

# Control and Null Subjects Are Governed by Morphosyntax in Finnish\*

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This article provides a typology of null subjects (e.g. *pro*, PRO) and their control in Finnish. It argues that there are two syntactic environments licensing controlled null pronouns in this language. One environment, licensing an element closely resembling or identical with *pro*, is characterized by morphosyntactic activity, while the other exhibits the exact opposite profile and licenses PRO. Control properties of the two types of null subjects differ from each other and are shown to depend on three notions: c-command, locality and discourse. An analysis is provided that explains why null subjects are generated in the presence (e.g. *pro*) and absence (e.g. PRO) of morphosyntax, and why these elements exhibit the control properties that they do. According to this analysis, both *pro* and PRO are real pronominal elements, bare phi-sets, which contain uninterpretable features that trigger control relations at LF. Morphosyntax (Agree) is seen as a mechanism that renders arguments visible at PF and LF, while discourse-interpreted elements are exempted from this restriction.

Keywords: *null subjects; control; finite control; Finnish; obligatory control; pro-drop; partial pro-drop*

## 1 Introduction

Third person null pronoun subjects must be supplied with an antecedent in the Finnish finite clause (Heinonen, 1995, Vainikka and Levy 1999) (1).<sup>1</sup>

- (1) a. \*       *Sai ylennyksen.* /        *Sain ylennyksen.*  
got.3SG promotion got.1SG promotion  
'He got a promotion.' 'I got a promotion.'
- b. *Pekka<sub>1</sub> väitti että*       <sub>1</sub> *sai ylennyksen.*  
Pekka.NOM claimed that got.3SG promotion  
'Pekka claimed that he (=Pekka) got promotion.'

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<sup>1</sup> Abbreviations and terminological conventions: 0 = no agreement or default phi-features; 3sg = phi-features such as third person singular (etc.); A = A-infinitival; ACC = accusative case (all forms that are connected with completed aspect); FOC = the focus particle *-han-* and/or focus interpretation; E = E-infinitival or E-adverbial ('by doing something'); EPP = Extended Projection Principle; ESSA = ESSA-adverbial (close English translation is 'while doing something'); GEN = genitive case; IMPASS = impersonal passive form, but both active and passive voice; KSE = KSE-adverbial ('in order to do something'); MA = MA-infinitival/adverbial, several forms; NOM = nominative case; PAR = partitive case, which is the default complement case in Finnish; phi-features = features such as number and person; *pro* = Type I null subject; PRO = the Type II null subject in obligatory control constructions; Q = yes/no question particle *-ko-*; TUA = TUA-adverbial ('after doing something'); VA = VA-infinitival. Some studies are referred to by their acronyms: H&B = the two-part study of Huhmarniemi & Brattico (2015) and Brattico & Huhmarniemi (2016); H&N = Holmberg & Nikanne (2002).

The relation between the null pronoun and its antecedent in (1b) is often called *finite control* (for finite control in other languages, see Landau 2004). Non-finite (obligatory) control, in turn, is exhibited by examples such as (2).

- (2) *Pekka*<sub>1</sub> *halusi* \_\_\_<sub>1</sub> *lähteä*.  
 Pekka.NOM wanted to.leave  
 ‘Pekka wanted to leave.’

In the example (2), the thematic subject of the non-finite verb *lähteä* ‘to leave’ must be the same as the matrix subject ‘Pekka’, hence here too the matrix subject serves as the antecedent for the embedded null subject.

Finnish control is poorly understood. Vainikka & Levy (1999) report that in the finite scenario (1) the antecedent must c-command the null pronoun. They also claim that the antecedent must “occur in the matrix clause” (p. 648). No locality requirements are reported in this article. Non-local control, for example the one shown in (3), which is my example, is possible.

- (3) *Pekka*<sub>1</sub> *käski Merjan*<sub>2</sub> *sanoa Jukalle*<sub>3</sub>, *ettei* \_\_\_<sub>1/2/3</sub>  
 Pekka asked Merja.ACC to.say to.Jukka that.not  
*tule tapaamiseen*.  
 come.3SG meeting  
 ‘Pekka asked Merja to tell Jukka that s/he is not coming to the meeting.’

Any of the three possible arguments can serve as an antecedent for the embedded finite null subject (see also Holmberg 2005: note 4, p. 540, Heinonen 1995 for similar examples). The antecedent selection is subject to pragmatic factors. The default reading is the one in which the main clause subject serves as the antecedent. The embedded subject ‘Merja’ can serve as an antecedent if, for example, Pekka is asking Merja to inform/reveal to Jukka that she will not come. The most unlikely reading is one where ‘Jukka’ is the antecedent, but this too is possible if, for example, Pekka is trying to prevent Jukka to come to the meeting and is asking Merja to instruct Jukka. These pragmatic choices can be foregrounded by using different verbs. For example, use of the conditional verb *tulisi* ‘come.COND’ inside the embedded clause will strengthen the third reading, in which Jukka is the antecedent. Using the verb *tunnustaa* ‘confess’ or *myöntää* ‘acknowledge’ instead of *sanoa* ‘say’ will bring the second readings into focus, in which Merja is the antecedent. See Gutman (2004) for more examples of situations in which pragmatic factors enter to the selection of antecedent in Finnish finite control.

Rodrigues (2004) claims that only the closest possible antecedent can be selected. He cites one example (4) (ex. 43c in the original) in support of the locality claim:

- (4) *Jukka*<sub>1</sub> *sanoi että Pekka*<sub>2</sub> *ajattelee että e*<sub>\*1/2</sub> *oli voittanut arpajaisissa*.  
 Jukka said that Pekka thinks that had won in.lottery  
 ‘Jukka said that Pekka thinks that he (=Pekka) had won in a lottery.’

The nonlocal antecedent is hard to get in (4).<sup>2</sup> Unlike my example (3), this example has two embedded full finite clauses (CPs) between the null subject and the nonlocal main clause antecedent. Therefore, it is possible that a control relation over two CP-boundaries is not possible. I will return to this phenomenon in Section 3.1.1. But this is not the general picture. If the pragmatics of the situation require nonlocal antecedent to be selected, it can be selected over two CP-boundaries (5a). Similarly, if the nonlocal antecedent is the discourse topic, it can function as an antecedent (5b).

- (5) a. *Hän<sub>1</sub> pelkäsi että joku<sub>2</sub> tietää että e<sub>1/?2</sub> on varastanut auton.*  
 He feared that some knows that had stolen car.  
 ‘He feared that somebody knows that he had stolen a car.’
- b. *Mitä tulee Jukka<sub>1</sub>, . . .*  
 what comes to.Jukka, . . .  
*hän<sub>1</sub> paljasti että joku<sub>2</sub> ajattelee että e<sub>1/?2</sub> on voittanut lotossa.*  
 he revealed that some thinks that had won lottery.  
 ‘When it comes to Jukka, he revealed that somebody thinks that he had won the lottery.’

The matter is even more complex than this: also non-c-commanding antecedents are possible (Holmberg 2005). The following example comes from Holmberg & Sheehan (2010).

- (6) *?[Jari<sub>1</sub> puhe] teki selväksi ettei —<sub>1</sub> ole syyllinen.*  
 Jari’s speech made clear that.not be.3SG guilty  
 ‘Jari’s speech made it clear that he is not guilty.’

By using native speaker data, Frascarelli (2015) presents more observations analogous to (6). Putting Frascarelli’s theory of these constructions aside for a while, data-wise Frascarelli’s study leaves little doubt that Finnish finite control is constrained neither by c-command nor by locality. Huhmarniemi and Brattico (2015) and Brattico and Huhmarniemi (2016) (henceforth this two-part study will be abbreviated as H&B) claim that similar facts are attested in a range of non-finite domains that exhibit non-finite possessive suffix agreement.

Modesto (2008) claims that in Finnish the embedded finite null subject cannot be controlled by a matrix object. He further claims that only the matrix subject (topic) can constitute an antecedent. I will comment on the former assertion here. To support it, Modesto cites the example provided in (7) (example 5a in the original source).

<sup>2</sup> This is not true if the second CP-boundary is absent. Thus, in (i) *Jukka<sub>1</sub> sanoi Pekka<sub>2</sub> ajattelevan että e<sub>1/2</sub> on voittanut lotossa* ‘Jukka said [Pekka.GEN to.think [that *e* had won in.lottery]]’ there is no locality requirement. The identity of the case forms is not the crucial factor either, cf. (ii) *Jukka<sub>1</sub> täytyy tietää Pekka<sub>2</sub> ajattelevan että e<sub>1/2</sub> on voittanut lotossa* ‘Jukka.GEN must know Pekka.GEN to.think that *e* had won in.lottery’. Finally, the double-CP structure (4) is unnatural, and it would be replaced by (i) in normal use. Holmberg (2005), citing Vainikka & Levy (1999), agrees that the antecedent must be found from the next clause up and gives the following example: *Se oli Tarjalle<sub>1</sub> pettymys [kun tuli selväksi [ettei hän/\*e<sub>1</sub> saanut lukea latinaa kuolussa]]* ‘It was to.Tarja disappointment when became clear that.not she/*e* could learn Latin in.school’. To some native speakers, me included, there is no problem in selecting ‘Tarja’ as the antecedent for the null subject.

- (7) *Liisa<sub>1</sub> vakuutti Jussille<sub>2</sub> että e<sub>1/\*2/\*3</sub> voi tulla valituksi.*  
 Liisa.NOM assured to.Jussi that can come elected  
 ‘Liisa assured Jussi that she[/\*he] can be elected.’

Object control is possible in (7), however. This interpretation is natural in the context such as ‘Jussi doubted whether he might be able to get the new job. However, Liisa assured...’. The same interpretation becomes readily available if the embedded verb takes the conditional form. In fact, Modesto himself discusses several examples of embedded null subjects, taken from Holmberg (2005), that allow object antecedents and indeed even non-c-commanding antecedents (footnote 6). Two of the examples discussed in Modesto’s and Holmberg’s papers are provided in (8) (ex. 9 in Holmberg 2005).

- (8) a. *Anu<sub>1</sub> sanoi Jarille<sub>2</sub> että hän<sub>1/2/3</sub>/e<sub>1/2/\*3</sub> ottaa kitaran mukaan.*  
 Anu told Jari that he takes guitar along  
 ‘Anu told Jari that s/he (=Anu or Jari) will take a guitar along.’  
 b. *Se oli Tarjalle<sub>1</sub> pettymys ettei hän<sub>1/2</sub>/e<sub>1/\*2</sub> saanut lukea latinaa.*  
 it was to.Tarja disappointment that.not she  
 could study Latin  
 ‘It was as a disappointment to Tarja that she could not study Latin in school.’

Modesto further reports, correctly, that object antecedents feel more natural if the embedded clause is in the conditional form; if the object is moved to the operator position; or if the object is topicalized (see Modesto 2008, ex. 17–18, 36), thus further strengthening the observation that finite control is not limited to main clause subject antecedents. Hence, taken together the evidence strongly suggests that neither subject orientation, locality nor c-command is a requirement for Finnish finite control. What is? I think Holmberg’s assessment in his (2005) paper is still valid: the “conditions are rather poorly understood” (p. 539).

This statement becomes even more true once we recognize that no systematic study of obligatory control (example 2 and its kin) in Finnish exists.<sup>3</sup> Here I will attempt to present a systematic and comprehensive typology of control relations and controlled null subjects in Finnish. The descriptive theory explains how the two types of null subjects are licensed, what their control properties are, and what kinds of null subjects there are in this language. All control constructions in Finnish, both finite and non-finite, are discussed, categorized and explained by a few empirical generalizations.

In addition to attempting to chart the empirical geography, I will argue for the following theoretical claims. First, I will argue, in the spirit of Aoun’s visibility hypothesis (Aoun 1981), that Agree renders nominal arguments visible at the PF and LF interfaces. I will also claim that this restriction does not concern features and elements that can be interpreted by discourse. A related claim is that both *pro* and PRO are independent pronominal elements of their own right, specifically, that they are bundles of phi-features, as was argued, for example, by Holmberg (2005). In some sense, this theoretical model marks a return to the older GB-theoretical theorizing, in which the distribution of null subjects was directly linked with morphosyntax, via Case Filter, for example.

<sup>3</sup> Holmberg (2005) discusses the matter in passing, notes that there are both similarities and differences in the interpretation of finite null subjects and obligatory control structures, but leaves the issue for future research.

The article is organized as follows. Section 2 presents the main descriptive hypotheses argued for in this study and illustrates their empirical content with the help of a few selected examples. Section 3 then presents the evidence. The presentation is organized on a construction-by-construction basis: one type of null subject (Type I) will be discussed first (Section 3.1), followed by the second type (Type II) (Section 3.2). All Finnish control constructions are examined in these two sections, each construction in its own subsection. Section 4 presents the conclusions in a condensed form and offers a formalization analysis of the generalization.

## 2 A hypothesis

I would like to argue that there are two types of controlled null subjects in Finnish that I will call Type I and Type II. Type I resembles *pro* (finite control), while Type II resembles PRO (obligatory control). (I will use neutral labels “Type I” and “Type II” in order to avoid any possible confusion, although I will later argue that they map quite well to *pro* and PRO in other languages.) They are licensed by the following two rules:

- (9) *Licensing of Type I (“pro”) null pronouns (Finnish)*  
 Type I null pronoun occurs optionally at the specifier of a head H such that (a) H exhibits full phi-agreement with the null pronoun and (b) H has a syntactic specifier position that can host an overt pronoun. If the null pronoun is in the third person, it requires an antecedent.
- (10) *Licensing of Type II (“PRO”) null pronouns (Finnish)*  
 Type II null pronoun occurs obligatorily in connection with a head H such that (a) H never exhibits phi-agreement with the pronoun and (b) H does not have a syntactic specifier position that can host an overt pronoun. The null pronoun necessarily requires an antecedent.

I further state that there are no other controlled null subjects in Finnish. Every construction exhibits either Type I or Type II. Type I resembles the Romance *pro*-drop type (hence “*pro*”), which is similarly licensed by agreement (Rizzi 1982, 1986, Taraldsen 1980); it differs from the Romance profile, however, for the 3<sup>rd</sup> person in that it can be dropped only in the presence of both agreement and an antecedent.<sup>4</sup> We will further see that the antecedent search for the Finnish Type I third person null pronouns involves interaction between narrow syntax and discourse, which in turn makes the Type I null pronoun quite “pronominal” in its antecedent properties. Type II resembles obligatory control constructions, hence it will be labelled as “PRO”. The condition that it occurs in contexts that have no room for overt pronouns or lexical arguments is also proposed by Williams (1980), who uses this criterion for distinguishing obligatory control (OC) from non-obligatory control (NOC), where the latter seems to fall under Type I in the present system. This test applies to Finnish virtually without exceptions: it neatly distinguishes Type II from Type I.

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<sup>4</sup> Thus, it is not correct to say that while agreement licenses first and second person finite null subjects, the presence of an antecedent would constitute a sufficient condition for third person null subjects. The correct generalization is that for third person finite null subjects the presence of a suitable antecedent presents an additional criterion.

A reader familiar with control in other languages but not Finnish will probably find the following remark useful. It is customary to think of *pro* (Type I here) as occurring mainly (or only) in finite clauses. This limitation does not apply to Finnish. Finnish, like Hungarian, exhibits non-finite constructions employing Type I *pro* null subjects due to systematic and productive non-finite agreement. In other words, nouns, adpositions, adverbs, non-finite verbs and even the negation agree in all phi-features with local arguments. The consequence is that the Type I-II distinction does not coincide in this language with the finite-non-finite distinction. Instead, the distinction coincides with morphosyntax, more specifically with the absence/presence of phi-agreement and the EPP.

Having introduced the two types of null subjects, Type I and Type II, we provide their antecedent properties next. These conditions are provided in (11). I will first list the generalizations and then illustrate their meaning with few examples; the rest of the article is dedicated to the discussion of data.

- (11) Control (in Finnish, descriptive empirical generalization)
- a. For Type I (“*pro*”), there are two strategies, A and B, operating in parallel:
    - i. (Strategy A) The antecedent must c-command the null subject (*c-command condition*) and it must be able to create a coherent (i.e. semantically possible) interpretation with the null subject (*semantic coherence*);
    - ii. (Strategy B) Null subjects that have extrasyntactic discourse features (e.g. ‘topic’) can look for matching antecedents (‘topic’) from the discourse.
    - iii. Strategy A and Strategy B interact with each other: If (A-B) can converge on the same constituent, that constituent must be the antecedent. If (A-B) target only different constituents, i.e. they cannot converge on the same constituent, the construction will be ambiguous. If neither (A) nor (B) converges into anything, the sentence is ungrammatical. If more than one candidate is selected by both A and B, then the local candidate must be selected;
  - b. For Type II (“PRO”): The antecedent must c-command the null subject (*c-command condition*) and be the most local possible (*locality condition*).
  - c. C-command relations are computed before A-bar movement but after A-movement. Conditions of Binding Theory and other independent constraints cannot be violated, and they may further narrow down the search space.

Few remarks concerning these rules will help to understand empirical content. Condition (11b) for Type II PRO null subjects resembles, or is identical with, Rosenbaum’s (1967) Minimal Distance Principle that he uses to account for similar facts from other languages. I will likewise show that Type II null subjects (when carefully separated from Type I) always select for the closest possible c-commanding antecedent. The antecedent search for Type I, in contrast, is a combination of several ideas that exist in previous literature. As showed above, the literature on Finnish finite null subject oscillates between assuming something akin to A (strict grammatical antecedent selection, Holmberg & Sheehan 2010, Rodrigues 2004) and B (topic- and discourse based selection, Frascarelli 2007, 2015, Modesto 2008). This oscillation reflects the fact that Finnish exhibits both behavioural profiles, as I will show in this article.

Strategy B, when looked at in isolation, is indicative of general pronoun interpretation. Pronoun interpretation requires access to discourse. The rule is also reminiscent of the situation in the radical pro-drop languages, such as Mandarin Chinese, in which arguments can be omitted rather freely, and their referents are inferred from the discourse

(Battistella 1985, Huang 1984, 1989). Thus, I believe the Strategy B appears in the Finnish data because it is part of a general pronoun interpretation mechanism. Strategy A, in turn, relies on nonlocal c-command and is most likely the same mechanism that is involved in interpreting quantifier-variable constructions.<sup>5</sup> In short, the control rule for Type I “pro” null subjects appears to be a mixture of independent mechanisms involved in interpreting pronouns (B) and quantifier-variable constructions (A).

The requirement that the antecedent and null subject must generate a coherent semantic interpretation (“semantic coherence” in (11a.i)) will deal with situations in which the semantic properties of the referents, such as number or thematic roles, conflict with each other (e.g. Culicover & Jackendoff 2001, 2003). For example, if the antecedent is in the plural, the null subject must quite often also be in the plural. I will pay very little attention to this aspect in this study, however.

Next, let us look at how these rules work. Take again (1), repeated here as (12).

- (12) \*       *on*        *aina*    *paikalla*    *ajoissa*.  
           is.3SG    always    in.place    in.time  
           ‘He is always there in time.’

According to (11a), third person null subjects of the Type I require the presence of an antecedent. Strategy A tries to find a c-commanding antecedent but finds none. Strategy B tries to find a topic antecedent, but because the null subject itself is the topic, it finds none. Hence nothing is found, and the sentence is ungrammatical. We can try to fix either of these problems. We can provide a c-commanding antecedent for Strategy A. This generates (1b), repeated here as (13). Only Pekka can function as an antecedent.

- (13) *Pekka*        *väittää*    *että*              *on*    *aina*    *paikalla*    *ajoissa*.  
       Pekka.NOM claims    that        is    always    in.place    in.time  
       ← Strategy A →  
       ‘Pekka claims that he (himself) is always there in time.’

There are no locality requirements in (11a), so the antecedent must only c-command the null subject, and the antecedent and the null subject cannot conflict in their (semantically relevant) feature composition. But we can also try to provide a discourse antecedent:

- (14) *Pekkaa ei tarvitse muistuttaa tapaamisesta.*        *on*        *aina*    *paikalla*    *ajoissa*.  
       ‘Don’t remind Pekka.’                            be.3SG    always    in.place    in.time

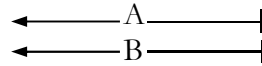
Notice that (14) is not ungrammatical despite containing a finite clause that lacks a third person pronoun subject. In (14), there is a ‘topic’ feature at the null pronoun that is

<sup>5</sup> In other words, structures such as *nobody<sub>1</sub> claimed to Mary that he<sub>1</sub> would win the competition*. Holmberg (2005) makes the same assumption: Finnish third person null subjects are bound by their antecedents like variables are bound by quantifiers. I will assume this hypothesis here without proof, since whether this precise interpretation of Strategy A is correct or not is not relevant for present purposes. Showing that this hypothesis is true is, however, nontrivial: one has to show that the conditions for quantifier-variable binding are the same as the conditions for null subject antecedents as determined by Strategy A.

matched with a discourse topic. (The reader should be aware that Finnish is topic-prominent in the sense that the preverbal subject position is interpreted as the topic by default; Holmberg & Nikanne 2002).

If the c-commanding antecedent and the topic algorithm find the same constituent, then that constituent *must* be selected. This will explain the data in (15). Only Pekka's cousin can be selected as an antecedent because it both c-commands the null pronoun *and* it is also a topic. Selecting 'Pekka' is now impossible.

- (15) [*Pekka*<sub>2</sub> *serkku*]<sub>1</sub> *väittää että*  $\_\_{1/*2}$  *on aina ajoissa paikalla.*  
 Pekka's cousin claims that be.3SG always in.time there



'Pekka's cousin claims that he (=cousin) is always there in time.'

So, the subject topic 'Pekka's cousin' intervenes and blocks discourse search. A more detailed examination of these rules will be provided in the sections that follow. The general idea is worth repeating, however: an antecedent can be either a suitable c-commanding referential phrase, or it might be something salient in the discourse. The important point is that if one constituent, say the matrix subject, can attract both strategies, then there is no alternative but to accept that antecedent. Example (15) illustrates this. I believe some of the confusion surrounding the antecedent selection, and in particular whether it is based on grammar or discourse, stems from the failure to see that the two mechanisms interact. Strategy A will 'mask' Strategy B if they converge on the same constituent. Their interplay also explains 'subject orientation': subjects are both c-commanding antecedents and topics, so they will be prioritized.

When assessing whether various structural conditions (c-command, locality) are in operation, we have to take a snapshot from the derivation for measurement. C-command relations are computed after A-movement but before A-bar movement (11a.iii). It is well known that A-bar movement bleeds control (Huhmarniemi 2012). In the example (16), I will use the null subject associated with the Finnish possessive suffix as an example; this construction will be discussed in detail in Section 3.1.3.

- (16) a. [ $\_\_{1}$  *Auto-nsa<sub>1</sub>-ko*] *Pekka<sub>1</sub> rikkoi*  $\_\_{}$ .  
           car-ACC.3SG-Q Pekka.NOM broke  
           'Was it his car that Pekka broke?'  
 b. ??[*Pekka<sub>1</sub>-a-ko*] [ $\_\_{1}$  *rikkinäinen auto-nsa<sub>1</sub>*] *häiritä*  $\_\_{}$ .  
           Pekka-PAR-Q broken car-3SG disturbed  
           'Was it Pekka that his broken car disturbed.'

The following evidence suggests that control relations can be computed after A-movement.

- (17) *Pekka<sub>1</sub> näyttää* [ $\_\_{1}$  *äiti-nsä mielestä*]  $\_\_{}$  *pärjäävän hyvin.*  
 Pekka.NOM seems mother-3SG opinion doing well  
 'Pekka seems to his mother to be doing well.'

It is more difficult to establish control before A-movement (18).





narrow syntax. Since the present paper aims to examine only the syntactic side of control, I will not comment on this aspect further.

### 3 Evidence

#### 3.1 Type I (“pro”) null subject and its control

##### 3.1.1 Finite clause

Standard finite clause exhibits subject-verb agreement in Finnish. There is a preverbal position filled in by EPP condition (Holmberg & Nikanne 2002, Vainikka 1989, Vainikka & Levy 1999). The finite clause should, therefore, generate Type I null subjects and fail to generate Type II null subjects. It will license Type I null subjects at Spec,T/FinP because there is both overt agreement and a place for an overt pronoun/DP. It will fail to generate Type II null subjects for the same reasons: Type II only occurs if agreement is necessarily lacking and there is no syntactic room for independent pronoun/DP. Both of these conditions are satisfied by the subject position of a canonical finite clause, however, hence a Type II null subject is not available.

We further have to show that the finite clause generates Type I null subjects only in the presence of agreement. This claim was established by H&B. For example, if the embedded finite clause contains a modal verb that does not agree with the subject, no control relation emerges.<sup>7</sup> The embedded null subject sentence receives a generic interpretation. I will return to generic sentences in Section 3.3.2.

- (20) a. *He<sub>1</sub> väittävät että \_\_\_ täytyy herätä aikaisemmin.*  
 they.NOM claim that must.0 wake.up earlier  
 ‘They claim that one (incl. or excl. them) must wake up earlier.’  
 b. *He<sub>1</sub> väittävät että heidän<sub>1</sub> täytyy herätä aikaisemmin.*  
 they.NOM claim that they.GEN must.0 wake.up earlier  
 ‘They claim that they must wake up earlier.’  
 c. *He<sub>1</sub> väittävät että \_\_\_<sub>1</sub> saa-vat herätä aikaisemmin.*  
 they.NOM claim that can-3PL wake.up later  
 ‘They claim that they/\*one can wake up later.’

If the finite control clause is headed by a Type I null subject, that null subject should, according to the present analysis, fill in the preverbal EPP position. This was shown by Vainikka & Levy (1999) for the first and second person pronouns, and later the claim has been extended for third person by others (Holmberg 2005). I will discuss Vainikka & Levy’s argument against the existence of preverbal third person null subjects in finite

<sup>7</sup> Instead of requiring Type I null subjects to agree with verb, as I do here, one could claim that Type I null subjects can only occur in grammatical positions that are assigned the nominative Case. This interpretation is possible because only nominative arguments trigger agreement on the verb in Finnish. Thus, in the agreementless examples in (16), an overt argument would appear in genitive Case. Two facts make this assumption unlikely. One is, also direct objects in Finnish can be assigned the nominative Case, yet they cannot host controlled null subjects. Thus, the presence of nominative Case does not constitute a sufficient condition for licensing a Type I null subject. A more difficult problem, however, is the fact that, as I will argue in this article, the distribution of Type I null subjects is not limited to finite domains. They also occur in non-finite domains, where they occupy positions that are never assigned nominative Case.

clauses in Section 3.1.2. In addition, the Type I null subject should be optional. An overt pronoun can indeed replace the null subject pronoun.

Unlike in the case of Romance *pro*, the Finnish Type I null subject requires an antecedent if it is in third person. Let us next look at antecedent selection. My proposal differs from Holmberg & Sheehan (2010) in that (11) allows control by non-c-command antecedents (Strategy B), while Holmberg & Sheehan relies on Agree that is constrained by c-command and (relative or absolute) locality. They must handle the anomalous data (that they acknowledge) in some way, for example, by arranging the required c-command and locality relations by means of covert movement. No explanation is provided, however. This analysis, therefore, needs to be developed more before it can be examined in detail.

Modesto (2008) proposes that Finnish embedded finite null subjects are bound by matrix topics, thus arguments located at the dedicated topic position *Spec,Top* in the matrix clause. He then observes that there are many examples of non-subject and even non-c-commanding antecedents, and even in examples which he thinks demonstrates strict subject orientation I find that no such strict orientation is in operation. I will not repeat the data, but point the reader to Frascarelli (2015) who corroborates my own judgment by using more native speaker data.<sup>8</sup> But notice that even if we ignore my own judgments and those reported by Frascarelli, Modesto himself correctly reports several examples which violate his subject condition. I believe the sum of the evidence suggests that there is no subject-topic requirement; rather, the subject-topic orientation emerges because subjects are often both c-commanding arguments and sentence topics, hence they are targeted by both Strategy A and Strategy B.

Frascarelli (2015) proposes that the null subject is controlled by an overt or covert topic constituent in the C-field.<sup>9</sup> Apparent nonlocal and non-c-commanding antecedents are therefore not ruled out, as the true antecedent is always in the C-domain and c-commands the null subject. A difference with Frascarelli's and the present hypothesis is that the present hypothesis (rule 11) predicts c-commanding non-topic antecedents to be possible in the presence of topics, the latter which, according to Frascarelli, should always be selected. I find non-topic control relations possible in Finnish. The data in (21) provides several examples. As I have marked in the glossing, both the topic and the non-topic antecedents are possible, while the topic antecedent is slightly less acceptable to me. This of course just emphasizes the point that non-topic antecedents are possible in the presence of topics.

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<sup>8</sup> There are other problems in Modesto's analysis. He suggests that Finnish is not a null subject language in the sense of Rizzi (1982, 1986), but exhibits topic-drop similar to the East Asian languages. This claim is motivated by the (incorrect, in my view) claim that only matrix topics could serve as antecedents for third person finite null subjects, but it also ignores the fact, presumably not known at that time, that licensing of third person null subjects in Finnish requires verbal agreement. Another problem concerns the observation, reported also in Modesto (2008), that the subject position of a Finnish finite clause need not be occupied by the topic. There is much previous literature that recognizes the same problem. Modesto attempts to solve this problem by enriching the Finnish left periphery with a two-topic structure 'Spec Top Spec Fin', but this claim is hard to maintain for Finnish (see Vilkkuna 1989, Vainikka 1989, Brattico et al. 2013 and Brattico 2016).

<sup>9</sup> The idea that the C-field contains covert features matched with referential arguments, including null arguments, is also argued for by Sigurðsson (2011) who applies such analysis to Finnish.

- (21) a. *Mitä tulee poliiseihin*<sub>1</sub> . . .  
 what comes to.police . . .  
*pankkirosvot*<sub>2</sub> *tietävät etteivät* \_\_\_<sub>2</sub> *pääse enää heitä*<sub>1</sub> *pakoon.*  
 bandits.NOM know that.not.3PL get anymore them away  
 ‘When it comes to the police, the bandits know that they cannot escape them anymore.’
- b. ?*Mitä tulee poliiseihin*<sub>1</sub> . . .  
 what comes to.police . . .  
*pankkirosvot*<sub>2</sub> *tietävät etteivät* \_\_\_<sub>1</sub> *saa heitä*<sub>2</sub> *kiinni.*  
 bandits.NOM know that.not get them catch  
 ‘When it comes to the police, the bandits know that they cannot catch them.’
- c. *Mitä tulee nuoriin*<sub>1</sub> . . .  
 what comes to.young . . .  
*jotkut*<sub>2</sub> *väittävät että* \_\_\_<sub>1/2</sub> *rikkovat heidän*<sub>1/2</sub> *ikkunoita(an)*  
 some.NOM claim that break their windows(3SG)  
 ‘When it comes to youngsters, some claim that they break their windows.’
- d. *Mitä tulee Pekkaan*<sub>1</sub> . . .  
 what comes to.Pekka . . .  
*joku*<sub>2</sub> *väitti että* \_\_\_<sub>1/2</sub> *varasti häneltä*<sub>1/2</sub> *kellon.*  
 some claimed that steal him watch  
 ‘When it comes to Pekka, somebody claimed that he stole a watch from him.’

Non-topic c-commanding antecedents are found by Strategy A, while the non-c-commanding topics are picked up by Strategy B. Both strategies operate in parallel and can locate different constituents. In order to access the non-c-commanding discourse antecedent, the matrix clause subject cannot constitute the topic. If the main clause subject is also the topic, both strategies are forced to converge to the same constituent. In order to get a reading in which the topic is the antecedent in (21b), these sentences must be interpreted so that ‘police’ (etc.) constitutes the only topic of the clause. We can test this prediction further by demoting the ‘topicness’ of the preverbal subject by using an expletive construction (22a–b), focus constructions (c–d) or interrogatives (e). I find that the reading that makes use of the discourse antecedent becomes more natural under such manipulations, which supports the generalization (11).

- (22) a. *Mitä tulee nuoriin*<sub>1</sub> . . .  
 what comes to.young . . .  
*sitä väittivät jotkut*<sub>2</sub> *että* \_\_\_<sub>1</sub> *rikkovat heidän*<sub>2</sub> *ikkunoitaan.*  
 EXPL claimed some.NOM that broke.3PL their windows  
 ‘When it comes the youngsters<sub>1</sub>, it was claimed by some that they<sub>1</sub> broke their windows.’
- b. *Mitä tulee Pekkaan*<sub>1</sub> . . .  
 what comes to.Pekka . . .  
*sitä väitti joku*<sub>2</sub> *että* \_\_\_<sub>1</sub> *varasti häneltä*<sub>2</sub> *kellon.*  
 EXPL claimed some.NOM that stole.3SG from.him watch  
 ‘When it comes to Pekka<sub>1</sub>, it was claimed by somebody that he<sub>1</sub> stole a watch from him.’

- c. *Mitä tulee nuoriin*<sub>1</sub> . . .  
 what comes to.young . . .  
*jotkut-ban*<sub>2</sub> *väittivät että* \_\_\_<sub>1</sub> *rikkovat heidän ikkunoitaan.*  
 some-FOC claimed that broke.3PL their windows  
 ‘When it comes to the youngsters<sub>1</sub>, some that they<sub>1</sub> broke their windows.’
- d. *Mitä tulee niihin nuoriin*<sub>1</sub> . . .  
 what comes to.those to.young . . .  
*NAAPURIT väittivät että* \_\_\_<sub>1</sub> *rikkovat heidän ikkunoitaan.*  
 neighbours claimed that broke.3PL their windows  
 ‘When it comes to those young, it was the neighbours (not for example our friends) who claimed that they broke their windows.’
- f. *Mitä tulee nuoriin*<sub>1</sub> . . .  
 what comes to.young . . .  
*kuka väitti että* \_\_\_<sub>1</sub> *rikkovat heidän ikkunoitaan?*  
 who.NOM claimed that broke.3PL their windows  
 ‘When it comes to the youngsters, who claimed that they broke their windows?’

The discourse antecedent reading still feels a bit marginal, suggesting again that there is a special difficulty in accessing the discourse for control purposes. But discourse access is not ungrammatical and as a fact accepted by many speakers (Frascarelli 2015).

H&B accept the fact that both grammar and discourse play a role, but they further claim that Strategy B is a last resort mechanism and therefore only used if the grammatical Strategy A fails. Strategy A would thus serve as a gatekeeper for Strategy B. The data above shows that the existence of a c-commanding local antecedent does not make the discourse antecedent invisible, which leads me to reject the hypothesis proposed by H&B. A better way to capture these data is to think of the two strategies as working in parallel – that is, both algorithms look for possible antecedents independently of each other – but also converging on the one and the same constituent were it available. The convergence will take place only after all candidate solutions have been pooled.

Rodrigues (2004) correctly observes that it is difficult to control the null subject over two CP-boundaries. The data is repeated in (23).

- (23) *Jukka*<sub>1</sub> *sanoi että Pekka*<sub>2</sub> *ajattelee että* *e*<sub>1/2</sub> *oli voittanut arpajaisissa.*  
 Jukka said that Pekka thinks that had won in.lottery  
 (topic) ————— (topic) ————— |  
 ‘Jukka said that Pekka thinks that he (=Pekka) had won in a lottery.’

Strategies A and B will provide two candidates ‘Jukka’ and ‘Pekka’, since they both c-command the null subject, and they are both located in the Finnish topic position Spec,Fin/TP. Condition (11a.iii) states that if more than one candidate satisfies both A and B, then the local antecedent will be selected. Hence, in (23), ‘Pekka’ is an acceptable antecedent while ‘Jukka’ is not. This is how Rodrigues’ observation will be captured under the present system. However, this hypothesis further predicts that the nonlocal antecedent should become accessible if the topicness of the intervening antecedent is lessened. This prediction is borne out, as shown in (24).

- (24) *Mitä tulee Pekkaan...*  
 what comes to.Pekka...'  
*Hän<sub>1</sub> pelkäsi että joku<sub>2</sub> tietää että pro<sub>1/2</sub> varasti auton.*  
 he feared that some knows that stole car  
 (topic,A+B) ——— (non-topic,A) ———|  
 'When it comes to Pekka, he feared that somebody knows that he stole the car.'

Here, 'Pekka/he' is the explicit topic, while the indefinite quantifier 'somebody' is not; hence A picks up 'Pekka' and 'somebody', while B picks up only 'Pekka', making the non-local antecedent possible.

### 3.1.2 *Vainikka & Levy's (1999) argument against preverbal third person null subjects*

Vainikka & Levy (1999) argue that while the first and second person null pronouns satisfy the Finnish EPP condition, third person null pronouns do not. Their argument to the conclusion that first and second person null subject pronouns can (or must) satisfy the Finnish EPP is based on the observation that Finnish has a strong tendency to avoid verb-initial constructions, while no ungrammaticality emerges if the sentence is headed by a null subject. This is generally taken to mean that the null subject sentences are *not* verb-initial: they have the null subject at a preverbal subject position. The argument is convincing. While there is a broad agreement on these facts by now, at least in the relevant literature discussing Finnish, Vainikka & Levy (1999) do not think that this reasoning applies to third person null subjects. Their argument is based on the evidence in (25) (the data and judgments from Vainikka & Levy 1999).

- (25) a. *Nopan löysi Maija lipaston alta.*  
 dice.ACC found.3sg Maija.NOM chest under  
 'Maija found the dice under the chest.'  
 (Vainikka & Levy 1999, ex. 20)
- b. *?\*Palkankorostusta pyysin heti.*  
 raise.PAR ask.1SG immediately  
 'I asked for a raise immediately.'  
 (Vainikka & Levy 1999, ex. 18a)
- c. *Palkankorostusta pyysi heti Liisa.*  
 raise.PAR ask.3SG immediately Liisa.NOM  
 'It was a raise that Liisa asked for immediately.'  
 (Vainikka & Levy 1999, ex.18b)

Vainikka & Levy (1999) argue that the preverbal subject position is empty when the verb agrees in third person, hence it can be occupied, and its EPP requirement is checked by some other phrase (25a,c). This is not so when the verb agrees in first or second person (25b). The data suggests that there is room for one extra phrase when the verb agrees in the third person.

The argument hinges on the judgment that 25(b) is ungrammatical. To me there is no contrast between (25a–c). Furthermore, sentence (26) provides a context in which this construction is also pragmatically natural.

- (26) *Otin vastaan työpaikan sillä ehdolla, että saisin palkankorotuksen ja lisää lomapäiviä . . .*  
 ‘I took the job on the condition that I would get a raise and more vacation...’  
*Palkankorotuksen pyysin heti.*  
 Raise.ACC ask.1SG immediately.  
 ‘I asked for the raise immediately.’

This topic reading, created by the context, further suggests that the phrase ‘raise’ occurs in the preverbal subject position that is associated with topics by default (Holmberg & Nikkanen 2002). The null subject would then remain at some postverbal position.

Another problem in Vainikka & Levy’s argument is their own observation that the third person pronoun can be null, and that a gap can occur in the preverbal subject position, once there is an antecedent (see example (1b) in the present paper). This is a problem because, as they themselves acknowledge, it looks as if the controlled null pronoun now has to occupy the subject position. No other phrase is required to fill in the subject position and thus to check the Finnish EPP requirement; hence the null subject has to do it. The implication is that the third person null subject *can* suffice to satisfy the EPP, and the original claim of Vainikka & Levy (1999) must be interpreted as claiming only that it is not forced to do so. Anne Vainikka (personal communication) has confirmed to me that this interpretation is correct. What come to the present work, then, we can conclude that there is no evidence suggesting that the third person null subject could not satisfy the finite clause EPP requirement in Finnish. Whether it is able to remain in some post-verbal position will not be addressed in this paper.

### 3.1.3 Noun phrase (NP/DP) and adposition phrase (PP)

Finnish noun phrases and certain adposition phrases exhibit full agreement between a local argument and the head. They are therefore predicted to generate Type I null subjects. The matter was argued for by H&B and their argument will be summarized here.

Both noun heads and adpositions exhibit optional phi-agreement in Finnish. When there is agreement, first and second person pronouns can be null without notable change in meaning (27a–b). When the pronoun is null and in the third person, it requires an antecedent (27c).

- (27) a. *(minun) auto-ni/ \*(minun) auto*  
 I.GEN car-1SG I.GEN car.0  
 ‘my car’  
 b. *(minun) läbellä-ni \*(minun) läbellä*  
 I.GEN near-1SG I.GEN near.0  
 ‘near me’  
 c. *\*(hänen) auto-nsa/ Pekka<sub>1</sub> rikkoi (hänen)<sub>1</sub> auto-nsa.*  
 he.GEN car-3SG Pekka broke his car-3SG  
 ‘his car’/‘Pekka broke his car.’

The prediction that third person null subjects in (27c) can seek c-commanding and non-c-commanding antecedents was verified in H&B, which in turn relied on much earlier literature reporting similar facts. The matter is not controversial. We still have to show that the control relation follows the control conditions stated in rule (11). The fact that c-command and semantic coherence play a role is not surprising, as is shown in (28).

- (28) a. [*Pekan<sub>1</sub> serkku*]<sub>2</sub> *rikkoi* *pro*\*<sub>1/2</sub> *auto-nsa*. (c-command violation)  
 Pekka's cousin broke car-3SG  
 b. \**Minä<sub>1</sub> korjasin* [*pro*<sub>1</sub> *virhee-nsä*]. (semantic feature violation)  
 I fixed mistake-3SG  
 'I fixed (his) mistake.'

Both H&B and the present hypothesis predict the existence of non-c-commanding antecedents. A long list of such constructions was reported in H&B, and I will not repeat the list here due to space constraints. The present hypothesis and the one proposed by H&B are not identical, however. H&B predicts discourse antecedents to be impossible in the presence of c-commanding antecedents, whereas according to the current hypothesis Strategy B should be able to pick up discourse antecedents independently of Strategy A. In the previous section, I documented a plethora of facts that disagree with H&B's last resort hypothesis. But H&B present data to support their own hypothesis. The data they cite shows that non-c-commanding antecedents are inaccessible if there is a c-commanding antecedent. Indeed, when it comes to noun phrases it is very difficult to get the null subject to refer to discourse antecedents in the presence of c-commanding antecedent inside both noun phrases (29) and adposition phrases (30).

- (29) Null subject + noun phrase + demoted matrix clause topic = discourse access still difficult
- a. ??*Mitä tulee Pekkaan<sub>1</sub>...*  
 what comes to.Pekka...?  
*sitä* <sub>1</sub> *valitusta-an* *esiteltiin* *firman* *johtajille*<sub>2</sub> *eilen*  
 that complaint-3SG presented firm's bosses yesterday  
*tuloksettomasti*.  
 without.resolution  
 'When it comes to Pekka, that complaint of his was presented to the bosses yesterday, but without resolution.'
- b. ??*Aarhus<sub>1</sub> on hieno kaupunki. Me rakastuttiin* [<sub>1</sub> *hienoihin kävelykatuihin-nsa*].  
 Aarhus is nice city. We fell.in.love nice streets-3SG  
 'Aarhus is a nice city. We fell in love with its nice streets.'
- c. ??*Mitä tulee Aarhusiin<sub>1</sub>...*  
 what comes to.Aarhus...?  
*Pekka piti erityisesti* [<sub>1</sub> *vapautuneesta ilmapööristä-än*].  
 Pekka likes especially (his/its) relaxed atmosphere.
- d. ??*Mitä tulee Aarhusiin<sub>1</sub>,...*  
 what comes to.Aarhus...?  
<sub>1</sub> *vanhoja talojaan* *olivat suomalaiset turistit katselleet taukoamatta*.  
 old house-3SG had Finnish tourists looked.at endlessly  
 'When it comes to Aarhus, (its) old houses had the Finnish tourists looked at without pause.'
- (30) Adposition phrase + null subject + demoted matrix subject = discourse access still difficult
- a. ??*Mitä tulee Merjaan<sub>1</sub>, joku näki linnun lentävän* [<sub>1</sub> *ylitseän*]  
 what comes to.Merja, some saw bird flying over-3SG  
 'When it comes to Merja, somebody saw a bird flying over him/??her.'



- b. \**Mitä tulee heihin<sub>1</sub>, tiedettiin Pekan asuvan* [<sub>1</sub> *lähellään*]  
 what comes to.them know.IMPASS Pekka.GEN live.VA near.3P  
 ‘When it comes to them, it was known that Pekka lives near them.’

Therefore, although both c-commanding (Strategy A) and non-c-commanding (Strategy B) antecedents are possible inside these constructions, the presence of a c-commanding antecedent blocks access to potential discourse antecedents. Strategy A functions as a gateway to Strategy B. Comparison between finite clauses, illustrated in the previous sections, and noun/adposition phrases suggests that this is a special property of noun/adposition phrases.

One explanation might stem from a mismatch between the thematic roles. Recall that the antecedent and the null subject must match in their semantically relevant features. Once the antecedent and the null subject share a thematic role, for example, such as the thematic role of ‘possessive’, the control relation becomes more acceptable (31).

- (31) *Pekalla<sub>1</sub> oli uusi auto. Merja<sub>2</sub> ihaili kovasti* [<sub>?1/2</sub> *uutta autoaan*]  
 Pekka had new car. Merja admired much new car-3SG  
 <poss> <poss>  
 ‘Pekka had a new car. Merja admired his new car very much.’

Thus, having the antecedent and the null subject to share their thematic role increases access to the discourse, as would be predicted by the present analysis. Another possible reason derives from the interaction between Strategy A and B. Recall that while Strategy A locates c-commanding antecedents, B searches for discourse topics. In many of the examples in (23–24), however, the clause-mate c-commanding antecedent is also a topic, or the sentence has an overt or covert topic, thus forcing the two strategies to converge into the more local antecedent. It is possible that in the configuration [S (topic)... [DP...pro]] the null subject cannot easily see outside of the containing clause, because the clause contains an overt or covert topic. Whatever the explanation, noun and adposition phrases behave differently than finite clauses and many other constructions examined later in this article, in that there is some resistance to discourse search.

#### 3.1.4 TUA-adverbial

The Finnish TUA-adverbial, best glossed as ‘after doing something’ in English, is illustrated in (32).<sup>10</sup>

- (32) *Lapsi nukahhti* [<sub>—</sub> *luet-tua-an* *iltasadun*].  
 child fell.asleep after.reading-TUA-3SG bedtime.story  
 ←—————|  
 ‘The child fell asleep after reading a bed time story.’

The adverbial clause *luettuaan iltasadun* ‘after reading the bed time story’ is composed of a verbal root *lu(k)e-* ‘to read’ (for Finnish roots, see Brattico 2005), suffixed with the TUA material, which makes it an adverb, followed by agreement. There is no overt thematic

<sup>10</sup> Finnish non-finite constructions have been analyzed in detail in Vainikka (1989) and Koskinen (1998). These works should be consulted for more detailed description of the various non-finite constructions examined in this article.

subject in (32), but there is a control relation to the matrix clause subject that is also reflected in the agreement (33).

- (33) *Minä nukahdin [ \_\_\_ lue-ttua-ni iltasadun].*  
 I.NOM fell.asleep read-TUA-1SG bedtime.story  
 ‘I fell asleep after reading the bed time story.’

The fact that there is agreement is compatible with the proposition that the null subject is Type I, which means that it ought to be possible to insert an overt subject/pronoun to the preverbal position of the TUA-adverbial. This turns out to be the case:

- (34) *Lapsi nukabti [isän luet-tua iltasadun].*  
 child.nom fell.asleep father.GEN read-TUA.0 bed.time.story  
 ‘The child fell asleep after the father read the bed time story.’

The null subject of the TUA-adverbial is therefore a Type I null subject, the same element that occurs in the subject position of a finite clause:

- (35) *Lapsi nukabti [pro luet-tua-an iltasadun].*  
 child fell.asleep after.reading-TUA-3SG bedtime.story  
 ‘The child fell asleep after reading a bed time story.’

This hypothesis further predicts that it should be impossible to merge the null subject at the specifier position of the adverbial without agreement. This prediction is borne out:

- (36) \**Lapsi nukabti [ \_\_\_ luet-tua iltasadun].*  
 child fell.asleep read-TUA.0 bed.time.story  
 Intended: ‘The child fell asleep after reading the bed time story.’

Notice that once the TUA-adverbial is headed by an overt subject, agreement disappears (0 in the gloss). The reason is that only pronouns trigger possessive agreement in Finnish:

- (37) *Lapsi nukabti [sinun luet-tua(-si) iltasadun].*  
 child fell.asleep you.GEN read-TUA-2SG bed.time.story  
 ‘The child fell asleep after you read the bed time story.’

Is the Type II null subject possible in this context? The presence of overt pronoun subject, agreement and the fact that agreement is a necessary condition for the null subject suggest that Type II should not be possible. This is further supported by the observation that the control relation targets the matrix subject (38). Type II null subjects, in contrast, only target the closest possible c-commanding antecedent, a fact we will be able to demonstrate later.

- (38) a. *Pekka<sub>1</sub> tapasi Merjaa<sub>2</sub> [ \_\_\_<sub>1/\*2</sub> lähdettyään kotoa].*  
 Pekka.NOM met Merja.ACC left.TUA.3SG home  
 ‘Pekka met Merja after he(\*she) left home.’  
 b. *Pekka<sub>1</sub> pyysi Merjaa<sub>2</sub> leikkimään [ \_\_\_<sub>1/\*2</sub> tehtyään läksyt].*  
 Pekka asked Merja.PAR to.play done.TUA.3SG home work  
 ‘Pekka asked Merja to play after he did the home work.’

- c. *Pekka*<sub>1</sub> *antoi* *Merjan*<sub>2</sub> *lähteä* [ \_\_\_<sub>1/2</sub> *siivottuaan* *huoneensa*.]  
 Pekka let Merja.GEN leave.A clean.TUA.3SG room.3SG  
 ‘Pekka let Merja to leave after he/she cleaned his/her room.’
- d. *Pekalle*<sub>1</sub> *kerrottiin* *Merjan*<sub>2</sub> *lähteneen* [ \_\_\_<sub>\*1/2</sub> *siivottuaan* *huoneensa*.]  
 to.Pekka was.told Merja.GEN leave.VA clear.TUA.3SG room.3SG  
 ‘Pekka was told that Merja had left after \*he/she cleaned \*his/her room.’

Are non-c-commanding discourse antecedents available? The discourse strategy B can be used if the null pronoun itself has some discourse property, such as ‘topic’. The matrix clause subject antecedent is itself typically the topic, which forces it to attract both strategies, as shown in (39).

- (39) *Pekka*<sub>1</sub> *tapasi* *Merjan*<sub>2</sub> [ \_\_\_<sub>1/\*2</sub> *lähdettyään* *kotoa*].  
 Pekka.NOM met Merja.ACC left.TUA.3SG home  
 ← Strategy A ————— |  
 ← Strategy B ————— |

In order to force the null subject to be controlled by a non-c-commanding discourse antecedent, we have to remove the topic subject and utilize some context to attach a discourse feature ‘topic’ to the subject of the adverbial clause. This will allow the null subject topic to match with the topic constituent. When we do this, we get examples such as (40).

- (40) *Mitä tulee Pekkaan*<sub>1</sub> . . .  
 what comes to.Pekka . . .  
*olla*<sub>an</sub> *oltu* *yhdessä* *paljon* *kalassa* [ \_\_\_<sub>1</sub> *jouduttuaan*  
 have.IMPASS been together much fishing become.TUA.3SG  
*työttömäksi*].  
 unemployed  
 ‘As for Pekka, we have done much fishing together after he was fired.’

Insertion of an intervening topic makes the control relation much worse; ungrammatical to me. This is what we expect if the rule (11) were true: intervening c-commanding topic antecedents should block discourse access.

- (41) ?\**Mitä tulee Pekkaan*<sub>1</sub> . . .  
 what comes Pekka . . .  
*Merja on tapaillut häntä paljon* [ \_\_\_<sub>1</sub> *jouduttuaan* *työttömäksi*].  
 Merja had meet him much become.TUA.3SG unemployed  
 ‘When it comes to Pekka, Merja had met him quite much after she/?\*he was fired.’

The sum of the evidence therefore supports the claim that the TUA-adverbial is headed by a Type I null subject (“pro”) whose antecedent is determined by Strategy A and Strategy B in interaction. A Type II null subject is not possible.

### 3.1.5 ESSA-adverbial

The data below show that the ESSA adverbial (roughly ‘while doing something’) patterns with the TUA-adverbial: the adverbial agrees in phi-features (42a), and there is room for

an overt pronoun or DP (42b) while agreement is again a precondition for the occurrence of the null pronoun (42c). This construction will therefore be analyzed as in (42d).

- (42) a. *Pekka<sub>1</sub> nukabti* [<sub>1</sub> *luki-essa-an kirjaa*].  
 Pekka.NOM fell.asleep read-ESSA-3SG book.PAR  
 ‘Pekka fell asleep when/while reading a book.’
- b. *Pekka nukabti* [*isän luki-essa kirjaa*].  
 Pekka.NOM fell.asleep father.GEN read-ESSA.0 book.PAR  
 ‘Pekka fell asleep when/while his father was reading a/the book.’
- c. ??*Pekka<sub>1</sub> nukabti* [<sub>1</sub> *luki-essa kirjaa*].  
 Pekka.NOM fell.asleep read.ESSA.0 book.PAR  
 ‘Pekka fell asleep when/while reading a book.’
- d. *Pekka<sub>1</sub> nukabti* [<sub>PRO1</sub> *luki-essa-an kirjaa*].  
 Pekka.NOM fell.asleep read-ESSA-3SG book.PAR  
 ‘Pekka fell asleep when/while reading a book.’

These data agree with the present hypothesis, apart from the fact that (42c) is agreementless and has a null subject controlled by the matrix subject. The construction is marginal, and the form bearing the agreement suffix, the form predicted by the present hypothesis, is the default option. To me, however, there is a clear contrast between the controlled agreementless TUA-adverbial and the controlled agreementless ESSA-adverbial that calls for an explanation:

- (43) a. \**Pekka<sub>1</sub> nukabti* [<sub>1</sub> *luettua kirjaa*].  
 Pekka.NOM fell.asleep read.TUA.0 book.PAR  
 Intended: ‘Pekka fell asleep after reading a/the book.’
- b. ??*Pekka<sub>1</sub> nukabti* [<sub>1</sub> *lukiessa kirjaa*].  
 Pekka.NOM fell.asleep read.ESSA.0 book.PAR  
 Intended: ‘Pekka fell asleep while reading a book.’

Construction (43b) will be discussed in the next section (hence this section can be skipped unless the matter is of particular interest to the reader).

### 3.1.6 ESSA-adverbial without agreement; generic adverbials

In this section I will examine the controlled agreementless ESSA-adverbial in detail. We begin by observing that the non-agreeing form has more limited distribution than the agreeing form, which is the productive variant:

- (44) a. *Pekka<sub>1</sub> hymyili* [<sub>1</sub> *voittaessa\*(an) kilpailun*].  
 Pekka.NOM smiled win.ESSA.(3SG) competition.ACC  
 ‘Pekka smiled while winning the competition.’
- b. *Pekka<sub>1</sub> tapasi Merjan* [<sub>1</sub> *pyöräillessä?\*(än)*].  
 Pekka.NOM met Merja.ACC bike.ESSA.(3SG)  
 ‘Pekka met Merja while biking.’
- c. *Pekka<sub>1</sub> nukabti* [<sub>1</sub> *lukiessa?\*(aan)*].  
 Pekka.NOM fell.asleep read.ESSA.(3SG)  
 ‘Pekka fell asleep while reading.’

The controlled agreementless ESSA-adverbial is *not* compatible with accomplishment or achievement aspect, as shown in (45).

- (45) a. *Lapsi kiukutteli usein* [<sub>1</sub> *syödessä \*puuron/ puuroa*].  
 child.NOM was.angry often eat.ESSA.0 porridge.ACC/ porridge.PAR  
 ‘The child was often angry while eating the porridge/some porridge.’  
 b. *Lapsi kiukutteli usein* [<sub>1</sub> *syödessään puuron/ puuroa*].  
 child.NOM was.angry often eat.ESSA.3SG porridge.ACC/porridge.PAR  
 ‘The child was often angry while eating the porridge/some porridge.’

In addition, the non-agreeing ESSA-adverbial can establish generic/arbitrary interpretation in which the thematic agent of the adverbial is ‘one’ (46). This is not possible with the TUA-adverbial (46b–d).

- (46) a. [ *luki-essa (kirjaa)*] *saattaa nukahtaa*.  
 read-ESSA.0 book.PAR can fall.asleep  
 ‘When reading a book one can fall into sleep.’  
 b. *\*?[ luettua (kirjan)] tuntuu hyvältä*.  
 read-TUA.0 book.ACC feels good  
 ‘One feels good after reading a book.’  
 c. *\*?[ kirjan luettua] voi olla tyytyväinen*.  
 book.ACC read.TUA.0 can be happy  
 ‘After reading a book one can feel good.’  
 d. [ *Luettua?(an) kirjan kokonaan*] *voi aina olla tyytyväinen*.  
 read.TUA.(3SG) book.ACC completely can always be happy  
 ‘After completing a book one can always be happy.’

If the ESSA-adverbial can generate generic reading, might it be possible to use it *without* creating a control relation to the matrix subject? I think such generic/non-controlled readings do indeed exist although, not surprisingly, they are marginal.

- (47) a. *?Koira haukkuu* [ *myrskytessä/sataessa*].  
 dog.NOM barks storm.ESSA.0/rain.ESSA.0  
 ‘The dog barks when there is a storm/rain.’  
 b. *?Meidän perheen kissa pelästyy aina* [ *huutaessa*].  
 us.GEN family.GEN cat fears always shout.ESSA.0  
 ‘Our family’s cat becomes frightened always when one shouts/there is shouting.’

Adding agreement to these forms shifts the control relation back online, and the generic reading disappears. In order to completely break the control relation between the ESSA-adverbial and the matrix subject something (affix X below) has to be added between the root and the ESSA-suffix:

- (48) a. *Kaikkiä hakevat tavaransa varastosta* [<sub>2</sub> *pyyd-että-essä*].  
 everybody brings things from.storage ask-X-ESSA.0  
 ‘Everybody will bring their stuff from the storage when asked.’

- b. *Pekka*<sub>1</sub> *punastuu* [<sub>2</sub> *aina laul-etta-essa*].  
 Pekka reddens always sing-X-ESSA.0  
 ‘Pekka becomes red always when one (incl. or excl. Pekka) sings.’

The affix X is a special form, possibly a passive suffix that licenses a true adverbial generic pronoun.<sup>11</sup> This is shown by the fact that adding agreement (thereby forcing control) produces gibberish, and that by removing X true generic non-controlled reading becomes difficult:

- (49) a. \**Pekka punaistuu* [ *laul-etta-essa-an*].  
 Pekka reddens sing-X-ESSA.3SG  
 b. *Pekka punastuu* [ *laula-essa*].  
 Pekka reddens sing-ESSA.0  
 ‘Pekka becomes red when he (one??) sings.’

The sum of the evidence is that the ESSA-adverbial has two clear forms: the controlled form that exhibits agreement and the generic form that does not exhibit agreement but requires a special affix. I would like to argue that the more limited agreementless ESSA-adverbial is a special construction that triggers a generic reading that targets the event structure of the main clause, thereby explaining why it cannot occur with accomplishment/achievement constructions, why it can establish a generic interpretation, and why it is has more limited use and feels marginal. Instead of the typical generic reading associated with some of the arguments of the predicate and generating a reading in which the argument refers to some generic ‘one’, this construction attributes the adverbial predicate to ‘some events in general’ (50).

- (50) *Pekka*<sub>1</sub> *punastuu* [<sub>1/??2</sub> *laulaessa*].  
 Pekka.nom reddens sing-ESSA.0  
 ‘In general, Pekka becomes red while singing/??while one sings.’

This explains why there is a strong desire to use an agreeing form in connection with temporally unique situations (51), and why agreementless forms are acceptable in clauses such as (52) that refer to ideas or events in general:

- (51) a. *Yhdessä esityksessä Pekka punastui laulaessa?\*(an)*.  
 one show Pekka reddened sing.ESSA(3SG)  
 ‘In one show Pekka reddened while he sang.’  
 b. *Katso, Pekka kompastui juostessa?\*(an)!*  
 look Pekka.NOM stumbled run-ESSA(3SG)  
 ‘Look, Pekka stumbled while running!’  
 c. *Sen yhden kerran Pekka ei ollut ärtynyt herätessä\*(än) aikaisin*  
 that one time Pekka not be annoyed wake.up.ESSA(3SG)early  
 ‘It was that one time that Pekka was not angry after waking up early.’

<sup>11</sup> The affix X looks like the causative, but it is not causative; the causative forms are *laula-tta-essa* ‘sing-CAU-ESSA.0’ and *pyydättäessä* ‘ask-CAU-ESSA.0’, and then the control relations emerge again. A reviewer suggests that X is a passive suffix, as in *laul-eta-an* ‘sing-PASS-??’.

- d. *Älä käytä kännykää ajaessa.*  
 don't use mobile phone drive.ESSA.0  
 'Don't use the mobile phone while driving.'

In short, the agreementless ESSA-adverbial seems to contain a generic event argument. It is tied to the matrix clause constituents by means of adverbial predication and has neither *pro* nor PRO at its Spec. By the same token, grammaticality judgments are difficult to estimate, perhaps requiring more natural data and/or informant consultation.

### 3.1.7 Adjective phrase (MA-participle)

Finnish has two prehead participle adjective constructions, of which we first look at the MA-participle. This construction is illustrated in (52).

- (52) *Pekka<sub>1</sub> palautti* [[<sub>1</sub> *löytä-mä-nsä*] *kirjan*].  
 Pekka.NOM returned found-MA-3SG book.ACC  
 'Pekka returned a book that he had found.'

The adverb *löytä-mä-nsä* is composed out of a verbal root *löytä* 'find' together with the MA-suffix and agreement. Agreement (3sg) is here with the matrix subject. The thematic subject of the adjective phrase is the matrix subject, as shown in the translation. Overt agreement suggests that there is a Type I null subject that is controlled by the matrix subject. This predicts, correctly, that the null pronoun can be substituted by an overt pronoun (53a) and that the null subject occurs only if there is agreement (53b). This construction will be analyzed as in (53c).

- (53) a. *Pekka palautti* [*minun löytämän kirjan*].  
 Pekka.NOM returned I.GEN found.MA book.ACC  
 'Pekka returned a/the book found by me.'  
 b. \**Pekka palautti* [ *löytämän kirjan*].  
 Pekka.NOM returned found.MA.ACC book.ACC  
 c. *Pekka<sub>1</sub> palautti* [*pro<sub>1</sub> löytä-mä-ni kirjan*].  
 Pekka.NOM returned found-MA-1sg book.ACC  
 'Pekka returned a/the book found by me.'

Let us consider control. There is strong subject orientation, and locality is not a requirement:

- (54) a. *Pekka<sub>1</sub> palautti Merjalle<sub>2</sub>* [<sub>1/2</sub> *löytä-mä-nsä kirjat*].  
 Pekka.NOM returned to.Merja found-MA-3SG books.ACC.PL  
 'Pekka returned to Merja the books that he/??she has found.'  
 b. *Pekka<sub>1</sub> pyysi Jukka<sub>2</sub> palauttamaan Merjalle<sub>3</sub>* [<sub>1/2/??3</sub> *löytä-mä-nsä kirjat*].  
 Pekka.NOM asked Jukka to.return to.Merja find-MA.PX/3SG  
 books.ACC.PL  
 'Pekka asked Jukka to return to Merja the books that he (=Pekka/Jukka) had found.'

Discourse strategy (Strategy B) is possible, provided that no subject/topic antecedent intervenes:

- (55) ?*Pekka*<sub>1</sub> *sai* *pankista* *useita* *kirjeitä* . . .  
 Pekka got from.bank several letters . . .  
*Tiedettiin* *että* *—*<sub>1</sub> *saamansa* *kirjeet* *menivät* *kaikki* *roskiin*.  
 Know.IMPASS that got.MA.3SG letters went all to.garbage  
 ‘Pekka got several letters from the bank. It was known that the letter he got he threw out to the garbage.’

Properties of the MA-participle therefore fall into place in accordance with (11). It contains a little-pro null subject that carries the thematic role of the agent, assigned by the MA-participle head, and is controlled by the matrix subject if a suitable matrix subject antecedent becomes available and by a discourse topic antecedent if such is available and can be accessed.

### 3.1.8 The VA-infinitival

The VA-construction, illustrated in (56), resembles finite clause in the sense that there is an overt verbal tense alteration (past/present) and the construction exhibits full phi-agreement. Most finite clauses can be transformed into a VA-infinitival, and vice versa. The VA-infinitival is not a finite clause, however. It only occurs in complement positions of other verbs and does not exhibit the typical left edge syntax of finite clauses (operators, topics). It cannot host finite elements, such as the modals, negation or auxiliaries. It has a preverbal specifier position that can be filled in by an overt pronoun. The thematic subject is in the genitive case.

- (56) *Pekka* *uskoi* *Merjan/minun* *lähtevän*.  
 Pekka.NOM believed Merja.GEN/I.GEN leave.VA.0  
 ‘Pekka believed that Merja will leave.’

There is no agreement between the thematic subject and the VA-infinitival in (56). The agreeing form is marginal:

- (57) ?\**Pekka* *uskoi* *minun* *lähtevä-ni*.  
 Pekka.NOM believed I.GEN leave.VA-1SG  
 ‘Pekka believed that Merja will leave.’

Presence of the null subject makes agreement obligatory, as predicted by the present hypothesis:

- (58) a. \**Pekka* *uskoi* *—* *lähtevän*.  
 Pekka.NOM believed leave.VA.0  
 b. *Pekka*<sub>1</sub> *uskoi* *—*<sub>1</sub> *lähtevä-nsä*.  
 Pekka.NOM believed leave.VA-3sg  
 ‘Pekka believed that he (=Pekka) will leave.’

The null subject of the VA-infinitival is controlled by the matrix clause subject, as predicted by (11): both Strategy A and Strategy B are attracted to the same constituent. To test if discourse antecedents are possible we eliminate or suppress the subject/topic entirely (prevent convergence between A and B) and further create a context that makes the null subject



of the VA-infinitival the topic, so that it can try to match another topic from discourse. One example is provided in (59).

- (59) ?*Mitä tulee Pekkaan<sub>1</sub> ...*  
 what comes to.Pekka ...  
*tiedettiin* [<sub>1</sub> *aikovansa perua kaikki lupauksensa*].  
 believes.IMPASS attempt.VA.3SG cancel all promises  
 ‘When it comes Pekka, it was known that (he) will try to not to honour any of his promises.’

As it is with other non-finite null subjects, the discourse reading is somewhat marginal because the null subject itself does not occupy a topic position. But the sentence is grammatical. As a final note, overt arguments do not trigger agreement at the VA-infinitival:

- (60) a. \**Pekka uskoi hänen lähte-vä-nsä.*  
 Pekka.NOM believed he.GEN leave-VA-3SG  
 ‘Pekka believed that he will leave.’  
 b. *Pekka uskoi hänen lähte-vän.*  
 Pekka.NOM believed he.GEN leave-VA.0

I do not know the reason for the fact that VA-infinitival cannot agree with overt pronouns, but the present hypothesis does not require verbs to agree with overt subjects; it only requires agreement with Type I null pronouns.

## 3.2 Type II null subjects

### 3.2.1 Obligatory control (OB) in Finnish: preliminary observation

Before examining Type II null subjects and their control, something has to be said about obligatory control constructions (OB) in Finnish in general. A very basic observation is that for Finnish verbal complement clauses, of which there are several kinds (Koskinen 1998), both the nature of the verbal complement itself and the verb that selects it are relevant for null subject and control behaviour. To see this, we consider two selecting verbs, *want* and *order*, and two complement verbs, the A-infinitival and the VA-infinitival. We show that it is the combination of the selecting verb and the selected verb which determine whether and what kind of null subjects can occur. The data below is self-explanatory.

- (61) *want* + A-infinitival  $\longrightarrow$  null subject obligatory  
 a. *Pekka<sub>1</sub> halusi \_\_\_<sub>1</sub> lähteä*  
 Pekka.NOM wanted leave.A  
 ‘Pekka wanted to leave.’  
 b. \**Pekka halusi Merjan lähteä.*  
 Pekka.NOM wanted Merja.GEN leave.A  
 Intended: ‘Pekka wanted Merja to leave.’
- (62) *order* + A-infinitival  $\longrightarrow$  overt subject obligatory  
 a. \**Pekka<sub>1</sub> käski \_\_\_<sub>1</sub> lähteä.*  
 Pekka.NOM order leave.A

- b. *Pekka käski Merjan lähteä.*  
 Pekka.NOM ordered Merja.GEN leave.A  
 ‘Pekka ordered Merja to leave.’

(63) *want* + VA-infinitival  $\longrightarrow$  overt argument obligatory

- a. \**Pekka halusi — lähtevän.*  
 Pekka.NOM wanted leave.VA  
 b. *Pekka halusi Merjan lähtevän.*  
 Pekka.NOM wanted Merja.GEN leave.VA  
 ‘Pekka wanted Merja to leave.’

I will, therefore, often examine pairs of elements, for example, a combination of *want* + Infinitival instead of single constructions in isolation.

### 3.2.2 *want* + A-infinitival

The *want* + A-infinitival projects an obligatory null subject (64a–b). It never exhibits agreement (64c). Thus, as predicted by the current theory, an agreementless and specifierless verb generates a Type II obligatory null subject (labelled as PRO, (64d)).

- (64) a. *Pekka<sub>1</sub> halusi —<sub>1</sub> lähteä.*  
 Pekka.NOM wanted leave.A  
 ‘Pekka wanted to leave.’  
 b. \**Pekka halusi Merjan lähteä.*  
 Pekka.NOM wanted Merja.GEN leave.A  
 Intended: ‘Pekka wanted Merja to leave.’  
 c. \**Pekka haluasi (Merjan) lähteä-nsä.*  
 Pekka.NOM wanted (Merja.GEN) leave.A-3SG  
 d. *Pekka<sub>1</sub> halusi PRO<sub>1</sub> lähteä.*  
 Pekka.NOM wanted leave.A  
 ‘Pekka wanted to leave.’

The *want* + A-infinitival pair therefore generates a predicate that is morphosyntactically inactive: it cannot project a specifier (64b) or exhibit agreement (64c). Morphosyntactic idleness creates obligatory null subjects in Finnish. The antecedent properties of the null subject are those of (11). The c-command condition is trivial and will not be examined here. Closest antecedent can and must be selected (65).

- (65) a. *Merja<sub>2</sub> ymmärsi Pekka<sub>1</sub> haluavan PRO<sub>1/\*2</sub> lähteä.*  
 Merja.NOM understood Pekka.GEN want.VA leave.A  
 ‘Merja understood that Pekka wanted to leave.’  
 b. *Pekka<sub>2</sub> antoi Merjalle<sub>1</sub> [käskyn [PRO<sub>1/\*2</sub> lähteä]]*  
 Pekka.NOM gave to.Merja order leave.A  
 ‘Pekka gave Merja the order to leave.’  
 c. *Pekka<sub>1</sub> näyttää — haluavan PRO<sub>1</sub> lähteä.*  
 Pekka.NOM seems want.VA leave.A  
 ‘Pekka seems to be wanting to leave.’  
 d. *Meitä<sub>1</sub> pelottaa PRO<sub>1</sub> lähteä.*  
 we.PAR fear leave.A  
 ‘We are frightened to leave.’

According to (11b), discourse search should not be available. I think such constructions are extremely marginal, if possible at all:

- (66) a. ?\**Mitä tulee Pekkaan<sub>1</sub>, me käskettiin PRO<sub>1</sub> lähteä.*  
 what comes to.Pekka, we.NOM asked leave.A
- b. \**Mitä tulee Pekkaan<sub>1</sub>, pelottaa PRO<sub>1</sub> lähteä.*  
 what comes to.Pekka fears leave.A  
 ‘When it comes to Pekka, he is frightened to leave.’
- c. \**Pekka<sub>1</sub> tuli eilen kylään. Haluttiin PRO<sub>1</sub> tulla huomenna uudestaan.*  
 Pekka visited us yesterday. Wanted.IMPASS come tomorrow again.

Strategy A for Type I null subject *pro* requires semantic coherence, whereas *PRO* requires locality. This explains the differences in the behavior between VA-infinitival and A-infinitival:

- (67) a. *Pekkaa pelottaa PRO nukkuu yksin.*  
 Pekka.PAR fear sleep.A alone.  
 ‘Pekka is frightened to sleep alone.’
- b. \**Pekkaa pelottaa pro nukku-vansa yksin.*  
 Pekka.PAR fear sleep-VA.3SG alone  
 ‘Pekka is frightened to sleep alone.’
- c. *Pekka pelkää pro nukku-vansa yksin.*  
 Pekka.NOM fear sleep-VA.3SG alone  
 ‘Pekka is frightened to sleep alone.’

Examples of the type (68) (much studied in other languages) constitute a possible problem for the locality requirement.

- (68) a. *Pekka<sub>1</sub> sai Merjalta<sub>2</sub> [luvan [PRO<sub>1/\*2</sub> lähteä]]*  
 Pekka.NOM got from.Merja permission.ACC leave.A  
 ‘Pekka got a permission to leave from Merja.’ (Nonlocal antecedent)
- b. *Pekka<sub>1</sub> sai Merjalta<sub>2</sub> [lupauksen [PRO<sub>\*1/2</sub> lähteä]]*  
 Pekka.NOM got from.Merja promise.ACC leave.A  
 ‘Pekka got a promise from Merja to leave.’ (Local antecedent)
- c. *Pekka<sub>1</sub> antoi Merjalle<sub>2</sub> [luvan [PRO<sub>\*1/2</sub> lähteä]]*  
 Pekka.NOM gave to.Merja permission.ACC leave.A  
 ‘Pekka gave Merja the permission to leave.’ (Local antecedent)
- d. *Pekka<sub>1</sub> antoi Merjalle<sub>2</sub> [lupauksen [PRO<sub>1/\*2</sub> lähteä]]*  
 Pekka.NOM gave to.Merja promise leave.A  
 ‘Pekka gave Merja a promise to leave.’ (Nonlocal antecedent)

Removing the indirect subject ‘Merja’ has no impact on (68a,d) but makes (68b,c) ungrammatical or, at the very least, does not allow the null subject to refer to the only antecedent possible, ‘Pekka’. This suggests that ‘Merja’ is an adjunct in (68a,d) and an argument in (68b,c), which explains the emerging control relations while preserving locality. Thus, in (68a,d), ‘Pekka’ is the local argument antecedent while ‘Merja’ is an adjunct; in (68b,c) ‘Merja’ is an argument and c-commands the DP containing the null subject. The hypothesis is illustrated in (69).

- (69) a. *Pekka<sub>1</sub> sai [luvan [PRO<sub>1</sub> lähteä]] Merjalta.*  
 Pekka<sub>1</sub> got permission leave.A from.Merja  
 ‘Pekka got a permission to leave from Merja’  
 b. *Pekka antoi [Merjalle<sub>1</sub> [luvan [PRO<sub>1</sub> lähteä]]]*  
 Pekka gave to.Merja permission leave.A  
 ‘Pekka gave Merja the permission to leave.’

The argument structures must further depend on the lexical properties of the main verb (*give, get*) and the head of the noun phrase (*permission, promise*) in such a way that in (69a) there is a direct semantic relation between ‘Pekka’ and the permission, while no such relation exists in (69b). I think this agrees with the semantic intuitions, but there is also independent syntactic evidence for the hypothesis. The data in (70) uses the c-command condition of *pro* to examine c-command relations and shows that the PP adjunct ‘from Merja’ cannot control the *pro*, while the argument ‘to Merja’ can.

- (70) a. *Pekka<sub>1</sub> sai Merjalta<sub>2</sub> [luvan PRO rikkoa [pro<sub>1/\*2</sub> auto-nsa]]*  
 Pekka got from.Merja permission.ACC break.A car-3SG  
 ‘Pekka got a permission from Merja to break his/\*her car.’  
 b. *Pekka<sub>1</sub> antoi Merjalle<sub>2</sub> [luvan PRO rikkoa [pro<sub>1/2</sub> autonsa]]*  
 Pekka gave to.Merja permission break car-3SG  
 ‘Pekka gave Merja a permission to break his/her car.’

I conclude that the Type II null subject is always controlled by the local c-commanding antecedent. Notice that to show the presence of such non-local antecedents, it must also be shown that the null subject in question indeed is Type II, not Type I, and that the structural analysis of the clause is motivated by independent facts. Nevertheless, discourse access is completely blocked for PRO, establishing a clear contrast in the behavior between *pro* and PRO.

### 3.2.3 MA-infinitival

The MA-infinitival construction is illustrated in (71). First glance makes one believe that it has a specifier/subject position for a thematic subject and no agreement, predicting both types of null subjects to be impossible. The prediction is borne out.

- (71) a. *Pekka näki Merjan lähtemässä.*  
 Pekka.NOM saw Merja.ACC leave.MA.0  
 ‘Pekka saw Merja leaving.’  
 b. *Pekka näki minut lähtemässä(\*-ni).*  
 Pekka.NOM saw I.ACC leave-(1SG)  
 c. *\*Pekka näki — lähtemässä.*  
 Pekka.NOM saw leave.MA  
 Intended: ‘Pekka saw himself leaving.’

Although this analysis is in agreement with the present hypothesis, and possible in theory, it is questionable. The thematic subject of the MA-infinitival is not part of the infinitival;

it is in the matrix clause and hence takes the accusative (not genitive) case.<sup>12</sup> The correct analysis is (72)

- (72) *Pekka näki Merjan<sub>1</sub> [PRO<sub>1</sub> lähtemässä].*  
 Pekka.NOM saw Merja.ACC leave.MA  
 ‘Pekka saw Merja leaving.’

The null subject must be Type II, because the MA-infinitival never agrees, and there is no space for a phrase at its Spec:

- (73) \**Pekka näki Merjan [tytön lähtemässä].*  
 Pekka.NOM saw Merja.ACC girl.GEN leave.MA

Notice that because the null subject is Type II, hence PRO, its only possible antecedent is the most local argument. It cannot refer to the matrix subject if there is a more local argument. See also the data in (74).

- (74) a. \**Pekka<sub>2</sub> näki [Merjan<sub>1</sub> sisikon] [PRO<sub>\*1/\*2</sub> lähtemässä].*  
 Pekka.NOM saw Marja’s sister leave  
 b. *Pekka<sub>1</sub> oli [PRO<sub>1</sub> lähtemässä].*  
 Pekka.NOM was leave.MA  
 ‘Pekka was leaving.’

#### 3.2.4 E-adverbial

The data from E-adverbial is provided in (75). The E-adverbial does not exhibit agreement, does not host an overt phrase at its Spec, and therefore generates a Type II null subject (75d).

- (75) a. *Pekka nukahhti yleensä [— lukien kirjoja].*  
 Pekka.NOM fell.sleep often read.E books  
 ‘Pekka fell asleep often by reading books.’  
 b. \**Pekka nukahhti yleensä [isän lukien kirjoja].*  
 Pekka.NOM fell.asleep often father.GEN read.E books  
 c. \**Pekka nukahhti yleensä [— lukie-nsa kirjoja].*  
 Pekka.NOM fell.asleep often read-3SG books  
 d. *Pekka<sub>1</sub> nukahhti yleensä [PRO<sub>1</sub> lukien kirjoja].*  
 Pekka.NOM fell.asleep often read.E books  
 ‘Pekka fell often asleep by reading books.’

A possible objection to this analysis is the observation that the null subject is not controlled necessarily by the most local antecedent, as would be predicted by the current theory:

<sup>12</sup> The evidence for this proposition is the following: the thematic agent of the MA-infinitival is assigned the accusative case, not the genitive; it is raised to the subject position in a raising construction; it is partitivized in the presence of matrix negation, a condition that applies only to direct objects in Finnish.

- (76) *Pekka*<sub>1</sub>      *voitti Merjan*      [PRO<sub>1</sub> *käyttäen vilppiä*].  
 Pekka.NOM      won Merja.ACC      use.E      cheating  
 ← Antecedent →  
 ‘Pekka won Merja by cheating.’

This conclusion would be wrong, however, because the adverbial phrase containing the null subject is not merged lower in the structure than the direct object (the direct object occupying the lowest syntactic position in the clause). Hence, the direct object does not c-command the null subject. That the most local antecedent must be selected is shown by (77), in which ‘Merja’ is the only antecedent if the E-adverbial is merged inside the VA-infinitival.

- (77) *Pekka*<sub>1</sub>      *näki Merjan*<sub>2</sub>      *voittavan*      [PRO<sub>??1/2</sub> *käyttäen vilppiä*].  
 Pekka.NOM      saw Merja.GEN win.VA      use.E      cheating  
 ‘Pekka saw Merja winning by cheating.’  
 \*‘Pekka saw Merja winning with the help of Pekka’s cheating.’

### 3.2.5 VA-participle adjective phrase

In addition to the MA-participle, discussed earlier, Finnish has another prenominal participle adjective phrase, the VA-participle illustrated in (78).

- (78) *Pekka*      *näki* [*luuta*      —      *syövän*] *koiran*.  
 Pekka.NOM      saw bone.PAR      eat-VA      dog.ACC  
 ‘Pekka saw a dog that was eating a bone.’

The VA-participle never agrees with an argument in phi-features (there is phi-concord, however), and there is no grammatical space for an overt subject argument:

- (79) \**Pekka*      *näki* [*luuta*      ***Fidon***      *syövän*] *koiran*.  
 Pekka.NOM saw bone.PAR Fido.GEN eat.VA dog.ACC

The VA-participle therefore contains a Type II null subject:

- (80) *Pekka*      *näki* [[*luuta*      PRO<sub>1</sub> *syövän*] *koiran*]<sub>1</sub>.  
 Pekka.NOM saw bone.PAR eat.VA dog.ACC  
 ‘Pekka saw a dog that was eating a bone.’

The Type II PRO is controlled by the hosting noun phrase, not the matrix subject. Example (80) refers to a dog<sub>1</sub> that has the property that it<sub>1</sub> eats a bone. Contrast this with the MA-participle hosting a Type I null subject that exhibits subject-oriented control:

- (81) *Pekka*<sub>1</sub>      *korjasi* [[*pro*<sub>1</sub>      *rikko-ma-nsa*] *pyörän*].  
 Pekka.NOM fixed broken-MA-3SG bike.ACC  
 ‘Pekka fixed a bike that he broke.’

### 3.3 Type I and Type II impossible

#### 3.3.1 *ask + A-infinitival*

The present analysis predicts the existence of constructions in which controlled null subjects of any type are impossible. One such construction exhibits no agreement but does have room for overt constituent at its Spec. Under these circumstances neither Type I nor Type II null subject is possible. An overt argument will be obligatory. This situation is exhibited by a combination of *ask* + A-infinitival:

- (82) a. *Pekka käski Merjan lähteä.*  
 Pekka.NOM asked Merja.GEN leave.A.0  
 ‘Pekka asked Merja to leave.’  
 b. \**Pekka käski — lähteä.*  
 Pekka.NOM asked — leave.A.0

Type I null subject is impossible, because there is no agreement to license Type I, and Type II null subjects are unavailable due to the presence of the Spec position (that can and must be) filled by an overt phrase. The same reasoning applies to many non-subject positions, such as to direct objects (no agreement, no Type I; overt argument possible, no Type II) or indirect objects. The present system also predicts that in a language that manifests object agreement, Type I controlled null objects ought to be available.

#### 3.3.2 *Finite clause without agreement (=generic sentences)*

There are finite clause verbs that do not exhibit agreement with the subject. The same verbs nevertheless have room for the preverbal thematic subject argument. The current hypothesis says that such constructions should not be able to license controlled null subjects. This prediction is borne out: they can occur without thematic subjects, but such subjects are not controlled; instead, they obtain a *generic interpretation*. The data is repeated in (83).

- (83) a. *Pekka<sub>1</sub> luulee että — täytyy herätä aikaisemmin.*  
 Pekka thinks that — must.0 wake.up earlier  
 ‘Pekka thinks that one (not just Pekka) must wake up earlier tomorrow.’  
 b. *Pekka luulee että — saa herätä myöhemmin.*  
 Pekka thinks that — can.3SG wake.up earlier  
 ‘Pekka thinks that he (=Pekka) can wake up earlier.’

Neither Type I nor Type II null subject is present (due to lack of control). I will not attempt to discuss the generic null subjects in this article, since the rules (9-11) do not predict their properties.<sup>13</sup> The fact that generic null subjects cannot be controlled suggests that they have intrinsic referential properties, much like the English ‘one’.

<sup>13</sup> Another form of general interpretation in Finnish arises if the verb agrees in third person, but the subject position is filled in by the object and the subject is lacking, e.g.: *ongelman ratkaisee helposti* ‘problem solve.3sg easily; one can solve the problem easily’. Hakulinen (1976:93) shows that these clauses cannot be controlled (see also V&L, ex. 33), thus they contain the generic pronoun.

### 3.3.3 Problem: KSE-adverbial

Of all the control constructions examined for this article I find the Finnish KSE-adverbial the most interesting. The salient properties of the KSE-adverbial are illustrated in (84). It exhibits full phi-agreement and a null subject, but there is no room for an overt subject argument. This situation is explicitly ruled out by the present theory.

- (84) a. *Pekka luki [\_\_\_ nukahtaa-kse-en].*  
 Pekka.NOM read sleep-KSE-3SG  
 ‘Pekka read in order to fall asleep.’  
 b. \**Pekka luki [hänen nukahtaa-kse-en].*  
 Pekka.NOM read he.GEN sleep-KSE-3SG

Presence of agreement suggests that it is Type I, but there does not seem to be space for an overt constituent. Lack of Spec/EPP suggests Type II, which is ruled out by the presence of agreement. The present theory predicts that the KSE-adverbial should be impossible.

The KSE-adverbial has an exceptional property not shared by other non-finite constructions in Finnish: it cannot occur *without* agreement. All agreementless forms are ungrammatical (e.g. *nukahtaa-kse-* ‘sleep.KSE.0’). This property is not irrelevant, because it alone will prevent an overt full DP from occurring at its Spec. Recall that only pronouns can trigger non-finite agreement in Finnish. If agreement is obligatory, pronouns are obligatory too. Now consider one property of the VA-infinitival examined earlier: only the null subject triggers agreement. Neither overt full phrases nor pronouns did so. If this is the case with the KSE-adverbial, then the facts can be explained. If agreement is obligatory, and only null subjects trigger agreement, then the null subject, too, must be obligatory. In summary, the KSE-adverbial is headed by a Type I null subject pro, and independent factors conspire to rule out overt pronouns/full DPs.

## 3.4 Summary

There are two licensing environments for Finnish (controlled) null subjects: one associated with phi-agreement and EPP, and the other its mirror image (no agreement, no EPP). The former generates optional *pro*-like null subjects (Type I), while the latter generates obligatory control structures (Type II, PRO). Type I and Type II null subjects have distinct antecedent selection properties: Type I exhibits more free, pronominal properties than Type II, whereas Type II exhibits strict locality and is always bound by narrow syntactic conditions.

Many important questions that arise from these considerations were put aside. It is worth mentioning some of them. The main goal was to provide an empirical typology of Finnish null subjects that would cover the relevant constructions in this language. Thus, in the absence of significant unintended omissions (which are certainly possible), this paper should provide a relatively comprehensive picture of Finnish. One unaddressed question was how the empirical categories exhibited by Finnish map into similar constructions and properties in other languages. It is evident that Type I null subjects are closely related to the Romance finite null subject, perhaps the only striking difference being the behaviour of third person null subjects which require an antecedent in Finnish but not so in Italian. The Italian third person null subject is even more pronominal, and does not exhibit binding behaviour (Strategy A). This suggests that a broader theory needs to parametrize the use of the two strategies A and B. Type II null subjects, in turn, map closely to obligatory



control constructions in other languages. It does not, however, seem possible to apply the Type I/Type II distinction as stated here to a language such as English, where Type I is quite likely absent. This would leave Type II, making all obligatory control strictly local. This might be not true. If so, Type II could dissolve into several distinct categories. In sum, the distinction between Type I and Type II does apply to other languages without at least some parametrization.

#### 4 Analysis

In this final section, I will provide a formalization of the empirical generalizations argued for in this paper by using the generative grammar as a framework.

The fact that Type II null subjects occur in a grammatical environment in which no overt argument can survive suggests that morphosyntax has a licensing effect on overt arguments. I propose a reinterpretation of the original Case Filter (Chomsky 1981), which stated that abstract Case is required for nominal spell out. Let us assume that overt spell out of nominal arguments requires that they establish Agree (in the sense of Chomsky 2000, 2001) in narrow syntax. Once a Type II environment emerges that is unable to sustain Agree, whatever is merged there has to be covert. I assume that this process generates Type II null subjects.

Because Type II null subjects trigger neither agreement nor restrict the phi-features of their antecedents, I will assume, developing the ideas presented in Holmberg (2005), that they consist of bare unvalued phi-features ( $u\phi = \text{PRO}$ ). Because they are semantically uninterpretable, Type II control relation is established at LF to provide semantic interpretation. Control is, therefore, a “repair” strategy.<sup>14</sup>

What happens if an ordinary lexical noun phrase, such as *my brother*, or a full pronoun, such as *he*, is merged to the same position? This would theoretically result in a null subject argument with a specific meaning and no control (e.g. *John wanted to leave* would mean \*‘John wanted my brother/he/... to leave’). Without Agree the lexical argument would remain covert. However, such constructions appear to be almost completely hypothetical.<sup>15</sup> To solve this issue, I will assume, building on Aoun (1981), that Agree controls interpretability for *both* PF and LF (85). In other words, unless the argument is registered by Agree, it cannot be interpreted semantically or phonologically.

(85) *Visibility condition*

If H is a head and E nominal element/feature (that cannot be interpreted by discourse), then E is interpretable at (PF, LF) if and only if Agree (H, E).

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<sup>14</sup> This assumption contradicts the hypothesis that uninterpretable features could not occur at LF. Perhaps they *can* occur, provided that a repair strategy, such as control or discourse interpretation, is triggered as a last resort.

<sup>15</sup> In the earlier literature, the fact that null subjects were phonologically unpronounced was seen as requiring ‘identification’ or ‘recoverability’. Although it is hard to imagine a functioning language without some ‘recoverability’ principle imposing a correspondence between phonological forms and their interpretation, any such correspondence is violated, for example, by argument drop in radical pro-drop languages, arbitrary PRO and generic null subject constructions in Finnish, ellipsis in question-answer pairs, or definiteness in languages without articles, and indeed by many other similar examples.

Suppose that a full noun phrase, such as [*my brother*], is merged into a position in which we normally find unvalued phi-features (=PRO). Under current assumptions that lexical argument will not be tagged by Agree, and thus it will be invisible both at PF and LF according to (85).

An exception is a situation in which the element can be inferred from the context by the discourse (e.g. *John ate a tomato. Also Mary did \_\_\_\_*). I will assume that features interpretable by the discourse systems are exempted from (85).<sup>16</sup> Formal features, however, can appear in that position if they are interpretable neither at PF nor at LF. Principle (85) imposes no restrictions on their use. I have assumed, in particular, that  $u\phi = \text{PRO}$  can remain in the derivation. Once  $u\phi$  enters LF, Type II control relation is established to provide semantic interpretation. Another option is to insert a pure discourse element, if possible; I will assume that this generates the arbitrary/generic reading.

Condition (85) assumes some formulation of Agree. As far as the Finnish data examined in this paper goes, we have to assume a relation between a head H and a phrase it c-commands such that no other head intervenes. This will allow H to see inside its own complement, but not inside the complement of its complement. Strict locality is required in order to prevent higher heads to establish Agree with Type II null subjects and thus render them visible. We do not, in other words, need non-standard assumptions when it comes to Agree (see Chomsky 2000, 2001, 2005, 2008).

Finnish Type I null subject “pro” occurs under agreement. Since it furthermore occurs in a regular Case position, there is no independent evidence suggesting that its silencing would be based on the lack of Case. In fact, exactly the opposite is the case. Following Roberts (2010), I assume that the Type I null pronominal is silenced because its features are copied to the local head, making the original features redundant. Since there is agreement, and the antecedent is thus constrained by its phi-features, I will assume (following again Holmberg 2005) that Type I null subjects are constituted by *valued* phi-features  $\Phi P$ .

Hornstein (1999, 2000, 2001) argues that obligatory control is a form of movement. Under this analysis, the controller would be a moved copy of the controllee. Hence, Type II PRO would be a trace of movement, not an independent pronominal element. Rodrigues (2004) applies this theory to Type I finite control in Finnish and Brazilian-Portuguese. If we allow A-movement into theta positions and some type of A-movement out of islands (e.g. sideward movement), Hornstein’s system could be applied to Type II null subjects in Finnish. I reject it, because there is currently independent evidence in Finnish neither for A-movement into theta-positions nor for sideward movement out of islands. On the contrary, welcoming such operations could create problems elsewhere. But if we ignore these difficulties, the data presented here, in particular the fact that Type II control is strictly local, does not seem to violate the movement theory in any fundamental way. I will leave this question for future. Rodrigues’ analysis is perhaps even more interesting, because it makes a number of strong empirical predictions. I do not adopt this system, however, as these predictions do not seem to be borne out. For example, Type I control does not obey locality or c-command. I will assume, as detailed above, that both pro and PRO are independent pronominal units, packages of phi-features.

Rejection of the movement theory leaves us with no explanation, however, for the question of why  $u\phi$  (PRO) can’t be merged into any position. Merging it into the direct

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<sup>16</sup> I am thus assuming that semantic interpretation consists of at least two independent systems, (i) an interpretation performed against the larger discourse and (ii) a literal or local interpretation that ignores the former and is possibly interested only in interpreting predicate-argument structures.

object position would result, according to current rules, in a reflexive sentence \**John saw* ‘John saw PRO = himself’. I assume that the presence of Agree (possibly Case assignment alone, “government” in earlier systems) requires something to be overt at the direct object position. We must then say that, in the case of *John saw* \_\_, the transitiveness of the verb *saw* consists in the fact that Agree must ‘check’ the presence of an overt object, while (85) forces the corresponding features to be present at LF.

I have assumed that pronouns are deleted from spell out once they are copied to the verbal head by Agree. The null subject is then much like a trace of movement, a redundant copy that is marked as invisible at PF. On the other hand, the third person feature is not sufficient in Finnish to trigger the normal third person interpretation typical of third person pronouns. This is indicative of the fact that some uninterpretable feature escapes to LF. If we think of normal pronouns as composed out of (at least) definiteness (D) and phi ( $\phi$ ), the problem would then be located in the definiteness feature. For example, if the verbal third person phi-features do not carry definiteness in Finnish, and if the D feature cannot be spelled out alone (Finnish lacks overt articles), condition (85) forces the feature to be absent in a derivation if it involves a null subject. LF will thus see either an unvalued formal D-feature (uD) or see no D-features at all. This would make Finnish third person null subject “weak pronoun” in the sense of Cardinaletti & Starke (1999) and Holmberg (2005). If this is correct, then first and second person null subjects would appear as (D,  $\phi$ ) at LF, while third person subjects would consist of (uD,  $\phi$ ). Once (uD,  $\phi$ ) enters LF, the two antecedent algorithms, A and B, are activated to repair the broken feature.

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