.ilkka.fi/tilaajalle/maakunta/talkoo työ-pitää-eläkeläiset-vireessä-1.1943953, (88d) from http://www.hs.fi/ilta/13042016/a1419304408082, (88e) from http://www.dekkaripaivat.fi/node/309, (88f) from http://www.pelulamu.net/jolry/JSEURT.HTM, and (88g) from http://yle.fi/uutiset/jarki_voitti_lihan_himon/6513144.

g. **Metästysseurat** laskevat ”hirviään” ketkä
hunting.companies.NOM count.PRES.3PL elks.PAR.PX/3PL who.PL.NOM
mitenkin
how.KIN
‘The hunting companies count their “elks” in different ways’

When the word order of the sentence is changed so that some topicalised constituent that is not the subject comes first, there seem to be no doubled subjects.[15]

(89) Lack of doubled subject with OVS (or TopVS) word order

a. Kehuin presidentti Koivistoa ja kärjistin
compliment.PAST.1SG president Koivisto.PAR and generalise.PAST.1SG
häntä siteeraten, että YK oli syrjäytetty ja että
he.PAR citing that UN be.PAST.3SG supersede.PASTPTC and that
nykyään **kansainvälisen yhteisön nimissä** huseerasivat
nowadays international.GEN community.GEN names.INE hustle.PAST.3PL
ketkä milloinkin
who.PL.NOM when.KIN
‘I complimented President Koivisto and while citing him, generalised that the UN had been superseded, and that nowadays different people were hustling in the name of the international community’

b. **Siellä** huilaa ketkä milloinkin
there.ADE rest.PRES.3SG who.PL.NOM when.KIN
‘Different people rest there at different times’

c. Sitä ennen **poliisin tehtäviä** ovat hoitaneet
it.PAR before police.GEN functions.PAR be.PAST.3PL take.care.PASTPTC
sotilaat ja ketkä milloinkin
soldiers.NOM and who.PL.NOM when.KIN
‘Before that, the functions of the police have been taken care of by soldiers and different people at different times’

As for property 6, it seems that the *wh*-phrases may only be separated by the focus particle *nyt* ‘now’ (Hakulinen, 1998). In (90), I present two attested examples where *nyt* intervenes between the two *wh*-phrases.[16]

[15]Attested examples: (89a) from Hannu Vuorio (2012) *Heil!* WSOY; (89b) from https://www.koripallo.com/forum/index.php?topic=52598.5;wap2, and (89c) from http://jatkumo.net/index.php?action=recent;start=0.

[16]Attested examples: (90a) from http://relaa.com/keskustelut/lumi/24324, and (90b) from http://www.eevaleenavaahtio.fi/index.php?option=comcontent&view=section&id=5&layout=blog&Itemid=53

(90) Adjacency requirement in a *wh-kin* declarative clause: ✓ (except for the focus particle *nyt* 'now')

a. Tarkoitus olis tunata taitoja parkeissa, paipissa ja missä
intention.NOM be.COND.3SG tune.INF skills.PAR parks.INE pipe.INE and where
nyt milloinkin
now when.KIN
'The intention is to tune skills at parks, in the pipe, and different places at different times'

b. Julistamme mielellämme olevamme maailman huippuja
declare.PRES.1PL happily be.PRESPTC.1PL world.GEN tops.PAR
cleantechissä ja missä **nyt** milloinkin
cleantech.INE and where.INE now when.KIN
'We happily declare to be the world's best in cleantech and in different things at different times'

To conclude this subsection, I present some data that disfavour a free relative clause analysis of *wh-kin* declaratives.

In light of the data presented above, one might be tempted to suggest that there are no real *wh-kin* declaratives, and that they are just *wh-kin* free relatives with VP-ellipsis. If *wh-kin* declaratives were just *wh-kin* free relatives with an elided VP, their structure could be roughly as in (91), where △ stands for a VP that is elided under identity with the antecedent VP in the higher clause.

(91) Muut syövät [$_{\text{FR}}$ mitä kukakin △]
others.NOM eat.PRES.3PL what.PAR who.NOM.KIN
'The others eat different things'

The structure in (91) illustrates Antecedent-Contained Deletion (ACD) (Pesetsky, 2000): copying the higher antecedent VP (*eat* with a FR complement containing △) to interpret the ellipsis site in the embedded clause also copies the ellipsis site itself. This kind of configuration leads to infinite regress, unless covert phrasal movement applies (Pesetsky, 2000). Phrasal movement of the whole free relative clause to a higher position leaves behind a trace or a copy in the complement position of the main clause verb, and therefore, the two VPs are identical: they contain traces (or copies) of movement, and ellipsis resolution no longer leads to infinite regression.

(92) Ellipsis resolution with Antecedent-Contained Deletion

a. Without phrasal movement:
[The others eat [what who.KIN eat [what who.KIN eat [what who.KIN eat ...]]]]

b. With phrasal movement:
[[what$_2$ who.KIN $\triangle_{[\text{eat } t2]}$]$_1$ [the others eat t_1]]

If *wh-kin* declaratives are underlyingly free *wh-kin* relatives, they must make use of phrasal movement in order to avoid the interpretational problem of ACD. Unfortunately, Finnish free relatives in general seem *not* to be acceptable with VP-ellipsis. If VP-ellipsis is not available in Finnish free relatives, then it is unclear why *wh-kin* declaratives, analysed as free relatives with with VP-ellipsis, are in fact fully grammatical.

(93) VP-ellipsis in Finnish free relatives is ungrammatical

a. Minä syön [$_{FR}$ mitä$_i$ Villekin syö t$_i$]
I-NOM eat-PRES.1SG what-PAR Ville-NOM.KIN eat-PRES.3SG
'I eat what Jesse$_F$ eats too'

b. * Minä syön [$_{FR}$ mitä Villekin △]
I-NOM eat-PRES.1SG what-PAR Ville-NOM.KIN
'I eat what Jesse$_F$ does too'

In addition, free relatives are known to require that the relative pronoun correspond to the selectional requirements of the embedding verb. The contrast between *what*- and *when*-FRs embedded under the verb *buy* illustrate.

(94) Selectional requirements in English free relatives

a. I buy [$_{FR}$ what$_i$ I want t$_i$]

b. * I buy [$_{FR}$ when$_i$ I want t$_i$]

The same restriction clearly does not apply to *wh-kin* declaratives.

(95) Selectional requirements in *wh-kin* declaratives

a. Minä ostan [$_{FR?}$ milloin mitäkin]
I-NOM buy-PRES.1SG when what-PAR.KIN
'I buy different things at different times.'

Finally, Caponigro (2003) argues that *why*-FRs are crosslinguistically unattested. Again, *wh-kin* declaratives with *why* are acceptable.

(96) *Why* in *wh-kin* free relatives and *wh-kin* declaratives

a. * I got angry [$_{FR}$ why you got angry]

b. Minä suutuin [$_{FR?}$ miksi milloinkin]
I-NOM got.mad-PAST.1SG why when-KIN
'I got angry for different reasons at different times.'

Based on this discussion, it can be concluded that *wh-kin* declaratives are not free relative clauses, and constitute a class separate from *wh-kin* free relatives.

Type ↓ / **Property** →	More than two *wh*-phrases	adjacency requirement	subject doubling
interrogatives	✓	✗	✗?
relatives	✗	✗	✗?
declaratives	✗	✓	✓

Table 1: Summary of the properties of *wh-kin* structures

5.1.4 Summary

Table 1 summarises the most interesting differing properties of *wh-kin* structures (properties 3, 5, and 6). The commonalities between the three types of *wh-kin* are that they each involve at least two *wh*-phrases, of which at least the rightmost (or lowest) must be marked with KIN.

Some remarks are in order. The number of *wh*-phrases is strictly limited to two in declarative and relative *wh-kin* clauses, while interrogative *wh-kin* clauses may contain at least three *wh*-phrases. The adjacency requirement seems to hold only for *wh-kin* declaratives, but even inside this class, it is possible for at least one focus/discourse particle to intervene between the two *wh*-phrases. Finally, subject doubling is much more restricted in relative and interrogative *wh-kin* clauses than declarative ones. In the first two classes, I have only found attested examples of pronominal doubled subjects when the subject *wh*-phrase carries KIN. In declaratives, the subject *wh*-phrase is not required to carry KIN for a doubled lexical or pronominal subject to be available. In both types, the doubling subject must be plural. Based on evidence from VP-ellipsis and selectional constraints in free relatives, it was argued that *wh-kin* declaratives should not be analysed as a VP-ellipsis version of *wh-kin* free relatives.

5.2 Previous work

The only existing theoretical work on *wh-kin* structures is on the interrogative type. Huhmarniemi and Vainikka 2011 (of which Huhmarniemi and Vainikka 2010 is an earlier version) provide a Minimalist analysis of the differences between bare, non-KIN-employing multiple-*wh* interrogatives and *wh-kin* interrogatives in Finnish. As a reminder, the two relevant strategies for forming multiple-*wh* interrogatives are shown in (97):

(97) Forming multiple-*wh* interrogatives in Finnish

a. Kuka osti mitä?
who.NOM buy.PAST.3SG what.PAR
'Who bought what?'

b. Kuka osti mitäkin?
who.NOM buy.PAST.3SG who.PAR.KIN
'Who bought what?'

Huhmarniemi and Vainikka note that although the two interrogatives seem very similar on the surface, their syntactic structure is in fact quite different. Besides the obvious difference, namely, the presence of KIN on the in situ *wh*, they discuss three other differing properties: their sensitivity to syntactic islands, the effects of *wh*-intervention, and internal *wh*-movement.

Let us begin with *wh*-intervention. In the data description section on *wh-kin* interrogatives, we saw that *wh-kin* interrogatives do not show Superiority effects. These are referred to as *wh*-intervention effects in Huhmarniemi and Vainikka 2011. To repeat the data, a structurally lower *wh*-object can only be fronted across a structurally higher *wh*-subject when the latter is marked with KIN.

(98) Huhmarniemi and Vainikka 2011: (7) and (8)

a. * Mitä kuka osti?
what.PAR who.NOM buy.PAST.3SG
'What did who buy?'

b. Mitä kukakin osti?
who.PAR who.NOM.KIN buy.PAST.3SG
'What did who buy?'

The second difference concerns sensitivity to syntactic islands. According to Huhmarniemi and Vainikka, interrogatives in which an in situ *wh* is inside a syntactic island are judged to be degraded compared to multiple interrogatives where the relevant *wh* carries KIN. Their evidence comes from multiple *wh*-interrogatives where the in situ *wh* is inside a temporal adjunct ('while Ving'). As (99b) shows, the object *wh*-phrase may not be extracted from a temporal adjunct. When it is not extracted, as in (100), it is judged to be degraded if it does not carry KIN.[17]

(99) Huhmarniemi and Vainikka 2011: (5)

a. Pekka kompastui [auttaessaan Merjaa]
Pekka.NOM fall.PAST.3SG helping.PX/3SG Merja.PAR
'Pekka fell when he was helping Merja.'

b. * Ketä Pekka kompastui [auttaessaan t]?
who.PAR Pekka.NOM fall.PAST.3SG helping.PX/3SG

[17] My own acceptability judgments might in fact be reversed: an in situ *wh-kin* inside the temporal adjunct seems less natural than a bare *wh*.

(100) Huhmarniemi and Vainikka 2011: (6)

a. ?? Kuka kompastui [auttaessaan ketä]?
who.NOM fall.PAST.3SG helping.PX/3SG who.PAR
'Who fell while helping whom?'

b. Kuka kompastui [auttaessaan ketäkin]?
who.NOM fall.PAST.3SG helping.PX/3SG who.PAR.KIN
'Who fell while helping whom?'

While temporal adjuncts are islands for *wh*-movement, it is possible to form an interrogative from a temporal adjunct by moving the *wh*-phrase to the edge of the island, and by fronting the *wh* further to the matrix CP while also pied-piping the rest of the complex constituent. This is shown in (101).

(101) Huhmarniemi and Vainikka 2011: (5)

a. Pekka kompastui [auttaessaan Merjaa]
Pekka.NOM fell helping Merja.PAR
'Pekka fell when he was helping Merja.'

b. [Ketä$_i$ auttaessaan t$_i$]$_j$ Pekka kompastui t$_j$?
who.PAR helping Pekka.NOM fell

The third property that Huhmarniemi and Vainikka discuss is internal *wh*-movement. According to the authors, bare *wh* and *wh-kin* are not equally willing to move internally to the edge of the island: while bare *wh*s prefer to move internally, *wh-kin*s have no preference.[18]

(102) Huhmarniemi and Vainikka 2011: (6)

a. ?? Kuka kompastui [auttaessaan ketä]?
who.NOM fell helping who.PAR
'Who fell while helping whom?'

b. Kuka kompastui [ketä$_i$ auttaessaan t$_i$]?
who.NOM fell who.PAR helping
'Who fell while helping whom?'

(103) (a) from Huhmarniemi and Vainikka 2011: (13)

a. Kuka kompastui [auttaessaan ketäkin]?
who.NOM fell helping who.PAR.KIN
'Who fell while helping whom?'

b. Kuka kompastui [ketäkin$_i$ auttaessaan t$_i$]?
who.NOM fell who.PAR.KIN helping
'Who fell while helping whom?'

[18] My judgments for (102) are again the opposite: ??(102b), while (102a) is better.

Based on this data, Huhmarniemi and Vainikka propose that Finnish multiple-*wh* interrogatives may be derived using two separate strategies, which differ in how they license the in situ *wh*: either there is covert movement of the *wh* at LF (bare in situ *wh*), or there is A′-binding without movement (KIN-carrying in situ *wh*). Their analysis is based on five assumptions:

1. An element X can undergo movement if and only if it has an uninterpretable feature (Chomsky, 2000, 2001)
2. *Wh*-movement is triggered by an inherent focus feature on the *wh*-phrase (Horvath, 1986; Rochemont, 1986; Bresnan and Mchombo, 1987, a.o.)
3. A *wh*-phrase is *active* if it bears an uninterpretable focus feature
4. Moved *wh*-phrases occupy the edge position of CP
5. Interrogative C has a focus feature that enters in an Agree relation with the fronted *wh*-phrase (Chomsky, 1995, 2000)

In Huhmarniemi and Vainikka 2011, a bare *wh* is *active*, while *wh-kin* is *inactive*. The crucial difference between the first and the second strategy is the presence of the functional head KIN: it has a focus feature that may Agree with the uninterpretable focus feature of the *wh*, with the consequence of making *wh-kin* inactive and unwilling to move further (except for optional scrambling purposes). The authors propose that for interpretative purposes, it must still be bound by the interrogative C. When KIN is not present, the uninterpretable focus feature of the non-fronted *wh*-phrase must be deleted via a long-distance Agree-relation with C, resulting in the LF-movement of the *wh* in situ.

Relying on the activity status of the in situ *wh* leads to a natural explanation of the data. If *wh-kin* is inactive and does not need to move, occurring inside islands is not expected to be problematic for *wh-kin*; it will be possible to front a structurally lower *wh* past the *wh-kin* without giving rise to intervention effects, granted that only *wh*-phrases with an uninterpretable focus feature count as competitors (cf. Rizzi, 1990); and the unwillingness of *wh-kin* to move internally inside island clauses is expected.

5.3 Summary

This section presented three classes of *wh-kin* structures: interrogatives, relatives and declaratives. Any *wh-kin* structure minimally contains two *wh*-phrases, with KIN attached to at least the rightmost (lowest) one. The three types of *wh-kin* clauses are further differentiated by their acceptance of more than two *wh*-phrases (accepted in interrogatives, not in relatives and declaratives), the requirement that the *wh*-phrases be adjacent to each other (required in declaratives, not in interrogatives and relatives), and the possibility of having lexical doubled

subjects (possible in declaratives, not in interrogatives and relatives, where only pronominal doubled subjects seem to be acceptable). We also observed that *wh-kin* interrogatives differ in some important respects from non-KIN-marked multiple-*wh* interrogatives in Finnish (e.g. Superiority), and that *wh-kin* declaratives should not be subsumed under the class of *wh-kin* free relatives.

Compared to the previous sections, this section was very much concentrated on the syntactic description of *wh-kin* structures, and only briefly mentioned the fact that the interpretation of these structures is quite mysterious. The proposed paraphrases are often only barely satisfactory in conveying the meaning that is intended, and the issue of interpreting bare multiple-*wh* interrogatives as requiring single-pair answers and *wh-kin* interrogatives as requiring multiple-pair answers was not discussed at all. In fact, none of the interpretational issues related to KIN (the type of alternatives and operators involved) were addressed. For the data of this section to be covered by an account of KIN that also covers the previous sections, a much more specific analysis of the semantics of *wh-kin* will have to be laid out.

6 Conclusion

The goal of this paper was to map the lay of the land in terms of the expected empirical coverage of my doctoral dissertation. The three main sections show that there is considerable variation in the different uses of KIN: to understand the data, it becomes crucial to determine which operators are working on which type of focus alternatives, and at which level of meaning ("low-level" compositional semantics, or more global discourse structure).

Moreover, the syntactic and semantic nature of KIN is still an open question: while the tendancy in the literature is to concentrate on those focus-sensitive expressions that are also free morphemes, it is not clear whether an analysis that attributes the semantics of an additive or scalar operator to KIN will be adequate. For one, as Holmberg (2014) shows, the great positional flexibility of KIN must be accounted for, but an adjunction analysis has some fundamental problems. In the same vein, the rigidity of KIN in terms of word-internal morphology seems to point to a direction where either KIN is a syntactic head, "collected" on the word during the derivation (cf. Korean bound additive/scalars in Lee, 2004) or merely "added" at some level of representation, post-syntactically.

At this point, it is already clear that KIN provides a new window into the nature and use of focus alternatives in natural language. One of the main contributions of the thesis will be the description of various types of focus alternatives, as well as of the compositional and discourse-related principles governing the use of focus-sensitive operators related to KIN. In general, an adequate theoretical account of KIN will necessarily be one that marries syntax, semantics, and pragmatics, and hence provides a global perspective on this tiny but omnipresent Finnish suffix.

7 Appendix: abbreviations

In this paper, the following abbreviations were used:

- Case: NOM - nominative, ACC - accusative, GEN - genitive, PAR - partitive, INE - inessive, ELA - elative, ILL - illative, ADE - adessive, ABL - ablative, ALL - allative, ESS - essive, TRA - translative
- Verbal: PRES - present tense, PAST - past tense, PRESPTC - present participle, PASTPTC - past participle, INF - infinitival, COND - conditional, IMP - imperative, PASS - passive, FREQ - frequentative
- Other: NEG - negation, SG - singular, PL - plural, PX - possessive suffix, SUPERL - superlative

8 Bibliography

Beaver, David I., and Brady Z. Clark. 2008. *Sense and sensitivity: How focus determines meaning*. John Wiley & Sons.

Brattico, Pauli, Saara Huhmarniemi, Jukka Purma, and Anne Vainikka. 2013. The structure of Finnish CP and feature inheritance. *Finno-Ugric Languages and Linguistics* 2:66–109.

Bresnan, Joan, and Sam Mchombo. 1987. Topic, pronoun, and agreement in Chichewa. *Language* 63:741–782.

Büring, Daniel. 1997. *The meaning of topic and focus: the 59th Street Bridge accent*. Routledge Studies in German Linguistics. London, New York: Routledge.

Büring, Daniel. 2003. On D-trees, beans, and B-accents. *Linguistics and Philosophy* 36:511–545.

Caponigro, Ivano. 2003. Free not to ask: On the semantics of free relatives and Wh-words cross-linguistically. Doctoral Dissertation, University of California Los Angeles.

Carlson, Lauri. 1983. *Dialogue games*. Dordrecht: D. Reidel.

Carlson, Lauri. 1984. Focus and dialogue games. In *Cognitive constraints on communication*, ed. Lucia Vaina and Jaakko Hintikka, 295–333. D. Reidel.

Chierchia, Gennaro. 2013. *Logic in grammar: Polarity, free choice, and intervention*. Oxford University Press.

Chierchia, Gennaro, Danny Fox, and Benjamin Spector. 2011. The grammatical view of scalar implicatures and the relationship between semantics and pragmatics. In *Semantics: an international handbook of natural language meaning*, ed. Paul Portner, Claudia Maienborn, and Klaus von Heusinger, volume 3. Mouton de Gruyter.

Chomsky, Noam. 1993. A minimalist program for linguistic theory. In *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*, ed. Kenneth Hale and Samuel Jay Keyser, 1–52. Cambridge, MA: MIT Press.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In *Step by step: Minimalist essays in honor of Howard Lasnik*, ed. Roger Martin, David Michaels, and Juan Uriagereka, 89–155. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. Michael Kenstowicz, 1–52. Cambridge, MA: MIT Press.

Crnič, Luka. 2011. Getting even. Doctoral Dissertation, Massachusetts Institute of Technology.

Fox, Danny. 2007. Free choice disjunction and the theory of scalar implicatures. In *Presupposition and implicature in compositional semantics*, ed. Uli Sauerland and Penka Stateva, 71–120. Palgrave Macmilan.

Fox, Danny, and Benjamin Spector. 2015. Economy and embedded exhaustification. Ms., MIT and Institut Jean Nicod.

Giannakidou, Anastasia. 2007. The landscape of EVEN. *Natural Language & Linguistic Theory* 25:39–81.

Guerzoni, Elena. 2004. Even-NPIs in yes/no questions. *Natural Language Semantics* 12:319–343.

Hakulinen, Auli. 1998. The use of Finnish *nyt* as a discourse particle. In *Discourse markers: Descriptions and theory*, ed. Andreas H. Jucker and Yael Ziv, Pragmatics & Beyond New Series. John Benjamins.

Hakulinen, Auli, and Fred Karlsson. 1979. *Nykysuomen lauseoppia*. Suomalaisen kirjallisuuden seuran toimituksia 350. Jyväskylä: Gummerus.

Hakulinen, Auli, Maria Vilkuna, Riitta Korhonen, Vesa Koivisto, Tarja-Riitta Heinonen, and Irja Alho. 2004. *Iso suomen kielioppi*. Suomalaisen Kirjallisuuden Seura.

Hankamer, Jorge, and Ivan Sag. 1976. Deep and surface anaphora. *Linguistic Inquiry* 7:391–428.

Heim, Irene, and Angelika Kratzer. 1998. *Semantics in generative grammar*. Wiley-Blackwell.

Hiirikoski, Juhani. 1995. Organization in discourse. In *Proceedings of the Turku Conference (Anglicana Turkuensia)*, ed. Brita Wårvik, Sanna-Kaisa Tanskanen, and Risto Hiltonen, 289–299. University of Turku.

Holmberg, Anders. 2001. The syntax of yes and no in Finnish. *Studia linguistica* 55:141–175.

Holmberg, Anders. 2014. The syntax of the Finnish question particle. In *Functional structure from top to toe*, ed. Peter Svenonius. Oxford, UK: Oxford University Press.

Holmberg, Anders, and Urpo Nikanne. 2002. Expletives, subjects, and topics in Finnish. In *Subjects, expletives, and the EPP*, ed. Peter Svenonius, 71–106. OUP.

Holmberg, Anders, Urpo Nikanne, Irmeli Oraviita, Hannu Reime, and Trond Trosterud. 1993. The structure of INFL and the finite clause in Finnish. In *Case and other functional categories in Finnish syntax*, ed. Anders Holmberg and Urpo Nikanne, 177–206. Mouton de Gruyter.

Horn, Laurence. 1969. A presuppositional analysis of 'only' and 'even'. In *Papers from the fifth regional meeting of the Chicago Linguistics Society (CLS 5)*, ed. Robert I. Binnick, 97–108. Chicago.

Horvath, Julia. 1986. *Focus in the theory of grammar and the syntax of Hungarian*. Dordrecht: Foris.

Huhmarniemi, Saara. 2012. Finnish A'-movement: Edges and islands. Doctoral Dissertation, University of Helsinki.

Huhmarniemi, Saara, and Anne Vainikka. 2010. Multiple wh-questions and syntactic islands in Finnish. In *Proceedings of congressus XI internationalis Fenno-Ugristarum (fu11) pars vi*, 227–233. Budapest, Hungary: Reguly Társaság.

Huhmarniemi, Saara, and Anne Vainikka. 2011. The two variants of Finnish multiple Wh-questions: Evidence for two analyses. Ms., University of Helsinki, Johns Hopkins University.

Jackendoff, Ray S. 1972. *Semantic interpretation in generative grammar*. MIT Press.

Kaiser, Elsi. 2006. Negation and the left periphery in Finnish. *Lingua* 116:314–350.

Karttunen, Frances, and Lauri Karttunen. 1976. The clitic -kin/-kAAn in Finnish. *Texas Linguistic Forum* 5:89–118.

Karttunen, Lauri, and Stanley Peters. 1979. Conventional implicature. In *Syntax and semantics, volume 11: Presupposition*, ed. Choon-Kyu Oh and David A. Dinneen, 1–56. Academic Press.

Kayne, Richard S. 1994. *The antisymmetry of syntax*. MIT Press.

König, Ekkehard. 1991. *The meaning of focus particles*. London: Routledge.

Krifka, Manfred. 1991. A compositional semantics for multiple focus constructions. In *Proceedings of the First Semantics and Linguistic Theory Conference (SALT 1)*, ed. Steven K. Moore and Adam Z. Wyner. Cornell University.

Laka, Itziar. 1990. Negation in syntax: On the nature of functional categories and projections. Doctoral Dissertation, Massachusetts Institute of Technology.

Lee, Youngjoo. 2004. The syntax and semantics of focus particles. Doctoral Dissertation, Massachusetts Institute of Technology.

Malmberg, Tarmo. 2012. Yleinen mielipide, viestintä ja kansanvalta. In *Julkisuus ja demokratia*, ed. Kari Karppinen and Janne Matikainen, 15–36. Tampere, Finland: Vastapaino.

Mitchell, Erika. 1991. Evidence from Finnish for Pollock's theory of IP. *Linguistic Inquiry* 373–379.

Nakanishi, Kimiko. 2012. The scope of even and quantifer raising. *Natural Language Semantics* 20:115–136.

Pesetsky, David. 2000. *Phrasal movement and its kin*. MIT Press.

Pesetsky, David, and Esther Torrego. 2007. The syntax of valuation and the interpretability of features. In *Phrasal and clausal architecture: Syntactic derivation and interpretation*, ed. Simin Karimi, Vida Samiian, and Wendy K. Wilkins, 262–294. Amsterdam: John Benjamins.

Rizzi, Luigi. 1990. *Relativized Minimality*. MIT press.

Roberts, Craige. 1996. Information structure in discourse: Towards an integrated formal theory of pragmatics. *OSU Working Papers in Linguistics* 49.

Roberts, Craige. 2004. Context in dynamic interpretation. In *The Handbook of Pragmatics*, ed. Laurence Horn and Gregory Ward. Malden, MA: Blackwell Publishing.

Rochemont, Michael S. 1986. *Focus in generative grammar*. John Benjamins.

Rooth, Mats. 1985. Association with focus. Doctoral Dissertation, University of Massachusetts Amherst.

Rooth, Mats. 1992. A theory of focus interpretation. *Natural Language Semantics* 1:75–116.

Rullmann, Hotze. 1997. Even, polarity, and scope. In *Papers in Experimental and Theoretical Linguistics*, ed. Martha Gibson, Grace Wiebe, and Gary Libben, volume 4, 40–64.

Rullmann, Hotze. 2003. Additive particles and polarity. *Journal of Semantics* 20:329–401.

Schwarz, Bernhard. 2005. Scalar additive particles in negative contexts. *Natural Language Semantics* 13:125–168.

von Stechow, Arnim. 1991. Current issues in the theory of focus. In *Semantik: Ein internationales Handbuch der Zeitgenössischen Forschung*, ed. Arnim von Stechow. Walter de Gruyter.

Tancredi, Chris. 1990. Not only EVEN, but even ONLY. Ms., Massachusetts Institute of Technology.

Vainikka, Anne. 1989. Deriving syntactic representations in Finnish. Doctoral Dissertation, University of Massachusetts Amherst.

Välimaa-Blum, Riitta. 1988. Finnish existential clauses – their syntax, pragmatics and intonation. Doctoral Dissertation, Ohio State University.

Vallduví, Enric, and Maria Vilkuna. 1998. On rheme and kontrast. In *The limits of syntax*, ed. Peter Culicover and Louise McNally, volume 29, 77–108. New York: Academic Press.

Vilkuna, Maria. 1984. Voiko kin-partikkelia ymmärtää? *Virittäjä* 88:393–408.

Vilkuna, Maria. 1989. *Free word order in Finnish. Its syntax and discourse functions*. Helsinki: Suomalaisen Kirjallisuuden Seura.

Vilkuna, Maria. 1995. *Discourse configurationality in Finnish*. New York: Oxford University Press.

Wilkinson, Karina. 1996. The scope of even. *Natural Language Semantics* 4:193–215.