

Deriving Silence through Dependent Reference: Focus on Pronouns

by

Inna G. Livitz

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Stephanie Harves — Advisor

Anna Szabolcsi — Advisor

Dedication

*To Clay H. Kaminsky, who has inspired and challenged me
since the first linguistics course we ever took*

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Abstract

The starting point of this dissertation is the observation that pronouns that are obligatorily dependent on a sufficiently local antecedent are persistently silent. The classical hypothesis has been that silence is a lexical property of such elements. The central claim of this dissertation is that silence is instead a product of syntax—of the way these elements become dependent on their antecedents. The theory is developed with an eye on PRO in obligatory control constructions and on null pronouns in embedded clauses in partial *pro*-drop languages (“finite control”); it is then tested on the case of overt nominative subject pronouns and reflexives in infinitival clauses (“overt PRO”).

I propose that pronouns that are referentially dependent on a sufficiently local antecedent are featurally and structurally deficient, consisting exclusively of a bundle of unvalued person, number, and gender (φ) features. The unvalued φ -features force these pronouns to enter into an Agree relation and acquire reference via feature valuation. Because of the pronoun’s minimal feature content, the Agree relation produces an asymmetric configuration in which the features of the pronoun are a subset of the features of the c-commanding φ -probe that agrees with it. The present proposal is built on the notion of defective goal, which refers to the lower element in such a configuration. A defective goal must be eliminated before the phonological com-

ponent of the derivation, like lower copies of dislocated elements. Thus, elements with an inherent phonological representation can remain unpronounced—the minimal content of a referentially dependent pronoun will ensure its silence because it is a defective goal relative to any φ -probe. This dissertation argues that an element's defective-goal status is evaluated cyclically at the completion of each phase.

I propose that in cases where a silent referentially dependent pronoun alternates with an overt one, a functional head with its own formal features takes the minimal pronoun as a complement. It is this larger phrase that will serve as the goal for a φ -probe, and in this Agree relation the larger phrase will not be a defective goal.

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Chapter 1

Introduction

It is well known that the distribution of null elements in language depends on certain syntactic parameters. For example, Romance null-subject languages all share several seemingly unrelated syntactic properties, including a post-verbal subject position and an absence of *that*-trace effects. Rizzi (1982) argues that all three follow from the same syntactic mechanism. Despite the consensus in the literature that the narrow syntax is sensitive to whether a given element is null, the question of how silence—a phonological property—is represented syntactically remains unresolved.

The present thesis develops a syntactic account of the link between the phonological form and the interpretation of silent pronouns in embedded contexts. There exists a persistent correlation across languages between the dependence of a pronoun on a sufficiently local antecedent for reference and the necessity for that pronoun to be phonetically null. One common example of such a pronoun is found in infinitival control clauses (1)–(2). Another example is found in Russian embedded finite clauses, where a null subject is obligatorily referentially dependent on a matrix an-

tedecedent (3-a), but an overt pronoun is free to refer to another salient referent in the discourse (3-b).

(1) Chris_i told Jamie_j [$\emptyset_{*i/j/*k}$ to apply for the job].

(2) Illya_i hoped [$\emptyset_{i/*j}$ to find a small turtle].

(3) RUSSIAN

a. *Petja_i skazal [čto vesnoj $\emptyset_{i/*j}$ poedet v Pariž].*
 Petja said that spring will-go.3SG in Paris
 ‘Petja_i said that he_{i/*j} will go to Paris in the spring.’

b. *Petja_i skazal [čto vesnoj on_{i/j} poedet v Pariž].*
 Petja said that spring he.NOM will-go.3SG in Paris
 ‘Petja_i said that he_{i/j} will go to Paris in the spring.’

Referential dependence in and of itself does not distinguish the silent elements that are the focus of this dissertation from other examples of silence. In fact, many different types of null elements are obligatorily anaphoric, as demonstrated below. For instance, both *pro* (4) and elided VPs (5) are referentially dependent—roughly speaking, elided VPs require a linguistic antecedent and *pro* must refer to a previously established topic.

(4) \emptyset *ha fatto una torta.*
 has.3SG made a cake
 ‘He has baked a cake.’

ITALIAN

(5) Simona has been to Paris. Teresa has \emptyset , too.

It has been proposed that the distribution of the null anaphoric elements (\emptyset) in (5) and (4) depends on properties of the surrounding functional heads. Rizzi (1986)

argues that in certain languages, like Italian, I^0 is endowed with the ability to license null subjects. Similarly, Merchant (2001) proposes that the silence of elided constituents has its source in a local relationship with the functional head that takes the elided phrase as its complement. A syntactic feature on the higher head marks its complement for deletion. Note, however, that the interpretation of the null elements in (5) and (4) is determined by the broader context—in both instances the antecedent is not contained in the same sentence as the null element. In fact, in formulating an account of *pro*, Rizzi (1986:522) identifies two distinct components of a theory of silent pronouns: (i) a licensing schema containing a parameter—that which determines the functional heads (e.g., I or V) that are able to license *pro*—and (ii) a convention for the recovery of the content of *pro*. While licensing is syntactic and local, the relationship between the antecedent and null pronoun need not be regulated by the syntax.

In the same way, the distribution of PRO in obligatory control clauses like (1) has traditionally been tied to properties of infinitival clauses, and, specifically, to the inability of an infinitival T to assign case (Chomsky 1981). However, PRO-like pronouns differ from other null anaphoric elements in that there are strict restrictions on the structural position of their antecedent—as is well known from the control literature, the controller must (almost always) be the closest c-commanding nominal to the embedded subject. Therefore, I propose that both the silence and the interpretation of PRO and PRO-like pronouns have its source in the local relationship of the pronoun with a functional head.

Chapter 2 of this dissertation outlines the present approach to pronominal silence and focuses on its application to subjects of infinitival control clauses, which are obligatorily silent and obligatorily referentially dependent crosslinguistically.

There are two components to the theory of pronominal silence developed in this thesis. The first is a specific formulation of the link between the interpretation and syntactic structure of a pronoun. I argue that a certain class of referentially dependent pronouns, which includes PRO, is structurally and featurally minimal, consisting exclusively of a bundle of person, number, and gender (φ) features that lack values. Like φ -features on other nominal elements, the features on such pronouns are interpretable, despite being unvalued. I call such pronouns $\varphi P_{[i\varphi: _]}$ s. The unvalued φ -features of these pronouns must be valued via agreement over the course of the derivation, which accounts for their obligatory referential dependence.

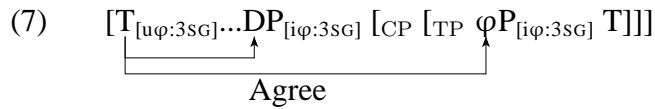
The second component of the present theory is a derivational approach to the silence of PRO-like pronouns. I extend the notion of *defective goal* introduced in Roberts (2010) to develop a theory of syntactically derived silence. The notion of defective goal derives from the syntactic operation Agree (Chomsky 2000 and subsequent work), which is initiated by uninterpretable features on a head (the probe) and links the probe with an element in its c-command domain (the goal) that has a matching set of features.

- (6) **Defective Goal:** A Goal G is defective iff G's formal features are a proper subset of those of G's Probe. (Roberts 2010:62)

This subset relationship means that a defective goal is treated like a lower copy of the probe, and, as a result, the goal must be deleted at Spell Out. Under such an ap-

proach pronominal silence is the result of the syntactic derivation and not a property inherent to a given lexical entry. I propose that there are two fundamental properties of a defective-goal approach to silence—asymmetry and cyclicity. In Chapter 2 I focus on the asymmetrical nature of the defective-goal relationship. A defective-goal derivation of silence is one where the probe stands in a relationship of c-command and featural containment with the silent pronoun. It is a local asymmetrical relationship between a head and a minimal element that has no features or structure that are not contained within the probing head.

A defective-goal approach can straightforwardly account for the obligatory silence and referential dependence of obligatorily controlled subjects, assuming Landau’s (2004, 2008) Agree-based approach to control (to be slightly revised in Chapter 2).



The silence of PRO, therefore, derives from the very Agree relation that values its ϕ -features. All of PRO’s features are represented on matrix T after it enters into an Agree relation with PRO in (7); therefore, PRO is treated as a lower copy of the ϕ -features on matrix T and is deleted in the same way that a copy would be. Since PRO has no features other than ϕ -features, it will be a defective goal in any Agree relation that values these features. I demonstrate that the defective goal approach is better able to account for the form and reference of PRO than other existing approaches to control.

In sum, the same operation—Agree—is responsible for both valuing the ϕ -features of a referentially dependent pronoun and for deriving the silence of a pro-

noun that may otherwise have an overt realization. Since reference and silence are derived via the same syntactic operation, we can account for the syntactic restrictions on the position of the antecedent. Unlike *pro* and VP-ellipsis, the antecedent of $\varphi P_{[i\varphi: _]}s$ is not determined by context, but by the formation of a chain between the controller and embedded subject via Agree.

Chapter 3 addresses the cyclical nature of a defective-goal approach to pronominal silence. I argue that the notion of a defective goal is relevant at the phase level, and not at each application of Agree. Therefore, before Spell Out, a defective goal is treated like any other subject pronouns—for instance, it raises to Spec,TP to fulfill the EPP.

I draw on properties of phasal Spell Out to account for the link between silence and referential dependence in Russian embedded finite clauses. Russian is not a null-subject language, but silent pronouns are possible in embedded finite clauses, where they alternate with overt pronouns (8-a). A similar alternation is found in embedded *wh*-infinitives (8-b) (note that subjects of infinitival clauses bear dative case in Russian).

(8) RUSSIAN

- a. *Petja_i skazal [čto vesnoj $\emptyset_{i/*j}$ / on_{i/j} poedet v Pariž].*
 Petja.NOM said that spring / he.NOM will-go.3SG in Paris
 ‘Petja said that he will go to Paris in the spring.’
- b. *Petja_i ne znaet [čto $\emptyset_{i/*j}$ / emu_{i/j} skazat’ načal’niku].*
 Petja.NOM NEG know what / he.DAT say.INF boss.DAT
 ‘Petja doesn’t know what he should say to his boss.’

The alternation is surprising for two reasons. First, it appears to violate the traditional wisdom of the Avoid Pronoun Principle (Chomsky 1981), according to which

overt pronouns cannot be referentially dependent on a matrix antecedent if the same syntactic context also allows silent referentially dependent pronouns, as in (9).

- (9) a. Jamie_i expects [$\emptyset_{\text{PRO } i/*j}$ to get the job].
 b. Jamie_i expects [him_{*i/j} to get the job].

Second, the alternation in (8-a) and (8-b) leads to contradictory conclusions about the status of Russian CPs as phases. On the one hand, the defective-goal approach to silent, referentially dependent subject pronouns requires that an Agree relation connect the embedded subject and a matrix functional head, which means that the embedded CP cannot be a phase boundary. On the other hand, finite CPs are generally considered to be strong phases, which should block an Agree relation between matrix and embedded material. In fact, the possibility of a referentially dependent interpretation for overt embedded pronouns in (8-a) and (8-b) is consistent with the embedded CP being a phase; full pronouns are generally free to refer to a matrix subject across a strong phase boundary (10) cf. (9).

- (10) Clay_i said [_{CP} that he_{i/j} will take Ecgtheow to the zoo].

I demonstrate that the defective-goal approach to pronominal silence developed in Chapter 2 can be extended to account for the alternation in (8-a) and (8-b). It has been independently proposed that infinitival C in (8-b) enters the derivation with uninterpretable φ -features and agrees with the embedded subject (Landau 2008), and I extend the same proposal to the finite clauses in (8-a). I also argue that any differences between control into finite clauses and infinitives stems from differences in the syntax of finite and infinitival complementation.

Ultimately, it is properties of the embedded subject that determine whether the embedded CP is a phase, and, therefore, whether an Agree chain is possible across the finite and infinitival clause boundaries. Silent, referentially dependent pronouns are φ Ps and consist exclusively of unvalued φ -features; as such, they fail to value C's uninterpretable φ -features under Agree. As a result, the phasal status of embedded CP is suspended until the next phase boundary. This allows matrix v to value the features of the embedded subject, and for an Agree chain to form between matrix and embedded subjects. The embedded subject will be a defective goal with respect to embedded C.

By contrast, when the embedded subject is overt, finite CP acts a phase boundary in Russian, just as it does in the English. Overt pronouns in the same context are full DPs, inherently specified for φ -features. Agreement between the pronoun and C values and deletes C's φ -features, which allows the complement of C to be spelled out when the CP phase is complete. A DP subject is, moreover, not a defective goal with respect to embedded C, which means that it surfaces overtly.

Chapter 4 turns to a different alternation between overt and silent pronouns, this time in obligatory control clauses. An important claim of the defective-goal approach is that silence is not inherent to the lexical entry of a pronoun. This means that $\varphi P_{[i\varphi: _]}$ should, in principle, surface overtly if it is not a defective goal in a given Agree relation.

This prediction is confirmed in a number of languages, including Hungarian, Italian, and European Portuguese, where a silent pronominal subject in obligatory control constructions alternates with an overt pronoun (Belletti 2005; Barbosa 2009; Szabolcsi 2005, 2009a,b). In contrast to the alternation discussed in Chapter 3, overt

pronouns in control contexts share the referential properties of PRO—they are obligatorily referentially dependent. However, the interpretation of overt controlled subjects is not identical to that of their silent counterparts; as the glosses below indicate, the overt subjects are focused.

- (11) \emptyset_i *decidiu* [*ir* $\emptyset_{i/*j}$ / *ÉLE* $_{i/*j}$ *ao* *mercado*].
 decided.3SG go.INF / he to-the market
 ‘He decided (that he would be the one) to go to the market.’

(European Portuguese; Barbosa 2009:104)

- (12) \emptyset_i *nem akar* [$\emptyset_{i/*j}$ / *csak ő* $_{i/*j}$ *menni busszal*].
 not want.3SG / only he go.INF bus-with
 ‘He/she doesn’t want to be the only one to take the bus.’

(Hungarian; Szabolcsi 2005:621)

- (13) *Gianni* $_i$ *odierebbe* [*andare* $\emptyset_{i/*j}$ / *anche lui* $_{i/*j}$ *a Milano*].
 Gianni would-hate.3SG go.INF / also he to Milan
 ‘Gianni would hate it if also he went to Milan.’

(Italian; Szabolcsi 2009a:2)

I propose that focusing $\varphi P_{[i\varphi: _]}$ makes it no longer a defective goal in the Agree relation with matrix v , and in Chapter 4 I investigate the precise syntactic mechanism that endows a focused pronoun with the additional formal features that prevent it from being a defective goal relative to matrix v .

I specifically address the asymmetry between exhaustive identification focus and other types of contrast. Exhaustive identification focus does not require the presence of an overt focus marker in order for a controlled pronoun to surface overtly (11). Contrastive topics and other foci, however, only surface overtly in control

clauses when modified by an overt particle. The relevant contrast is illustrated below for additive focus particles in Hungarian; although the associate of the adverbial additive focus particle *szintén* ‘also’ is a contrastive topic, it does not surface overtly. However, $\varphi P_{[i\varphi: _]}$ is overt when modified by an additive focus particle that generally attaches to nominals (*is*, ‘too’).

- (14) a. \emptyset_i *nem szeretnék* \emptyset_i *is elcsúszni*.
 not would-like.1SG I too slip.INF
 ‘I wouldn’t like for it to be the case that I, too, slip.’
- b. \emptyset_i *nem szeretnék* \emptyset_i *szintén elcsúszni*.
 not would-like.1SG likewise slip.INF
 ‘I wouldn’t like for it to be the case that I likewise slip.’

(Hungarian; Szabolcsi 2005:618)

Following Horvath (2005, 2010, 2013), I propose that there is a fundamental structural difference between exhaustive identification focus and contrastive topics/foci more generally. Only exhaustive identification focus is represented by a formal feature [EI], which is introduced by a functional head (EI-Op) that takes the φP as its complement. It is this larger phrase that will serve as the goal for a φ -probe, and in this Agree relation the larger phrase will not be a defective goal.

I assume with Horvath that topic and focus is not otherwise represented by syntactic features. Therefore, it is not surprising that the contrastive topic in (14-b) does not surface overtly. I propose, however, that focus particles, like Hungarian *is* ‘too’, do have formal (categorical) features. Such particles take the φP as a complement, and the resulting phrase will behave like EI-OpP, in that it will serve as a goal for the matrix φ -probe and will also not be a defective goal in that Agree relation.

Chapter 5 concludes this dissertation and lays out areas for further research.

Chapter 2

A defective-goal approach to pronominal silence

2.1 Introduction

Language contains a number of silent elements—heads or phrases that are unpronounced but nevertheless have an effect on interpretation. Much research has been devoted to accounting for the distribution and interpretation of such elements, and a fundamental question in this line of research is what distinguishes the context in which silent elements occur from the context in which the same information is expressed with an overt element.

A prerequisite for answering this question is an understanding of what distinguishes silent and overt elements to begin with. In an obvious, but not particularly illuminating, sense, silence is simply an empty phonological matrix associated with a given lexical item. It is, therefore, conceivable that there is no syntactic or semantic difference between overt and silent elements—the phonological realization of a given

lexical items is arbitrarily \emptyset , in the same way that the phonological realization of the lexical item that refers to a furry pet is arbitrarily [kæt]. Silence inherent to a lexical entry is, in principle, independent of the interpretation or syntactic properties of the item. This seems to be correct for certain silent lexical items, like the silent plural morpheme associated with *sheep*. This instance of silence is the result of a historical accident, with no synchronic generalization about English syntax or semantics to account for it. Similarly, the English third person singular (present tense) agreement morpheme is *-s* (*he walk-s*), while the third person plural agreement morpheme is \emptyset (*they walk- \emptyset*). Nothing, however, suggests that if a language has an overt third person singular agreement morpheme it should have a silent third person plural morpheme.

Certain types of clausal functional heads are also assumed to be inherently silent. For instance, while the head of an Applicative Phrase (AppIP) can be overt in Bantu languages, a language like English lacks any overt realizations of Appl, even though there exists syntactic evidence for the presence of an Applicative head in the clausal spine. Additionally, Cinque (1999) argues that adverbs are merged in the specifier of (mostly) silent clausal functional heads. There is nothing that distinguishes the semantics of applicatives in languages that have overt heads from languages that have silent heads. The elements that are commonly considered to be inherently silent are functional morphemes and are structurally simple. On this approach, crosslinguistic differences could be ascribed to diachronic sources and be completely arbitrary in the synchronic grammar of speakers.

The syntactic derivation offers another source of silence in the grammar. In the model of grammar assumed here, formal features drive the syntactic derivation until Spell Out/Transfer, at which point the derivation is interpreted by semantics and

(morpho-)phonology. Therefore, even if a given lexical item is associated with a set of phonological features, it is conceivable that the derivation can produce a configuration where these features are invisible at PF. The silence of more complex elements is often taken to be derived. Copy deletion (Nunes 2004) and ellipsis (Merchant 2001) are both taken to be cases where silence is derived via syntactically conditioned deletion. For copies related via Internal Merge, Nunes (2004) argues that all but one copy must be deleted before Spell Out to make linearization possible (the association of the same lexical item with multiple positions makes it incompatible with LCA (Kayne 1994)). In his seminal work on ellipsis, Merchant (2001) proposes that elided phrases are syntactically marked for deletion by an E feature on the head that takes them as a complement. Ellipsis and copy deletion illustrate another common property of syntactically derived silence—the silent element must have an antecedent somewhere in the discourse. This is obviously true for copy deletion—deleted and overt copies share an identity relationship,—and according to Merchant (2001), elided phrases require an antecedent, which which they stand in a relationship of mutual entailment.

In this chapter I focus on another class of elements whose silence is associated with an anaphoric interpretation—subjects of obligatory control clauses (PRO). The subject position of infinitival control clauses is silent crosslinguistically. Comparing languages like English (1) and Italian (2), which lie at the two extremes of the null-subject spectrum, reveals that languages consistently require the subject of an infinitival control clause to be null, regardless of the availability of null subjects in finite clauses.

(1) ENGLISH

- a. * \emptyset baked a cake.
- b. Disan wanted \emptyset to bake a cake.

(2) ITALIAN

- a. \emptyset *ha* *fatto* *una torta*.
has.3SG made a cake
'He has baked a cake.'
- b. *Gianni vuol* \emptyset *fare* *una torta*.
Gianni wanted.3SG make.INF a cake
'Gianni wanted to bake a cake.'

The goal of this chapter is to provide a principled explanation for this persistent regularity that relates it to other syntactic approaches to the silence of anaphoric elements. My proposal ties the obligatory silence of controlled subjects (which I continue to call PRO for the sake of consistency with the existing literature) to their obligatory referential dependence. I propose that PRO is both structurally and featurally deficient in that it is not a full DP and lacks values for person, number, and gender (φ -features). This deficiency forces PRO to enter into an Agree relation that both values its φ -features and forces its silence. Under such an approach, the silence of PRO is not a property inherent to a particular pronoun that we happen to call "PRO", but is instead a product of the narrow syntactic derivation and of the basic properties of a class of structurally deficient pronouns. Section 2.2 reviews the ways in which pronominal silence, and specifically that of PRO, has been represented in syntactic theory. In Section 2.3, I discuss the interpretation of PRO and existing syntactic accounts of its referential dependence. I propose a new account of the obligatory silence of PRO, which links PRO's silence to its interpretation. The account draws on the notion of

‘defective goal’ from Roberts (2010) and derives the silence of PRO from its featural composition and the Agree relations it enters into with clausal functional heads. Section 2.4 compares the defective-goal analysis of PRO to existing accounts of PRO’s silence, specifically the one proposed by the Movement Theory of Control (MTC). In Section 2.5, I consider some consequences and predictions of the present proposal.

2.2 The role of syntax in pronominal silence

The systematicity of PRO’s silence across languages allows us to discard the possibility that its silence is simply a historical accident in the way that the plural morpheme associated with *sheep* is \emptyset and not *-s*. The predictability of PRO’s silence from the syntactic context in which it is found suggests that the explanation for this silence should make reference to the syntax of control.

Under the Government-and-Binding (GB) approach, the obligatory silence of PRO received a principled explanation based on syntactic properties of the control construction (Chomsky 1981, 1986). PRO was associated with the features [+anaphoric, +pronominal], which meant that PRO had to be both bound and free in its governing category. This contradictory requirement could only be met if PRO remained ungoverned, and, since Case was assigned under government, PRO could never bear Case. The Case Filter ensured that PRO could never be pronounced, since all overt NPs were required to have Case. The distribution of PRO was thus limited to nonfinite environments, where subjects remained ungoverned and caseless. The notion of government has been abandoned in more recent Minimalist approaches, but more importantly, the GB analysis fails to account for evidence of case-marked PRO

in languages like Icelandic, Russian, and Ancient Greek (Andrews 1971; Quicoli 1982; Sigurðsson 1991, 2008; Landau 2008). See further discussion in Section 2.4.

A different approach to PRO's silence has come out of the null-subject literature, which links the availability of null pronouns in certain contexts to the ability of particular clausal inflectional heads to license the silent pronoun. In his seminal work, Rizzi (1982) proposes that one facet of the null-subject parameter is the presence of the feature [+pronoun] on Infl, which is possible in Italian, but not in English. The [+pronoun] feature on finite Infl is able to license null subjects (by acting as a proper governor). Ritter (1995) also links the availability of certain types of silent subject pronouns (NumPs or DPs) in Hebrew to differences in the syntactic features of different types of Tense heads agreeing with the subject. A Tense head specified for person features can license a silent DP, while a Tense head only specified for number and gender, but not person, will be able to license only a silent NumP.

Borer (1986, 1989) extends the licensing approach from *pro* to PRO. She proposes that all empty categories must be i-identified, which means that they must be coindexed with a sufficiently specified element. Null subject pronominals are i-identified by being coindexed with a rich-enough AGR, and while the richness of AGR in finite clauses varies from language to language, AGR in control clauses is always rich enough. Borer proposes that control clauses contain anaphoric AGR, which is bound by the matrix subject, and it is precisely this binding relation that makes AGR in control clauses sufficiently specified to i-identify an empty pronominal.

A licensing approach, however, is incompatible with the model of grammar assumed here—and any model of grammar where phonological features play no role

in the syntactic derivation. A licensing approach requires the syntax to be sensitive to whether a particular pronominal category is empty or not. Emptiness/silence is a purely phonetic property of a pronoun, and there is no straightforward way for such information to be visible before PF.

A different sort of licensing approach is proposed by Sigurðsson (2011), who takes seriously the notion that silence is a property relevant for PF. The basic idea behind Sigurðsson’s approach is that silent pronouns are freely available crosslinguistically, but languages differ in their ability to license these arguments in a particular context. According to Sigurðsson, all definite DPs must match a C/Edge-Linker in the left periphery of the clause. C/Edge-Linkers relate a given argument to the speech event, and include speaker (Λ_A), hearer (Λ_P), and A(boutness) Topic. While most arguments can be matched with C/Edge-linkers at a distance, silent pronouns (what Sigurðsson calls φ -silent) must be matched in a local configuration with the the C/Edge-Linkers (or more specifically, no other argument can intervene between the context-linking head and the silence argument).

$$(3) \quad [_{CP} \text{ A-Topic } \underbrace{\Lambda_A \ \Lambda_P \ \dots (*X) \ \dots}_{\uparrow} \emptyset \ \dots]$$

According to Sigurðsson, the C/Edge-Linking requirement is enforced at PF—definite (i.e., not impersonal) φ -silent elements are not interpretable at PF unless they are in a local relationship with a C/Edge-Linker. On the one hand, this is an appealing result because silence is a phonological property, making PF the natural place in the derivation for this property to be relevant. In such a system, crosslinguistic differences in the availability of null pronouns arise out of language-specific restrictions

on the movement of φ -silent elements to a position where they stand in a sufficiently local relationship with C/Edge-Linkers.

On the other hand, the proposal that C/Edge-Linking is relevant at PF requires that PF interpret silent elements as definite or impersonal. This sort of information is generally considered to be unavailable and uninterpretable to the phonological component of the grammar, being relevant, instead, at LF. Therefore, despite the appeal of Sigurðsson’s proposal, we are left with the same problem inherent to other licensing approaches to silence: in order for phonological properties to be relevant to the syntactic derivation, and, conversely, in order for PF to be sensitive to semantic and syntactic properties of pronouns, silence must be paired with some formal feature in the lexical entry of a null pronoun. In principle we could associate a formal feature ([+e]) with every null pronoun and require this feature to be syntactically licensed, but as I will demonstrate, the use of such a feature would be redundant given the referential dependence (anaphoricity) of PRO and the syntactic restrictions on the position of its antecedent.

2.3 Deriving the silence of PRO

2.3.1 PRO is referentially dependent

It is well known that one of the defining properties of PRO in obligatory control constructions is its obligatory referential dependence—PRO can have no reference independent of its controller.

- (4) Linnea_i tried to $\emptyset_{\text{PRO}_i/*j}$ put Torvald to sleep.
- (5) Everybody_i tries to $\emptyset_{\text{PRO}_i/*j}$ wake up on time.

There are strict restrictions on the syntactic position of the controller relative to PRO. The controller must be the c-commanding DP (except in the well-known cases of subject control over an object with predicates like *promise*). Thus in (6) PRO gets its reference from the object, and not the subject. That the controller must c-command PRO is demonstrated by (7), where only the matrix subject *John's mother* can be construed as the antecedent of PRO.

(6) John_i told Mary_j [$\emptyset_{\text{PRO}*i/j}$ to leave on time].

(7) [John_i's mother]_j hated $\emptyset_{\text{PRO}*i/j}$ to spend Christmas alone.

Moreover, PRO must be interpreted as a bound variable under ellipsis and when the antecedent is modified by *only*, as shown in (8) and (9).

(8) a. I think that I will receive a medal, and Peter does too.
(OK Peter thinks that I will receive a medal)

b. I want to receive a medal, and Peter does too.
(\neq Peter wants for me to receive a medal)

(9) a. Only John remembers drinking a bottle of vodka.
(= Only John is an x that remembers x drinking vodka)
b. Only John remembers that he drank a bottle of vodka.
(OK Only John remembers John drinking vodka)

Additionally, PRO does not tolerate split antecedents, as demonstrated by the impossibility to construe PRO in (10) as referring to both John and Mary.

(10) *John_i told Mary_j [$\emptyset_{\text{PRO}*i+j}$ to bake a pie together].

Finally, PRO is only compatible with a *de se* reading. Bound pronouns embedded under propositional attitude verbs are ambiguous between a *de se* and a *de re* reading. A *de re* reading allows the attitude holder to misidentify himself, while a *de se* reading is incompatible with misidentification on the part of the attitude holder. In a classic example like (11), *he* will be interpreted *de re* if John is an amnesiac and believes about an individual that this individual will receive a medal, without realizing that the individual is himself. On a *de se* reading, John has to be aware that he is holding a belief about himself.

- (11) John_{*i*} believes that he_{*i*} will receive a medal for bravery.

In contrast to other pronouns, PRO is compatible only with a *de se* reading (Chierchia 1989). Thus in (12) John must realize that his expectation is about himself.

- (12) John_{*i*} expects PRO_{*i*} to receive a medal for bravery.

All of these examples illustrate the well-known fact that PRO is obligatorily referentially dependent on the controller.¹ What does it mean, however, to say that a particular pronominal element is referentially dependent? All pronouns are dependent on some antecedent for reference—the pronoun *he* has no interpretation if no male individual has been introduced into the discourse. What distinguishes PRO from *he*, however, is that there are syntactic restrictions on how far away PRO's antecedent is allowed to be that are absent for a pronoun like *he* (as well as for *pro* in null subject languages).

¹See discussion of non-obligatory control in Section 2.5.

Sigurðsson (2011) hints at this difference between pronouns when he discusses an important distinction between the way pronouns receive their reference and the syntactic licensing mechanism that links them to the speech event. Recall that for Sigurðsson, a silent pronoun must be licensed via local C/edge linking.

- (13) “...it is necessary to distinguish between reference and C/edge linking. While arguments are φ -computed under CLn [C/edge linker] matching in narrow syntax, their definite reference is decided by clause-external context scanning, either under distant Agree/control or by extrasyntactic means. Together, CLn matching and context scanning yield context linking as informally sketched for referential.”

(Sigurðsson 2011:283)

A similar distinction between licensing and reference was originally proposed by Rizzi (1986), who distinguished two aspects of a theory of null-subjects: (i) a licensing parameter which determines which functional heads can license silent pronouns and (ii) a convention for recovering the content of a silent pronoun.

Conventions for recovering the content of a silent pronoun, however, are not homogenous. Sigurðsson acknowledges that there are at least two ways of acquiring reference—one syntactic (Agree/control) and the other extrasyntactic. These two ways separate (silent) pronouns into two classes: those that retrieve an antecedent from the discourse and those that require a syntactic link with their antecedent. PRO belongs to the latter class of silent pronouns, and as I argue below, for PRO-like pronouns the derivation of silence and the acquisition of reference takes place via the same syntactic mechanism.

2.3.2 Pronominal structure and reference

In this chapter I argue that the link between the silence and referential dependence of the subject of an obligatory control clause is rooted in its syntactic structure. Pronouns have often been analyzed as a syntactically heterogeneous class, and most approaches link the interpretation of a pronoun to its underlying structure. A conclusion that is common to most research on pronominal syntax is that more structure is associated with more referential independence.

Cardinaletti and Starke (1999), for instance, distinguish three types of pronouns—strong pronouns, weak pronouns, and clitics. These three pronoun types differ in their syntactic structure. Strong pronouns have a C-layer encoding referentiality,² while weak pronouns and clitics lack a C-layer (clitics lack an additional layer relative to weak pronouns). This structural difference accounts for the distribution of different types of pronouns, including the restriction of strong pronouns to human referents, the impossibility of coordinating weak pronouns and clitics with full DPs, and the impossibility of modifying weak pronouns and clitics with elements such as *only* and *probably*, which attach to the C-layer. Moreover, Cardinaletti and Starke demonstrate that only strong pronouns are able to introduce new discourse referents. They associate the C-layer with the ability to introduce a new referent, while the φ -features of a pronoun are encoded lower in the structure. A pronoun that does not introduce a new referent must necessarily refer to an individual already in the discourse. In this sense weak pronouns are referentially dependent, although the weak pronoun need not be in a particular structural configuration with its antecedent.

²The C-layer in Cardinaletti and Starke refers to the D-layer in other proposals. Equating the outer layer of pronominal structure with the CP is intended to highlight the parallel between the clausal and nominal domains.

Déchaine and Wiltschko (2002) also associate the D-layer with referential independence, but in a slightly different way. Like Cardinaletti and Starke, they propose three distinct levels of pronominal structure, as schematized in (14).

$$(14) \quad [_{DP} D [_{\varphi P} \varphi [_{NP} N]]]$$

According to Déchaine and Wiltschko, pronouns can be NPs, φ Ps, or full DPs; again, it is the size of a pronoun that determines its behavior and distribution. Pro-DPs occur in argument position, receive a definite interpretation, and cannot be bound. Pro- φ Ps can be either arguments or predicates, and are interpreted as variables. Pro-NPs can only be predicates, and are semantically interpreted as constants. Déchaine and Wiltschko argue specifically that a bound-variable interpretation is only compatible with pro- φ Ps (although they do not claim that the reverse is true).

Relevant for the present discussion, Déchaine and Wiltschko (2002) demonstrate that more syntactic structure in a pronoun is associated with more referential independence. They discuss a set of pronouns in Halkomelem that contain a demonstrative element in addition to clearly distinguishable φ -features; these pronouns cannot be referentially dependent as shown in (17).

$$(15) \quad \begin{array}{l} \textit{Lám tú-tl'ó.} \\ \text{go} \quad \text{DET-3SG} \\ \text{'He goes.'} \end{array} \quad (\text{Halkomelem; Déchaine and Wiltschko 2002:413})$$

$$(16) \quad \begin{array}{l} \textit{Tl'ó-cha-l-su} \quad \textit{qwemcíwe-t} \quad \textit{thú-tl'ó} \quad \textit{q'ami} \\ \text{then-FUT-1SG-SO} \quad \text{hug-TRANS} \quad \text{DET.FEM-3SG} \quad \text{girl} \\ \text{'Then I'm going to hug that girl.'} \end{array}$$

(Halkomelem; Galloway 1993:174 cited in Déchaine and Wiltschko 2002:412)

- (17) **Súq'-t-es* [*te swíyeqe*]_i *te kopú-s* [*tú-tl'ó*]_i.
 search-TRANS-3.SUBJ DET man DET coat-3.POSS DET-3SG
 'The man_i was looking for his_i coat.'

(Halkomelem; Déchaine and Wiltschko 2002:414)

Wiltschko (1998) describes similar data from German, which allows a minimal comparison between pronouns with and without a determiner-like element. German has a set of pronouns (*d*-pronouns) that are identical in form to the definite determiner (as well as to relative pronouns). These pronouns can be further broken down, however, into an element identical to the personal pronouns in German and the element *d*-, which Wiltschko argues spells out the D-head. She demonstrates that embedded German *d*-pronouns cannot be referentially dependent on the matrix. By contrast, pronouns lacking the *d*- element can be freely interpreted as bound variables.

- (18) a. *Peter_i hat geglaubt, daß er_i/*der_i dumm ist.*
 Peter has believed that he/D-PRON stupid is
 'Peter_i has believed that he_i is stupid.'
 b. *Jeder Mann_i glaubt, daß er_i/*der_i dumm ist.*
 Every man believes that he/D-PRON stupid is.
 'Every man_i believes that he_i is stupid.'

(German; Wiltschko 1998:144)

Both Cardinaletti and Starke and Déchaine and Wiltschko demonstrate that pronominal size is related to the referential possibilities of a pronoun; however, there is no direct correspondence between the properties that are used to delineate the pronominal categories in the two approaches. Specifically, the role ascribed to D varies: according to Cardinaletti and Starke the D-layer allows a pronoun to introduce a new discourse referent; by contrast, Déchaine and Wiltschko propose that a pronoun containing a D-layer behaves like an R-expression with respect to binding theory.

The latter, however, appears to be incorrect. German *der* pronouns can be interpreted as referentially dependent provided that they are bound by a non-topic—even if this non-topic c-commands the *der*-pronoun (Bosch 2013).

- (19) *Peter stellte [jedem Studenten]_i mindestens eine Frage, die **der_i** nicht beantworten konnte.*
 Peter posed every.DAT student.DAT at-least one questions REL
 D-PRON not answer could
 ‘Peter posed every student at least one question that he couldn’t answer.’
 (German; Hinterwimmer to appear: ex.17)

- (20) *[Kein Vermieter]_i würde sich verpflichten dass **der_i** die Miete fünf Jahre lang nicht erhöht.*
 no landlord would self commit that D-PRON the rent five
 years long not raise
 ‘No landlord would commit himself that he won’t raise the rent for five years.’
 (German; Bosch 2013; ex.12)

Since *der*-pronouns do not behave like R-expressions, there is no concrete motivation for associating *d*- in German with a D-layer in the pronominal structure. In a number of languages, such as Russian, *der*-like pronouns (i.e., pronouns that prefer to refer to non-topics) are expressed with demonstratives.

- (21) *Ja objasnila každomu studentu čto **tot** dolžen pročitat’.*
 I explained each.DAT student.DAT what that_{DEM} must read
 ‘I explained to each student what he must read.’ RUSSIAN

Because demonstratives are generally distinct in form from definite articles (Russian, in fact, lacks articles altogether), it is tempting to posit an additional layer of pronominal structure to account for *der*-like pronouns in these languages. This conclusion

is supported by Hungarian, which, like Russian, uses demonstratives to express *der*-like pronouns (Anna Szabolcsi p.c.). What is particularly notable about Hungarian is that demonstratives co-occur with definite articles (22), suggesting that the syntactic category of *der*-like pronouns in Hungarian is larger than a DP.

- (22) *ezeket a könyveket*
 these.ACC the books.ACC
 ‘these books.ACC’ (Hungarian; Kiss 2002:164)

What, then, is the function of a D-layer in pronominal structure? In this dissertation, I adopt the proposal for the role of D in Holmberg (2005, 2010), which is closer to Cardinaletti and Starke’s proposal, but also takes into account pronouns that are incapable of independent reference. Holmberg links the D-layer in a pronoun to its ability to refer. Holmberg’s proposal is built on an observation similar to Ritter (1995) approach to *pro*-drop in Hebrew. Hebrew verbs inflect for person only in past and future tense. In the past and future Hebrew has silent 1st and 2nd person pronouns. In the present tense only third person plural impersonal subjects can be silent.

- (23) *ani/∅ roce glida.*
 I/ want.M.SG ice-cream
 ‘I want ice cream.’ (Hebrew; Ritter 1995:433)

- (24) *ani/∅ axalti glida.*
 I/ ate.1SG ice-cream
 ‘I ate ice cream.’ (Hebrew; Ritter 1995:434)

- (25) *∅/ *hem Sotim hamon mic ba arec*
 / they drink.M.PL lots juice in-the country
 ‘People/they drink juice in Israel.’ (Hebrew; Ritter 1995:435)

Ritter (1995) argues that pronouns can be NumPs or DPs (with person features encoded in D). Only a Tense head specified for person can license silent DP subjects, which is past and future in Hebrew. A Tense head specified for person features can license a silent DP, while a Tense head only specified for number and gender, but not person, will be able to license only a silent NumP. Assuming that silent third-person generic subjects are NumPs (i.e., they are not specified for person), they can be licensed by past-tense agreement which is only specified for number. Similarly, Finnish does not allow silent third person referential subjects in matrix clauses, but it does allow an arbitrary or generic third person singular subject (26).

- (26) *Tässä tuolissa ∅ istuu mikavasti.*
 this-IN chair-IN sits comfortably
 ‘One can sit comfortably in this chair.’ (Finnish; Holmberg 2010:93)

Holmberg proposes that pronouns can be full DPs or ϕ Ps, but only DPs can be referentially independent because the ability to refer is linked to the D layer. According to Holmberg, D houses a referential index, without which the pronoun can only be interpreted as an impersonal. If referentially independent pronouns are DPs, this means that German *der*-pronouns must involve more nominal structure, which is independently suggested by their correspondence to demonstratives in languages like Russian and Hungarian.

And what about pronouns that are referentially dependent in the way that PRO is? PRO differs from the impersonal/generic pronouns discussed by Ritter and Holmberg in that it *can* refer to an individual, but requires the presence of an antecedent in a particular syntactic configuration. This obligatory referential dependence of PRO has traditionally also received syntactic accounts. For example, under the PRO theo-

rem of GB, PRO was associated with a [+anaphoric] feature (Chomsky 1981, 1986) and in Borer's (1986, 1989) framework, PRO had to be i-identified by an inflectional head bound by the controller. In more recent approaches to control, PRO's referential deficiency has been treated as a lack of values for φ -features (person, number, and/or gender). The values for these features (and thus the reference of PRO) is provided by the controller (Landau 2008; Sigurðsson 2008). In the proposal developed in the following section, I combine the recent formulation of PRO's referential deficiency in terms of unvalued φ -features with Holmberg's proposal that a D-layer is necessary for the ability to refer. In conjunction with Déchaine and Wiltschko's claim that a bound-variable interpretation is compatible only with pro- φ Ps, the unvalued φ -features on PRO can be shown to derive PRO's silence as well as its referential dependence.

2.3.3 The role of Agree in deriving PRO's silence

In the preceding discussion we have seen that PRO is referentially dependent, and that there are reasons to suspect that such referential deficiency has syntactic correlates. In this section, I extend an Agree-based account of PRO's referential dependence to explain PRO's obligatory silence crosslinguistically. In Section 2.3.3.1, I give an overview of the operation Agree as it has been developed in the Minimalist literature. Section 2.3.3.2 reviews Landau's (2004, 2008) account of control in terms of Agree. In Section 2.3.3.3, I introduce the notion of 'defective goal' from Roberts (2010), which I extend in Section 2.3.4 to account for PRO's silence.

2.3.3.1 Features and Agree

As mentioned earlier, within a Minimalist framework, a lexical entry contains three independent types of information: phonological, semantic, and syntactic. The syntactic information, which is referred to as formal features, drives the syntactic derivation until the point of Spell Out, after which the phonological and semantic information becomes relevant as the output of the narrow syntax is interpreted by PF and LF.

Formal features can be interpretable or uninterpretable. Interpretable features enter the derivation with values which have semantic correlates at LF. Uninterpretable features, by contrast, are those that have no representation at LF, and must, therefore, be eliminated before they cause the derivation to crash in the semantic component. For instance, ϕ -features are universally considered to be interpretable on nominal elements (because entities are inherently specified for person, number, and gender), but they are deemed to be uninterpretable on T because the semantic representation of tense cannot include person, number, or gender.

In order to be eliminated, uninterpretable features must be valued. (Interpretable features, by contrast, need not be deleted since they pose no difficulties at LF.) In a Minimalist framework, the operation Agree (Chomsky 2000, 2001) is responsible for valuing uninterpretable features. Agree is triggered by uninterpretable features on a Probe, which are valued by a Goal that has an interpretable instance of the same type of feature.

(27) *Subject-verb Agreement*

T[uPers:_, uNum:_] DP[iPers:*a*, iNum:*b*]

Outcome of Agree

T[uPers:*a*, uNum:*b*] DP[iPers:*a*, iNum:*b*]

While the focus of the present discussion is on the relationship between interpretable and uninterpretable features illustrated in (27), it is important to point out that not all formal features enter into Agree relations or come in both interpretable and uninterpretable variants. A number of different types of formal features have been identified in the Minimalist literature, including categorial features, grammatical features that enter into Agree, selectional features, and EPP features. These feature types are not all alike; for instance EPP—or edge—features, which require that a particular head have a filled Specifier, have no interpretable counterpart; instead of being deleted after valuation, they are deleted when the relevant head occurs in a particular structural configuration (Chomsky 2001, 2004, 2008).

What about the reverse—do formal features exist that are purely interpretable and have no uninterpretable counterpart? These features would not enter into Agree relations, since there could be no probe with an uninterpretable variant of the feature to initiate the relationship. However, these features would play an active role in the narrow syntax. I propose, following Chomsky (1995), that (many) categorial features fit this description. To illustrate the difference between categorial features and features that enter into Agree relations, let us consider adjectives. Adjectives have a particular syntactic distribution—they can occur as nominal modifiers or as predicates—and this distribution follows largely from their syntactic category. The notion “category” is not well-defined in Minimalism, and it is not obvious how to

represent the category “adjective” in the syntax—it is unlikely that there is a simple $[+Adj]$ feature that is common to all adjectives, but we can use $[+Adj]$ as a heuristic for the defining set of formal features that all adjectives share. These features come into play in selection—a particular head can require that its complement be an adjective, or, in other words, have the feature(s) $[+Adj]$.³ However, we do not see long-distance agreement for the feature(s) $[+Adj]$. Adjectives can enter into Agree relations for φ -features, but we do not see agreement morphemes that reflect that a particular head has entered into a long-distance dependency for the feature $[+Adj]$. While the following discussion deals exclusively with features that enter into Agree relations, we will return to the role of category features in the derivation of silence in Chapter 4.

In the following discussion I also adopt a slightly modified formulation of Agree, known as feature-sharing (Pesetsky and Torrego 2007). Under feature-sharing, Agree copies the feature from the Goal onto the Probe, resulting in the same feature being present in two separate locations. The feature can retain interpretable and uninterpretable instances following Agree, but in the same way that copies of an element are actually the same element, features that have undergone Agree are the same occurrence of a feature.

Pesetsky and Torrego (2007) also call into question the assumption in Chomsky (2000, 2001) that being interpretable and being valued are inextricably linked. They propose instead that features can enter the derivation with or without values regardless of interpretability. This creates a four-way distinction between uninterpretable/unvalued features, interpretable/unvalued features, uninterpretable/valued

³It is irrelevant for the present discussion whether this set of features is contained on the adjectival stem or on a functional head a that assigns a category to a category-less root.

features, and interpretable/valued features. An important result of this modification to Agree is that two unvalued features can enter into an Agree relation, which is illustrated below in (28-a). The more traditional case of an unvalued feature agreeing with a valued feature is schematized in (28-b). The numbered indices next to each feature F reflect the basic idea of the feature-sharing approach to Agree; regardless of whether a given Agree relation is able to value F on the Probe, Agree results in the same occurrence of F in two distinct positions.

- (28) a. $[uF: _][i] [iF: _][5] \rightarrow [uF: _][5] [iF: _][5]$
 b. $[uF: _][i] [iF: \alpha][5] \rightarrow [uF: \alpha][5] [iF: \alpha][5]$

2.3.3.2 Agree-based account of control

Landau (2004, 2008) proposes that the operation Agree is at the heart of the control relation; he reduces the control relation to a series of Agree relations that connect the subject of the infinitival control clause to the controller. The referential deficiency of PRO forms an important aspect of Landau's (2004, 2008) Agree analysis of control. Under Landau's approach, PRO has unvalued, but interpretable φ -features, which must be valued via Agree over the course of the derivation. The value for PRO's φ -features comes from the matrix controller. However, a controller DP has valued φ -features and thus cannot act as a Probe directly. Instead, the the Agree relationship between the controller and PRO is mediated by a functional head that has unvalued φ -features. Finite T and ν are generally assumed to have uninterpretable/unvalued φ -features, and Landau additionally proposes that infinitival C can optionally enter the derivation with φ -features.

The possibility of infinitival C bearing uninterpretable φ -features is responsible for two distinct derivations of the control relation, which Landau calls PRO-Control and C-Control. A standard derivation for subject control proceeds as follows. Matrix T first has its φ -features valued by the controller DP. Subsequently it probes again and enters into an Agree relation with PRO, valuing PRO's φ -features.

$$(29) \quad [T_{[u\varphi:_]} \dots DP_{[i\varphi:3sg]} [CP [TP PRO_{[i\varphi:_]} T]]]$$

By contrast, if embedded C enters the derivation with unvalued and uninterpretable φ -features, the result is C-Control. Under C-Control, C, and not matrix T, values the φ -features of PRO. Matrix T still agrees with the controller, but subsequently it enters into an Agree relation with the infinitival C and values C's φ -features. It is then the infinitival C that agrees directly with PRO.

$$(30) \quad [T_{[u\varphi:_]} \dots DP_{[i\varphi:3sg]} [CP C_{[u\varphi:_]} [TP PRO_{[i\varphi:_]} T]]]$$

The absence of a direct Agree relation between a matrix functional head and PRO in (30) means that despite PRO's obligatory referential dependence, PRO and the controller can be mismatched in certain ways. For example, Landau ascribes the availability of partial control to the C-Control route, where PRO and the controller appear to be mismatched for (semantic) number.

$$(31) \quad \text{John}_i \text{ wanted } [\emptyset_{i+j} \text{ to meet at 6pm}].$$

Additionally, Landau (2008) demonstrates that PRO and the controller can be mismatched for case in languages like Russian. In Russian, we see evidence of case-marked PRO from certain secondary predicates, including *odin* 'alone' and *sam* 'one-

self’, which obligatorily agree in case with the element they modify. For example, when they modify the subject of a finite clause they bear nominative case (32-a), and when they modify the object they bear accusative case (32-b).

(32) (Russian; adapted from Landau 2008:882)

- a. *Taras prišel odin/*odnim/*odnomu.*
Taras.NOM came alone.SG.M.NOM/*INS/*DAT
‘Taras came alone.’
- b. *Ja našel ego odnogo/*odnim/*odnomu.*
I.NOM found him.ACC alone.SG.M.ACC/*INS/*DAT
‘I found him alone.’ (He was alone)’

We see from nominative case on the secondary predicate in subject-control constructions (33) that PRO can bear nominative case.

- (33) *On želaet ženitsja na nej sam/*samomu v cerkvi.*
he.NOM wants marry.INF on her himself.NOM/*DAT in church
‘He wants to marry her himself in a church.’

(Russian; Landau 2008:887)

By contrast, in (34) we see evidence for dative case on PRO, despite the controller bearing nominative case.

- (34) *On zabyl kak govorit’ samomu/*sam s načal’nikom.*
he.NOM forgot how speak.INF himself.DAT/*NOM with boss
‘He forgot how to talk himself to the boss.’

(Russian; Landau 2008:893)

Since (34) lacks an overt dative element that could trigger agreement on *sam*, the dative case on *sam* must either be a default or come from agreement with a silent dative element in the infinitival clause. The former, however, is incongruous with the

fact that the default case in Russian is otherwise nominative (Bobaljik and Landau 2009).

Landau accounts for such case mismatches by reference to the notion of C-Control. Under C-Control, infinitival C agrees with PRO and, in Russian, assigns it dative case; a subsequent Agree relation values the φ -features of C, which ultimately values PRO's φ -features as well. PRO, however, retains the case assigned to it by embedded C, resulting in the case mismatch between PRO and the controller in (34).

2.3.3.3 Deriving silence from Agree

Roberts (2010) argues that certain phenomena traditionally analyzed as movement—specifically, left adjunction of heads to other heads—should be reanalyzed in terms of Agree. The empirical bulk of Roberts' discussion draws on clitic incorporation; pronominal clitics often appear to move like heads, adjoining to a verbal (or clausal) head. Roberts derives this behavior from their minimal featural content with respect to the features on v (for object clitics). One of the mysteries of head movement from a Minimalist perspective is that a head continues to behave like a head after another head left-adjoins to it. Under a bare-phrase-structure approach (Chomsky 1995), the distinction between X^0 , X' , and XP is no longer a primitive, but follows from the merge operations that a particular lexical item has participated in. When a head merges with its complement, the resulting head-complement pair behaves like an XP (e.g., it undergoes phrasal movement to a specifier), and if another element is merged with this XP (as a specifier), the head-complement pair now behaves like an X' (e.g., it cannot move leaving the specifier behind). However, when a head undergoes head-movement, the resulting head-head structure remains a head. For

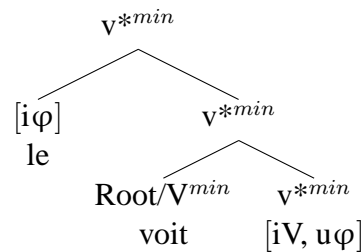
this reason, Chomsky (1995) is forced to distinguish between an X^{\min} (a simple head) and X^0 (a head formed by adjunction to another head).

Roberts solves this puzzle by deriving head movement directly from the formal definition of X^{\min} , which states that X^{\min} is a category that dominates no category whose label is distinct from itself (the label of a category is the set of formal features associated with its head). Robert notes that a complex head can remain a head only if the features of the element adjoined to head H are already contained in H. In the case of object clitics, the clitic is a bundle of φ -features, and v , the head that the clitic adjoins to, also has a bundle of φ -features as part of its label (it is these φ -features that Probe for the φ -features of the object clitic). Therefore, when the clitic incorporates, the derived structure is still a head.

- (35) “Since **the label** of (active, transitive) v^* contains φ -features—in fact, unvalued versions of the very φ -features that make up the clitic—the clitic’s label is not distinct from v^* ’s. Thus the clitic can adjoin to v^* and form a derived minimal head.” (Roberts 2010:57)

The derived head formed by clitic incorporation is depicted in (36):

- (36) Roberts (2010:56)



Roberts crucially assumes a clitic consists exclusively of φ -features, which means that it contains no features distinct from the features already on v . Roberts argues that head movement is not just possible, but actually obligatory in such a configuration. The clitic must left-adjoin to v when v agrees with the clitic for φ -features, precisely because the features on the clitic are a subset of the features on v . Roberts calls the clitic a “defective goal” in the Agree relation with v , as defined below.

- (37) **Defective Goal:** A Goal G is defective iff G ’s formal features are a proper subset of those of G ’s Probe. (Roberts 2010:62)

Roberts shows that an Agree relation with a defective goal does not look like other Agree relations. This is illustrated in (38) for object clitics. In the Agree relation in (38), the features of the clitic (the Goal) are copied onto the Probe. As a result, there are two instances of the Goal’s feature content: one on v and one φ . This is precisely the configuration that we would see if φ actually moved to v .

- (38) *Trigger for Agree*
 $v^*[\text{Pers:}__, \text{Num:}__] \varphi[\text{Pers:}a, \text{Num:}b]$
Outcome of Agree
 $v^*[\text{Pers:}a, \text{Num:}b] \varphi[\text{Pers:}a, \text{Num:}b]$ (Roberts 2010:60)

Roberts points out that the result in (38) is formally indistinguishable from the outcome of Copy/Internal Merge. This is argued to be a general property of Agree with a defective goal.

- (39) “Copying the features of the defective goal exhausts the content of the goal. Therefore the operation is not distinguishable from the copying involved in movement. Thus in the case of incorporation, *Agree and Move/Internal Merge are formally indistinguishable* [original emphasis]” (Roberts 2010:60)

An important property of Move/Internal Merge is that generally only the highest copy in a movement chain is pronounced. Roberts proposes that when Agree takes place with a defective goal, the result is a chain, equivalent to the chain that is formed in Internal Merge. Roberts subsequently appeals to Nunes’ account of chain reduction according to which all but one copy in a chain must be deleted before Spell Out (Nunes 2004). If more than one copy is present at Spell Out, the sequence is not linearizable according to the LCA (Kayne 1994)—an element that intervenes between the two copies both precedes and follows the same material. As a result, the order of the intervening element with respect to the chain formed by the copies cannot be established. In (38), the feature bundle [Person:*a*, Num:*b*] is present twice, and one of the copies must be deleted. Generally it is the highest copy that is spelled out, which in (38) is the copy in v^* .

- (40) “We have two identical occurrences of the same feature bundle. Moreover the occurrence of these features in v^* asymmetrically c-commands the occurrence of these features in φ ...Therefore chain reduction in the sense of Nunes 2004 becomes relevant. ” (Roberts 2010:60)

- (41) *Outcome of Chain Reduction*
 $v^*[\text{Pers:}a, \text{Num:}b] \varphi [\text{Pers:}a, \text{Num:}b]$

To summarize, according to Roberts, clitic incorporation is then nothing other than Agree with a defective goal:

- (42) “Clitic incorporation is a way of satisfying Agree that gives the effect of movement.” (Roberts 2010:61)

In the next section, I adopt Roberts’ intuition that Agree with a defective goal is indistinguishable from Internal Merge. I argue, however, that this intuition does not account for clitic incorporation, but instead makes the prediction that a defective goal is always silent.

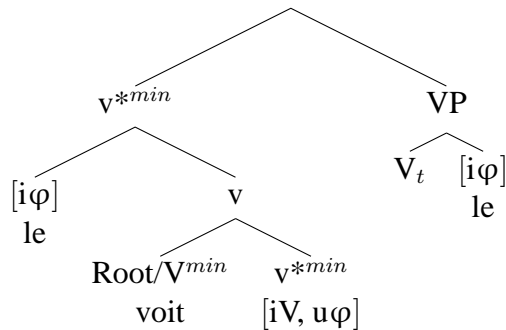
Looking more closely at Roberts’ argument as summarized above, we can separate out two distinct claims: (i) head movement is only compatible with the Minimalist Framework if the features of the moved head are a subset of the features of the head it adjoins to and (ii) head movement (incorporation) is Agree with a defective goal. The former claim is not directly relevant to this dissertation, although see Matushansky (2011) for an overview of some issues facing the proposal. Below I consider the second claim in more detail and argue that a particular reading of this claim can account for the silence of certain pronouns.

Roberts’ claim that head movement is nothing other than Agree is somewhat contradictory. Specifically, Roberts seems to be claiming at once that movement does and does not take place. On the one hand, the quotes in (39) and (42), as well as the schematization of Agree with a defective goal in (38) all suggest that the clitic does not actually move to adjoin to *v*. However, (38) does not actually derive the properties of clitic incorporation that Roberts sets out to explain. First of all, if the clitic is spelling out the uninterpretable φ -features on the verb, it is not explained why those

features appear to the *left* of the verb, as opposed to the right of verb where agreement morphemes normally appear in Romance. Moreover, as pointed out by Matushansky (2011), Roberts argues that cliticization has certain semantic effects, which is only possible if the higher bundle of φ -features is actually interpretable, which, in turn, is only possible if the clitic actually moves.

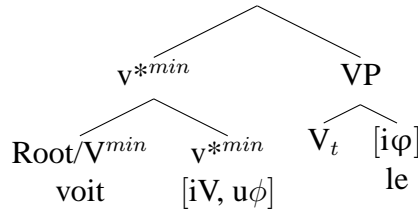
On the other hand, Roberts does, in fact, seem to be claiming that head movement is an instance of actual movement, *triggered* by Agree (in contrast to phrasal movement, which is triggered by the EPP). He states that “Incorporation ... is required to take place whenever it can ...” (Roberts 2010:62). Moreover, the structure in (36), repeated below, is given specifically as an example of a head derived by incorporation. However, in contrast to (38), there are three, not two instances of φ P in (36), as illustrated in (43) (see Matushansky (2011) for a similar point).

(43) Three copies of φ P



If clitic incorporation were nothing but an instance of Agree, we would expect the derivation to look like (44), contrary to fact.

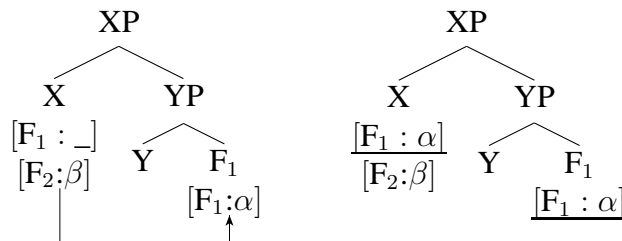
(44) *Alternative: Incorporation as Agree*



Thus in Roberts' analysis, object clitics must, in fact, move to adjoin to v , although the motivation for this movement remains unclear; it does not immediately follow from the notion of a defective goal. To maintain a defective-goal analysis head movement, Roberts must stipulate that head adjunction *must* take place whenever a Probe agrees with a defective goal.

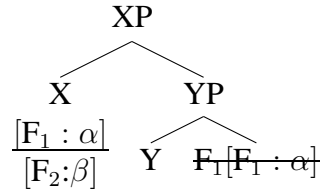
I argue, however, that Roberts' intuition that Agree with a defective goal is indistinguishable from Internal Merge makes a different prediction, one that does not require an additional stipulation. Consider the more general notion of defective goal; say we have a feature bundle F_1 that is the Goal for a Probe X that has features F_1 and F_2 . When X enters into an Agree relation with F_1 , F_1 is a defective goal because its features are a subset of the features of X . After the features on the Probe have been valued, there are two copies of F_1 in the resulting structure.

(45) *Agree with a defective goal*



At Spell Out, only one copy of F_1 can be interpreted by PF, following the reasoning in Nunes (2004). Therefore, the lower copy of F_1 will be deleted, in the same way that the lower copy is deleted for an element that has undergone Internal Merge.

(46) *Deletion of lower copy*



Therefore, we expect that an Agree relation with a defective goal will always result in the deletion of the Goal, unless there is a specific reason to pronounce the lower copy. I make no claim here about possible triggers for head movement, but I adopt Roberts' intuition that the features associated with a defective goal can be spelled out on the Probe. However, since no movement actually takes place, an Agree relation with a defective goal should not have the same kind of locality constraints that we see with head movement (i.e., the Head Movement Constraint). Like other instances of Agree, an Agree relation should be subject to the Phase Impenetrability Condition, an issue I address in more detail in Chapter 3.

Holmberg (2010), similarly interprets Roberts' (2010) proposal to mean that Agree can result in the deletion, rather than incorporation, of the Goal. He applies the notion of defective goal to account for the silence of matrix subject pronouns in null-subject languages. As discussed in Section 2.3.2, Holmberg posits that fully referential pronouns are DPs, with referentiality encoded in a D-feature; the value of a D-feature is a referential index which determines the reference of the pronoun.

Holmberg proposes that *pro* is a φ P, and its silence follows from its status as a defective goal in an Agree relation with T. According to Holmberg, the φ P found in matrix clauses in null-subject languages consists of valued φ -features and an unvalued case feature; when T probes the φ P subject, the φ -features of *pro* are copied onto T, *pro*'s case feature is valued, and as a result two identical copies of the φ P content are produced. Because *pro* is a defective goal in the Agree relation with T, a chain is formed between *pro* and T, in which T is the highest copy. The lower copy must be deleted according to standard rules of chain reduction, as schematized in (47).

- (47) 1[T, u φ , NOM][_{vP}[3SG, uCase]T...]] →
 2[T, 3SG, NOM][_{vP}[3SG, NOM]T...]] →
 3[T, 3SG, NOM][_{vP}[~~3SG, NOM~~]T...]]

However, a pronoun cannot refer to an individual in the discourse without a D-feature (i.e., a referential index). The only interpretation available to *pro* in (47) is an arbitrary or generic one. Therefore, the derivation in (47) does not actually reflect null subjects in *pro*-drop languages like Italian. It does, however, characterize silent subjects in partial null-subject languages, like those in Finnish, which can only receive an arbitrary or generic interpretation (48), repeated from (26).

- (48) *Tässä tuolissa ∅ istuu mikavasti.*
 this-IN chair-IN sits comfortably
 'One can sit comfortably in this chair.' (Finnish; Holmberg 2010:93)

In *pro*-drop languages, however, *pro* is interpreted as definite, which means that it must be associated with a valued D-feature). Consistent with Rizzi's (1982) formulation of the Null Subject Parameter that Infl is specified with [+pronoun] in

Definite null subject pronouns are impossible in non-null-subject languages and partial-null-subject languages because T lacks a D-feature in these language types. Without a D-feature in T, there is no way for the null pronoun to receive a referentiality index from a higher Topic. Instead, partial null-subject languages only allow a generic or arbitrary interpretation for a silent subject in a matrix clause.

In the following discussion I demonstrate that Roberts' intuition about defective goals can similarly be extended to account for the obligatory silence of PRO.

2.3.4 PRO is a defective goal

In this section, I use the notion of defective goal to account for the obligatory silence of the subject of an infinitival control clause. I adopt a feature-sharing approach to Agree, as formalized in Pesetsky and Torrego (2007). Following Landau, I assume that PRO has unvalued, but interpretable, φ -features which must be valued via Agree during the course of the derivation. I furthermore assume that PRO does not agree directly with the controller, but that the control relationship between PRO and its antecedent is mediated by a functional head.

2.3.5 A preliminary proposal

I take PRO's inability to refer to reflect a minimal pronominal structural—a φ P. But in contrast to the pro- φ Ps discussed by Déchaine and Wiltschko, PRO has unvalued φ -features. This means that it must acquire its reference syntactically—via Agree. As discussed earlier in this chapter, the subject of a control clause is obligatorily dependent in reference on a sufficiently local antecedent; this is not a property true of infinitival clauses more generally (consider, for example, raising clauses, which

have full DP thematic subjects). I propose that the requirement for a referentially dependent pronoun is reflected in the selectional features on the matrix verb; matrix V requires that its CP complement have unvalued φ -features at the time that it merges with V.

A referentially dependent pronoun consists exclusively of φ -features, lacking any other syntactic nominal projections which would mean that PRO will be a defective goal whenever it enters into an Agree relation where its φ -features are valued. The relevant derivation is schematized in (50) for PRO-Control (in the sense of Landau 2004, 2008)—since matrix T values PRO’s φ -features, PRO is a defective goal with respect to T. Agree results in a chain between PRO and matrix T, and PRO is deleted as the lower copy in that chain.

- (50) 1 [T, $u\varphi$:_[]] [_{VP}[_{DP} D, $i\varphi$:3SG[]] v [_{CP}[_{TP}[$i\varphi$:_[]]T...]]] →
 2 [T, $u\varphi$:3SG[5]] [_{VP}[_{DP} D, $i\varphi$:3SG[5]] v [_{CP}[_{TP}[$i\varphi$:_[]]T...]]] →
 3 [T, $u\varphi$:3SG[5]] [_{VP}[_{DP} D, $i\varphi$:3SG[5]] v [_{CP}[_{TP}[$i\varphi$:3SG[5]]T...]]] →
 4 [T, $u\varphi$:3SG[5]] [_{VP}[_{DP} D, $i\varphi$:3SG[5]] v [_{CP}[_{TP}[~~$i\varphi$:3SG[5]~~]T...]]]

Recall from Section 2.3.3.2, however, that in languages like Russian, PRO and the matrix controller can be mismatched for case (51), repeated from (34). In (51) PRO bears dative case, while the controller bears nominative case.

- (51) *On zabyl kak \emptyset_{DAT} govorit’ samomu/*sam s načal’nikom.*
 he.NOM forgot how speak.INF himself.DAT/*NOM with boss
 ‘He forgot how to talk himself to the boss.’ (Russian; Landau 2008:893)

These constructions are examples of C-Control, where instead of agreeing directly with matrix T, PRO agrees with the embedded C (which subsequently has its features

valued by matrix T). The notion of defective goal can account for PRO's silence under C-Control just as well as under PRO-Control. Since PRO agrees for φ -features with embedded C, it is a defective goal with respect to C, though not necessarily with respect to matrix T. In addition to uninterpretable φ -features, C must carry other features (e.g., [+wh], [-finite]), which are not shared with matrix T. As a result, PRO is a defective goal with respect to C, but C is not a defective goal with respect to matrix functional heads. The derivation is schematized in (52); note that first, an Agree relation is established between embedded C and φ P, second, an Agree relation is established between matrix T and the matrix subject, and only then does matrix T probe the embedded C and establish an Agree chain between the matrix controller and PRO.

- (52) 1[T, u φ :_] [vP[DP D, i φ :3SG[]] v [CP C, u φ :_] [TP[i φ :_]T...]] \rightarrow
 2[T, u φ :_] [vP[DP D, i φ :3SG[]] v [CP C, u φ :_[4] [TP[i φ :_[4]]T...]] \rightarrow
 3[T, u φ :3SG[6]] [vP[DP D, i φ :3SG[6]] v [CP C, u φ :_[4] [TP[i φ :_[4]]T...]] \rightarrow
 4[T, u φ :3SG[6]] [vP[DP D, i φ :3SG[6]] v [CP C, u φ :3SG[6] [TP[i φ :3SG[6]]T...]] \rightarrow
 5[T, u φ :3SG[6]] [vP[DP D, i φ :3SG[6]] v [CP C, u φ :3SG[6] [TP[i φ :3SG[6]]T...]]

To summarize the preliminary proposal, the obligatory silence of PRO follows straightforwardly from the structural underpinnings of its referential dependence. As a φ P with unvalued φ -features, it must enter into an Agree relation to have those features valued. However, it will be a defective goal, and thus silent, in any Agree relation that it enters into.

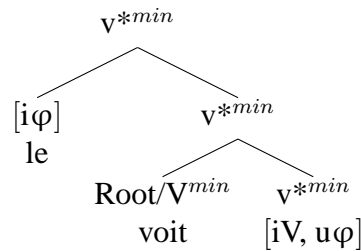
2.3.6 Refining the theory of defective goals

In the preceding section I demonstrated that the notion of a defective goal can explain the crosslinguistic silence of obligatorily controlled subject pronouns. In this section I make more explicit the theory of defective goals as a source of syntactically derived silence.

2.3.6.1 An asymmetrical relationship

Recall the behavior of clitics from the earlier discussion of Roberts (2010). According to Roberts, an object clitic is goal for the φ -feature probe in v , and as a consequence of Agree, the clitic must incorporate, i.e., head-adjoin to v , as in (53).

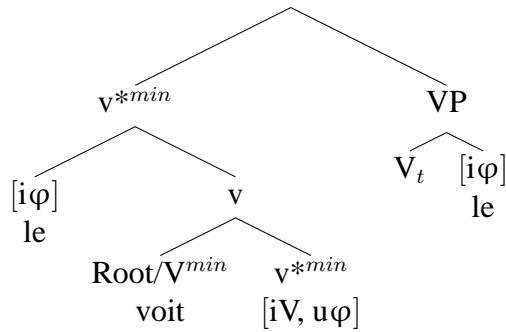
(53) Roberts (2010:56)



It was argued in Section 2.3.3.3 that a literal interpretation of the notion ‘defective goal’ would instead predict that the clitic should not surface overtly at all because the lower copy of the clitic would be deleted, while the higher copy of the clitic, which should survive to PF, is the φ -feature probe on v . Since object agreement is inherently null on finite verbs in French, we should not expect to see the features of the object spelled out.

Roberts, instead, must make the assumption that agreement with the clitic forces head movement. However, given such an assumption, a natural explanation emerges for the overt realization of the clitic in its final position. Notice that after the clitic has moved, there are three instances of the feature bundle associated with the clitic: one in its first-merge position, the second on v itself, and the third head adjoined to v .

(54) Three copies of φ P



I propose that in the above structure the three instances of the φ -features bundle associated with the clitic is not considered a chain for purposes of linearization because the existence of such a chain would violate a condition on chain uniformity; the middle link of the chain (the lexical item merged in v) has additional features that neither of the other two copies does. This is not to say that the movement of the clitic is prohibited—in fact, in this construction it appears to be required—but once the clitic moves, the chain that is considered for the purposes of linearization involves the copies of the clitic related by Internal Merge. As a result, it is the lower copy in

the first-Merge position that is deleted in (54), while the higher moved copy is sent to the phonological component.⁵

In fact, a defective goal configuration is the only exception to this uniformity condition—in a defective goal configuration the higher copy may (and, by definition, must) contain a superset of the features of the lower copy. The defective goal configuration is reminiscent of the output of head movement, where left adjunction of a lower head to higher head creates a head that is more complex than the lower copy.

Therefore, the defective goal relation between a goal and a probe is fundamentally an asymmetrical relationship. It is asymmetrical in two respects: (i) the probe must c-command the goal and (ii) the features of the goal are contained within the probe. This asymmetry makes the derivation of PRO's silence distinct from ellipsis—according to Merchant (2001) the elided constituent and its antecedent stand in a relationship of mutual entailment; therefore, unlike a defective goal, an elided VP is equal in structure and featural content to its antecedent.

2.3.6.2 Defective goals are relevant at Spell Out

Another aspect of a defective-goal theory of silence has to do with the point in the derivation where defective goals are deleted. Roberts proposes that each Agree relation can be a trigger for incorporation. The original motivation for the deletion of a defective goal, however, is the same motivation that exists for the deletion of copies

⁵One formulation of a condition on chain uniformity that could apply here is proposed by Nunes (2004):

- (i) **Feature Uniformity Condition:** Given a chain $CH(\alpha_1, \dots, \alpha_n)$, every α_i ($1 \leq \alpha \leq n$) must have the same set of features visible at LF.

at Spell Out. Before Spell Out, the existence of multiple copies of a lexical item does not pose a problem. I propose, therefore, that the notion of a defective goal interacts with the notion of phases. A syntactic derivation proceeds in cycles (phases), and at the end of each phase the syntactic derivation is transferred to semantics and phonology for interpretation (Chomsky 2000, 2001, 2004, 2008). Material within a completed phase is inaccessible to subsequent computations in the narrow syntax, formalized as the Phase Impenetrability Condition (PIC).

- (55) **Phase Impenetrability Condition:** after a phase has been spelled out it is no longer accessible to the computation.

I assume here with Chomsky (2008) that the complement of a phase head is spelled out when the phase is completed. Therefore, after a phase is completed, only the head and specifier of the phase head (the edge of the phase) are accessible for subsequent computations in the narrow syntax. I also assume here that CP and transitive v^*P are phases. The notion of a defective goal only becomes relevant once any given phase is complete; until that point, the a ‘defective goal’ behaves like any other phrase undergoing Agree or Internal Merge.

While many authors have proposed that embedded CP is not a phase in control clauses (Landau 2004; Wurmbrand to appear, a.o.), matrix v in a control clauses introduces an external argument and is, therefore, a phase head. To take into account the status of v as a phase head, I introduce the following modification to Landau’s Agree account of control (56).

- (56) Matrix *v*, as a head with (uninterpretable) φ -features, mediates the Agree relation between the embedded subject and its antecedent.

The result of adopting (56) is that matrix *v* first agrees with C, but if its features remain unvalued after this Agree relation. It must then probe upwards into its Specifier if it cannot have its features valued to have the external argument value its φ -features (along the lines of Rezac (2004)). Thus, when *v*'s features cannot be valued within its c-command domain it bears features of the matrix subject.

- (57)
$$\begin{array}{ccccccc} [\text{vP DP}_{[i\varphi:3SG]} & [\text{v } v_{[u\varphi:_]}] & [\text{CP} & \text{C}_{[u\varphi:_]} & [\text{TP} & \text{PRO}_{[i\varphi:_]} & \text{T}]] \\ \uparrow & & \uparrow & & \uparrow & & \\ & 3 & & 2 & & 1 & \end{array}$$

A consequence of this approach is that we are able to reconcile the silence of *pro* with its ability to fulfill the EPP. Roberts claims that defective goals cannot satisfy the EPP because they incorporate into the Probe and cannot simultaneously move the specifier of the same Probe. It is, in part, the ability of *pro* to satisfy the EPP that leads Roberts (2010b) to argue against a defective goal approach to its silence (contra Holmberg 2010b). However, *pro* can both satisfy the EPP and be a defective goal with respect to a probe, if a different agreeing probe with respect to which it is a defective goal c-commands *pro* in Spec,TP. Until the CP phase is complete, *pro* behaves like any other pronoun—it can move to Spec,TP to fulfill the EPP.⁶

⁶Cardinaletti and Starke point out an intriguing fact about weak pronouns in Italian—they cannot remain in their base position. This is consistent with the present approach, where weak pronouns would be expected to be null in their base position because they would be in an asymmetric Agree relation with T (or *v*), but when they move to fulfill the EPP, they end up in a position c-commanding the probe, which means they are no longer deleted. By contrast, a *pro* subject enters into another Agree relation when it is in Spec TP, possibly with a Topic Phrase in the left periphery. It is this Agree relation that results in *pro*'s silence.

2.3.6.3 The status of case

We have seen above that PRO can be case-marked in Russian. In the derivation above, I have not, however, indicated case as a feature on PRO. A reasonable question is how the case marking on PRO is compatible with its status as a defective goal in control constructions. In Roberts' original formulation, as well as Holmberg's application of it, it is assumed that case is an unvalued feature on nouns (although Roberts proposes that clitics specifically lack such a feature). It is also, according to Holmberg, a feature on the agreeing functional head (T bears nominative case).

The derivations in (50) and (52) are in principle compatible with ϕ P bearing a syntactic case feature. In (50), T has a valued [NOM] case feature, and values ϕ P's case feature as [NOM] as well; since PRO's case and ϕ -features are both represented on T, ϕ P is still a defective goal in this Agree relation. Similarly, in (52), embedded C has a valued [DAT] case feature; in the Agree relation between C and ϕ P, C values ϕ P's case feature, and since case and ϕ -features are the only features on ϕ P, PRO is a defective goal with respect to embedded C when C values its case feature as dative.

However, given instances case-marked PRO in Icelandic, a post-syntactic approach to case (Marantz 2000) is more appropriate. Icelandic patterns similarly to Russian in allowing case-marked PRO, except PRO is assigned nominative case within the infinitival clause, as opposed to dative (Sigurðsson 2008). Additionally, Icelandic is relatively unique in having inherently case-marked PRO. Case agreement on predicative adjectives serves as the diagnostic for case-marked PRO in Icelandic. Predicative adjectives must agree in case, number, and gender with a nominative subject, but they bear default agreement if the subject is inherently case-marked. In (58-a), the matrix subject is accusative, thus the source of the nominative case on the

predicative adjective must be case-marked PRO. In (58-b) the adjective bears default agreement. This default agreement on the predicative adjective is accounted for if the embedded clause contains a PRO subject which is assigned inherent dative case by the predicate *be cold*, since dative subjects usually trigger default agreement in Icelandic.

- (58) a. *Ólaf langar ekki til að PRO vera ríkur.*
 Olaf.ACC.M.SG longs not for to PRO.NOM be rich.NOM.M.SG
 ‘Olaf doesn’t want to be rich.’
- b. *Hana langar ekki til að PRO vera kalt.*
 her.ACC longs not for to PRO.DAT be cold.DFT
 ‘She doesn’t want to be (feeling) cold.’

(Icelandic; Sigurðsson 2008:407)

Therefore, in Icelandic, the morphological case on PRO is distinct from the case that would be assigned to it by infinitival C or T, which is nominative, as shown in (58-a). If case were a syntactic feature, PRO would not be a defective goal with respect to embedded C or matrix *v*.

Under a post-syntactic approach, the only features on PRO are φ -features, and its morphological case is determined by the Agree relations it enters into. The lowest case-assigning head that Agrees with PRO will determine what case PRO receives. For example, in Icelandic control constructions like (58-b), the dative case on PRO is inherent case, assigned by the same functional head that PRO receives its theta-role from; even though it subsequently Agrees with higher functional head, it is the lower head that determines PRO’s case. In Russian, under C-control, the lowest case assigning head is embedded C, since infinitival T in Russian does not assign

case, which explains why PRO receives dative and not nominative case. What about PRO-Control, where v Agrees directly with PRO? Since control verbs introduce an external argument, one might expect v to be able to assign accusative case to PRO, contrary to fact.⁷ I propose that v is not an accusative case assigner when it probes its specifier. Such a situation only arises when v fails to value its φ -features by probing its c-command domain (precisely in cases where it Agrees with a non-finite C or a $\varphi P_{[i\varphi: _]}$).

2.4 Comparison with alternative accounts

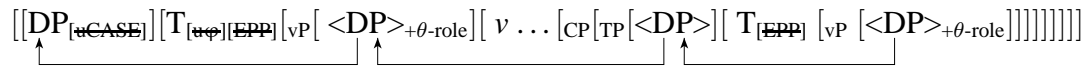
In this chapter I have provided a principled account for the obligatory silence of PRO crosslinguistically. In my account, I have tied the silence of PRO to its referential dependence on a matrix antecedent. Although the referential dependence of PRO has received a number of syntactic analyses (Borer 1989; Landau 2004, 2008; Sigurðsson 2008), few proposals have addressed the source of PRO's silence.

As mentioned in Section 2.2, the silence of PRO received a principled explanation under Government and Binding, but few Minimalist approaches to control have attempted to derive PRO's silence. The main exception is the Movement Theory of Control (MTC), according to which, 'PRO' is silent for the same reason that NP traces are silent (Hornstein 1999; Boeckx and Hornstein 2003, 2004, 2006a,b; Boeckx et al. 2010a,b). Under this approach, theta roles are features, and the subject of the matrix clause starts out as the subject of the embedded clause and raises into

⁷The only instance when PRO appears to receive accusative case in Russian is when the controller is an object that itself receives accusative case (although accusative case in these examples is rather marginal). To account for accusative on PRO in object control constructions, I follow Landau (2008) in assuming that v must Probe twice.

the matrix clause to receive a second theta-role from the matrix verb. According to the MTC, the driving force behind the movement of the embedded subject into the matrix clause is the requirement of the matrix predicate to discharge a theta role. An additional motivation for the movement is the requirement for all DPs to enter into an Agree relation with a φ -complete probe; the uninterpretable case feature of the embedded subject remains active until it agrees with matrix T, making it visible for matrix Probes. The MTC derivation of control is schematized below.

(59) *Derivation of control under the MTC*



The present proposal shares a key intuition with the MTC approach, namely that the subject of a control clause is silent for the same reason that copies are silent. However, unlike the MTC, the present approach maintains that the embedded subject and its matrix antecedent are distinct elements that are both part of an Agree chain for φ -features. Crucially, they receive their theta-roles and case independently of each other.

A number of arguments have been made against the MTC, which I will not review here (Landau 2003, 2007; Bobaljik and Landau 2009). Relevant for the present discussion, however, is the aforementioned possibility of a mismatch in case between the controller and PRO in languages like Russian, repeated below from (51).

- (60) *On zabyl kak \emptyset_{DAT} govorit' samomu s načal'nikom.*
 he.NOM forgot how speak.INF himself.DAT with boss
 'He forgot how to talk himself to the boss.' (Russian; Landau 2008:893)

Much of the discussion in the control literature has focused on similar mismatches in Icelandic, as in (61).

- (61) *Hana langar ekki til að PRO vera kalt.*
 her.ACC longs not for to PRO.DAT be cold.DFT
 ‘She doesn’t want to be (feeling) cold.’

(Icelandic; Sigurðsson 2008: 407)

The dative case on the infinitival subject in Icelandic, however, is clearly inherent; the predicate ‘to be cold’ assigns dative case to its subject. The MTC accounts for the absence of dative case on the controller by proposing that inherent case is necessarily erased when a noun is assigned another theta role. By contrast, in Russian, it has been argued the dative case we see on PRO in (60) is structural case (Babby 1998; Fleischer 2006). The argument stems from the compatibility of dative PRO with a range of predicates (transitive, unergative, unaccusative), though not with predicates that assign inherent case. In other words, only elements that would bear nominative case in finite clauses can surface as dative PRO in Russian. In this sense, dative case assigned to PRO is similar to the case assigned to infinitival subjects by the prepositional complementizer *for*, as in (62).

- (62) John expected [for Mary to get the job].

As discussed earlier, I assume, following Landau, that dative case on Russian infinitival subjects is assigned under Agree with a non-finite C. The case mismatch between the controller and PRO receives a straightforward explanation if the embedded subject is a distinct lexical item from the controller. The MTC would be forced to posit

that a structurally case-marked infinitival subject remains visible to the matrix Probe (which is actually compatible with the present approach of treating case as a purely morphological phenomenon). Moreover, the MTC would have to assume that structural case is deleted when an element is assigned an additional theta-role, despite the fact that structural case is compatible with any theta-role not associated with inherent case.

2.5 Consequences of the proposal

In this chapter, I have developed a derivational theory of silence based on the notion of defective goals. The essence of the theory is that an asymmetric Agree relation where the probe stands in a relationship of containment and c-command with respect to the goal can result in the silence of the goal. I have proposed that subjects of obligatory control clauses are structurally and featurally minimal elements that will always be defective goals in Agree relations with clausal functional heads. More specifically, I take PRO to consist exclusively of a bundle of interpretable but unvalued φ -features, which must be valued over the course of the derivation. Therefore, PRO-like pronouns differ from other null anaphoric elements in that both their interpretation and their silence follows from the syntactic derivation, and the same locality constraints that apply to the operation Agree apply in a control relation. Crucially, the silence of the pronoun is determined locally—within the first phase that contains the pronoun—even though the φ -features of PRO are not valued until the controller is merged in the matrix clause.

Pronouns that are syntactically deficient (φ Ps with unvalued φ -features) will enter into an Agree relation that will result in both their silence and their referen-

tial dependence. This derivation will be possible whenever $\varphi P_{[i\varphi:_]}$ is permitted in the structure, which leaves open the question of what constrains the distribution of this referentially and syntactically deficient pronoun. The present account separates the silence and interpretation of pronouns from the question of their distribution. To some degree the issues overlap, and the present proposal does make the right predictions regarding the exclusion of PRO from matrix clauses. Under the present proposal, PRO has unvalued φ -features, which must be valued via Agree; if PRO were the subject of a matrix clause, matrix T would not be able to value PRO's φ -features, since it would have unvalued φ -features itself—recall that in control constructions matrix T has its φ -features valued by the controller. With both PRO's and T's φ -features unvalued, the derivation would crash. However, there is nothing in the present proposal that ties the distribution of PRO-like pronouns to infinitival clauses per se. In Chapter 3, I analyze instances of $\varphi P_{[i\varphi:_]}$ in finite clauses in Russian, and consider further the issue of distribution in light of the alternation between overt and silent pronouns in these contexts.

As for infinitival clauses, I have so far only considered PRO in subject control constructions. We would expect object control into infinitives to work much the same way—matrix v would Agree both with the matrix object and the embedded subject. There is one potential difference that may end up being relevant for crosslinguistic variation in the availability of object vs. subject control—since v would c-command both the infinitival clause and the matrix object, v must probe twice in object control; in fact it would have to probe again after having its features valued by the object.

In addition to infinitival complement clauses, however, we see control into adjunct clauses (63).

(63) John_i left before \emptyset_i eating.

In Chapter 3, I propose that such constructions also require a defective goal analysis. The silence of \emptyset in (63) is derived in exactly the same way—from a local Agree relation between the highest functional head of the adjunct clause and the embedded subject. I assume that matrix T subsequently agrees with the adjunct.

More generally, I argue that whenever we see a silent pronoun whose interpretation is syntactically constrained, it must have entered into an Agree relation with a c-commanding Probe. This applies even in non-obligatory control constructions as in (64)

(64) \emptyset to drive across the country would be a wonderful trip.

Is there evidence, however, that PRO_{arb} enters into an Agree relation at all? In fact, Russian provides evidence that PRO_{arb} does agree with C. Recall that in Russian, case agreement on the secondary predicate *odin*, ‘alone’ reveals the case of PRO. Dative case is reflective of C-Control—or an Agree relation between PRO and the infinitival C,—while nominative case is reflective of PRO-Control—or an Agree relation between PRO and matrix *v*. The sentence in (65) demonstrates that the subject of the infinitival clause must bear dative case, and thus must have entered into an Agree relation with C.

- (65) \emptyset *xodit'* *po kladbišču odnomu* *strašno*.
 \emptyset .DAT walk.INF on cemetery alone.DAT scary
 'It is scary to walk alone in a cemetery.' RUSSIAN

I propose that in the absence of an antecedent, infinitival C can value the φ -features on PRO. Although normally infinitival C is associated with unvalued and uninterpretable φ -features, in non-obligatory control constructions the infinitival C enters the derivation with valued (though still uninterpretable) φ -features. I follow Barrie (2007) in assuming a generic operator in the C-domain of non-obligatory control constructions.⁸ The presence of this operator is what endows C with valued (3rd person singular) φ -features. Thus PRO_{arb} is silent for the same reason that PRO is silent under C-Control—it is a defective goal in an Agree relation with C.⁹

One possibly surprising aspect of the distribution of $\varphi P_{[i\varphi: _]}$ is that we do not see it in object position—languages generally disallow a bound object to be null. In this way PRO and anaphors are largely in complementary distribution—embedded subjects with local antecedents are null, while long-distance subject anaphors and object anaphors are overt. Unfortunately, no current theory of control has a satisfactory explanation for this prohibition.

Reuland (2011) proposes a possible explanation for the restriction on PRO in object position. Reuland derives Condition B—the prohibition on pronominal objects

⁸Barrie (2007) follows Hornstein (1999) and subsequent work on Control-as-Movement, assuming that non-obligatory control constructions contain *pro*, an element of a different category from the one found in obligatory control constructions. Under the present proposal, the subject of obligatory and non-obligatory control constructions is of the same category— $\varphi P_{[i\varphi: _]}$

⁹Additionally, it seems that in certain cases, infinitival C can receive a different value for its uninterpretable features from the speech context.

- (i) To live by myself would be difficult.

referentially dependent on the subject—from following computational principle: Inability to Distinguish Indistinguishables (IDI). When a two-place predicate with a bound pronoun reading is sent to the C-I interface, its representation is as in (66)

$$(66) \quad \text{DP}(\lambda x[x \text{ V } x])$$

Reuland proposes that there is no access to hierarchical structure at the C-I interface, which means that (66) is rendered as the string in (67), where only one object is visible. The C-I interface cannot distinguish the two instances of x , and therefore cannot properly match theta-roles to the arguments.

$$(67) \quad [\text{VP } \text{V } \text{“ } x \text{ } x \text{”}]$$

The IDI is what makes reflexive morphology necessary in a monoclausal environment, according to Reuland (2011): a reflexive-licenser can keep the two tokens of the variable distinct (it “protects the variable” in Reuland’s terms). The same restriction would apply to $\varphi\text{P}_{[\text{i}\varphi: _]}$ —being nothing but a variable, it could not be kept distinct from the subject, and therefore cannot be used in object position. Instead, a reflexive would be used, and the extra features introduced by the morpheme *self* in *him-self* would also prevent the object from being a defective goal.

Although Reuland’s approach can potentially explain why $\varphi\text{P}_{[\text{i}\varphi: _]}$ does not occur in object position in monoclausal environments, it does not help explain why the embedded subject in Dutch ECM constructions can surface as a simplex SE-anaphor rather than a null pronoun (68). In an ECM construction, the embedded subject is not part of the same predicate as the matrix verb, and therefore, the variables do not need protecting.

- (68) *Iedere professional voelde zich aan de kant geschoven.*
 every professional felt himself to the side pushed
 ‘Every professional felt himself pushed aside.’

(Dutch; Reuland 2006:510)

It appears that there must be an additional antilocality condition on an Agree chain in which the probe agrees both with an element in its complement and with its specifier. The lower goal cannot be too close to the probe; ECM clauses, in contrast to control clauses, would not satisfy this condition (the details of which I leave to future research). One potentially relevant difference is that control clauses are CPs, while ECM clauses are often assumed to lack a C-layer. Note that embedded subjects in ECM constructions receive accusative case, while in Russian subject control constructions we saw that PRO generally receives nominative case. This suggests that control, but not ECM, involves an Agree chain between two nominals mediated by matrix v . In ECM constructions, v only agrees with the embedded subject, and it is matrix T that agrees with the matrix subject (and v).¹⁰

Finally, this proposal makes the prediction that PRO could in theory be overt, in the exceptional circumstance that it has a feature not shared with its Probe. This prediction is confirmed; in a set of languages, which includes Italian, Hungarian, and European Portuguese, the subject of control clauses can be overt, and it can be demonstrated that this pronoun is PRO. These subjects are always associated either with focus particles like *only* and *also* or with a contrastive interpretation; thus the

¹⁰I must assume, additionally, that an object anaphor like *zich* has some additional feature that v lacks and that explains its overt realization following Agree. It may also be possible to derive the overt realization of *zich* in (68) from a general prohibition on object *pro*-drop in Dutch. I leave these important questions for future research.

embedded subject presumably has some feature associated with contrast that is not shared by the φ -Probe. These data will be discussed in further detail in Chapter 4.

- (69) *Senki nem akart csak ő leülni.*
nobody not wanted.3SG only he/she sit.INF
'Nobody wanted it to be the case that only he/she takes a seat.'

(Hungarian; Szabolcsi 2009:1)

- (70) *Gianni odierrebbe andare anche lui a Milano.*
Gianni would-hate.3SG go.INF also he to Milan
'Gianni would hate it if also he went to Milan.'

(Italian; Szabolcsi 2009:2)

- (71) *Decidiu ir ELE ao mercado.*
decided.3SG go.INF HE to-the market
'He decided that he would be the one to go to the market.'

(European Portuguese; Barbosa 2009:104)

Chapter 3

Phase boundaries and the distribution of φ P

3.1 Introduction

In Chapter 2, I argued that the subject of an infinitival control clause is silent for the same reason that it is interpreted as referentially dependent on a matrix antecedent; the unvalued φ -features on the embedded subject pronoun force it to enter into an Agree relation in which it is a defective goal. I proposed that a pronoun consisting exclusively of unvalued φ -features will be both silent and referentially dependent as a straightforward consequence of its featural composition.

The observation that silence and referential dependence of a pronoun are interdependent is not new. Chomsky (1981) noted, for instance, that in a context where both silent and overt pronouns are possible, only silent pronouns can be referentially dependent. This pattern is formalized as the Avoid Pronoun principle, which states that PRO is preferred over an overt pronoun where available. The data that originally

led Chomsky to propose the Avoid Pronoun principle comes from contexts where PRO and an overt pronoun alternate in English (1). In these contexts, an overt pronoun, while grammatical, is infelicitous if coindexed with the matrix subject. We see a similar contrast in ECM constructions (2).¹

- (1) a. John_i prefers [$\emptyset_{\text{PRO } i/*j}$ going to the movie].
 b. John_i would much prefer [his_{*i/j} going to the movie].
 (Chomsky 1981:65)

- (2) a. John_i expects [$\emptyset_{\text{PRO } i/*j}$ to get the job].
 b. John_i expects [him_{*i/j} to get the job].

Chomsky does not commit to a particular analysis of the source for the Avoid Pronoun principle, but he speculates that it follows from a requirement of deletion up to the point of recoverability or from a pragmatic principle of not saying more than necessary. Following this reasoning, the Avoid Pronoun principle has been interpreted in the literature more generally to mean that a silent pronoun is preferable to an overt pronoun for expressing referential dependence. By contrast, in the analysis developed in Chapter 2, the link between referential dependence and silence of a pronoun is derivational; the silence of a pronoun is always derived in a particular context if certain conditions are met. This can produce the appearance of preference for a referentially dependent pronoun to be silent, but such a system does not inherently block a parallel derivation with an overt pronoun.

¹It should be noted that coreference becomes possible with focus on the embedded subject. The judgements in (2) reflect a neutral intonation.

The Avoid Pronoun principle and related competition-based approaches to the link between silence and referential dependence face a challenge in a particular alternation between overt and silent pronouns in Russian. Russian finite embedded clauses allow both overt and silent pronominal subjects 3.2. More importantly, there is no effect of overtness on the ability of the embedded subject to be referentially dependent on the matrix subject.

- (3) *Petja skazal čto vesnoj ∅ / on poedet v Pariž.*
 Petja said that spring / he.NOM go.3SG in Paris
 ‘Petja_i said that he_i will go to Paris in the spring.’ RUSSIAN

Although 3.2 is clearly incompatible with the Avoid Pronoun principle, it still demonstrates a link between pronominal silence and referential dependence. In 3.2, the silent pronoun is obligatorily referentially dependent on the matrix antecedent, while the overt pronouns are free to refer to a different individual in the discourse. This obligatory referential dependence of the silent embedded subject has resulted in the label ‘finite control’ for similar constructions in other languages (Landau 2004; Rodrigues 2004; Ferreira 2009; Boeckx et al. 2010a).

In this chapter I argue that a derivational approach to the relationship between pronominal silence and referential dependence, in combination with a theory of phasal Spell Out, can account for the alternation between overt and silent pronouns in Russian embedded clauses. Specifically, overt pronouns can be referentially dependent under the present proposal only when they are separated by a phase boundary from their antecedent. Silent referentially dependent pronouns can also be separated from their antecedent by a phase boundary, but in this case, the phase head itself must mediate the Agree relation between the embedded subject and its antecedent.

In Section 3.2 I examine in detail the alternation between overt and silent pronouns in Russian embedded clauses and propose an account for the alternation rooted in properties of phases and phase heads. Section 3.3 refines the analysis taking into account some striking differences between obligatory control and control into finite clauses and argues that some of these differences follow from independent properties of finite and infinitival complementation. Section 3.4 concludes the chapter.

3.2 The link between silence and referential dependence in finite clauses

Overt and silent pronouns appear to alternate freely in Russian embedded clauses when expressing referential dependence on the matrix subject (4), repeated from .

- (4) *Petja skazal [čto vesnoj ∅ / on poedet v Pariž].*
 Petja said that spring / he.NOM will-go.3SG in Paris
 ‘Petja_i said that he_i will go to Paris in the spring.’ RUSSIAN

Note that the embedded verb agrees in person and number with the embedded subject regardless of whether the latter is silent or overt. Subject-verb agreement in Russian targets exclusively nominative nominals; therefore, the presence of morphological agreement on the embedded verb is consistent with the silent subject bearing nominative case like the overt subject.

This alternation between overt and silent pronouns is restricted to embedded clauses; Russian does not freely allow silent pronouns in matrix clauses.

- (5) *On/*∅ včera ispek pirog.*
 he/ yesterday baked pie
 ‘He baked a pie yesterday.’ RUSSIAN

As (4) illustrates, the form of the embedded pronoun does not affect its ability to refer to the matrix subject *Petja*. However, null and overt pronouns are not identical in interpretation in Russian embedded finite clauses. While a silent pronoun is obligatorily dependent in reference on a matrix antecedent (6-a), an overt pronoun is free to refer to a different individual in the discourse (6-b).

- (6) RUSSIAN
- a. *Petja_i skazal čto vesnoj ∅_{i/*j} poedet v Pariž.*
 Petja said that spring will-go.3SG in Paris
 ‘Petja_i said that he_{i/*j} will go to Paris in the spring.’
- b. *Petja_i skazal čto vesnoj on_{i/j} poedet v Pariž.*
 Petja said that spring he will-go.3SG in Paris
 ‘Petja_i said that he_{i/j} will go to Paris in the spring.’

This alternation is not restricted to clausal complements of *say* but remains consistent across a range of matrix embedding predicates, including *think*, *promise*, *forget*, and *insist*.

- (7) RUSSIAN
- a. *Petja_i dumaet čto ∅_{i/*j} / on_{i/j} begaet bystree vsex.*
 Petja thinks that / he runs faster everyone.GEN
 ‘Petja thinks that he runs faster than everyone.’
- b. *Mama_i obeščala čto ∅_{i/*j} / ona_{i/j} kupit mne morožennoe.*
 mother promised that / she will-buy me.DAT ice-cream
 ‘Mother promised that she will buy me ice cream.’

- c. *Petja_i zabył što $\emptyset_{i/*j}$ / on_{i/j} uže včera zapravil mašinu.*
 Petja forgot that / he already yesterday filled-up car
 ‘Petja forgot that he already got gas yesterday.’
- d. *Učenič_i nastaival što $\emptyset_{i/*j}$ / on_{i/j} napisal sočinenie sam.*
 student insisted that / he write essay self
 ‘The student insisted that he wrote the essay himself.’

3.2.1 The referential dependence of silent embedded subjects

In Russian embedded finite clauses we again see a link between the form and interpretation of pronouns—pronouns that are obligatorily referentially dependent are also obligatorily silent. Combined with the structural restrictions on the position of the antecedent, the interpretation of silent pronouns in Russian finite clauses suggests that it is a $\phi P_{[i\phi: _]}$, just like the subject of obligatory control clauses discussed in Chapter 2.

The difference in interpretation between overt and silent pronouns in embedded finite clauses is not unique to Russian, but is found more widely in what are known as partial null-subject languages, including Finnish and Brazilian Portuguese (Holmberg 2005; Holmberg et al. 2009; Holmberg and Sheehan 2010). In contrast to textbook null-subject languages like Italian, Spanish, and European Portuguese, partial null-subject languages do not readily allow silent referential pronouns in matrix clauses, but do allow silent pronouns in embedded clauses provided that they are referentially dependent on a matrix antecedent. Just like Russian, Finnish and Brazilian Portuguese permit an overt embedded subject in the same context, which is free to refer to a matrix antecedent or to another individual in the discourse.

BRAZILIAN PORTUGUESE

- (8) *O João_i disse que $\emptyset_{i/*j}$ / ele_{i/j} tinha comprado uma casa.*
 the João said that / he had bought a house
 ‘João_i said that he_{i/*j} had bought a house.’
 (Holmberg and Sheehan 2010:131)

- (9) *A Maria_i admite que $\emptyset_{i/*j}$ / ela_{i/j} não fala muito bem inglês.*
 the Maria admits that / she NEG speaks very well English
 ‘Maria admits that she doesn’t speak English very well.’
 (Holmberg et al. 2009:65)

FINNISH

- (10) *Juhani_i kertoi että $\emptyset_{i/*j}$ / hän_{i/j} oli ostanut omakotitalon.*
 Juhani said that / he had bought house
 ‘Juhani said that he had bought a house.’
 (Holmberg and Sheehan 2010:131)

- (11) *Pekka väittää että $\emptyset_{i/*j}$ / hän_{i/j} puhuu englantia hyvin.*
 Pekka claims that / he speaks English well
 ‘Pekka_i claims that he_{i/j} speaks English well.’ (Holmberg 2005:539)

For all three languages mentioned—Russian, Finnish, and Brazilian Portuguese—the relationship between matrix and embedded subjects has been likened to obligatory control. The term ‘finite control’ for referentially dependent silent pronouns in finite clauses was first introduced in Landau (2004) to describe the silent PRO-like pronouns in Hebrew finite clauses and has since been applied to silent referentially dependent pronouns in Brazilian Portuguese (Holmberg and Sheehan 2010; Holmberg et al. 2009; Modesto 2000, 2008, 2011; Rodrigues 2004; Ferreira 2009; Nunes 2008; Boeckx et al. 2010a), Finnish (Holmberg and Sheehan 2010; Holmberg et al. 2009; Rodrigues 2004), and Russian (Tsedryk 2012, 2013).² Below I summa-

²I do not discuss the original Hebrew examples here (i), since Landau argues them to be subjunctive, rather than indicative finite clauses.

rize the data that has been used to argue that finite control is an instance of obligatory control.

First of all, the antecedent of the silent pronoun must c-command it.³

C-COMMANDING ANTECEDENT

- (12) *[Doč' prezidenta_i] _j ob"javila čto ∅_{*i/j} vystupit s dokladom.*
 daughter president.GEN announced that will-perform.3SG with
 speech
 'The president's daughter announced that she will give a speech.'

RUSSIAN

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- (i) *Gil_i hivti_{ax} še ∅_{i/*j} / hu_{i/j} yekabel kidum.*
 Gil promised that / he will-receive.3SG.M promotion
 'Gil promised that he would be promoted.' (Landau 2004:860)

Although Shlonsky (2009) has contested the claim that every instance of finite control in Hebrew involves subjunctives, it is notable that Hebrew finite control is restricted to particular verbs and tenses in contrast to other languages that exhibit the same phenomenon. For example, Hebrew allows control into the finite complement of a desiderative verb, while disallowing it for finite complements of factive verbs (Landau 2004). This is the exact opposite of finite control in Finnish and Brazilian Portuguese (Holmberg and Sheehan 2010). Subjunctives complicate the analysis of finite control by adding obviation effects into the range of data to be accounted for; whereas overt pronouns in indicative clauses are optionally referentially dependent on a matrix antecedent, subjunctives are generally associated with obviation effects crosslinguistically.

³Holmberg and Sheehan (2010) point out an interesting difference between finite and infinitival control in predication constructions, where only finite control requires c-command. This is true in Russian as well, as demonstrated below. However, it is possible that the more restricted behavior of finite control constructions is related to the requirement discussed by Tsedryk (2012) for the embedded and matrix subjects to bear the same case.

- (i) *Mašina mečta žit' v Pariže.*
 Maša's dream live.INF in Paris
 'It is Maša's dream to live in Paris.'
- (ii) *Mašina mečta čto *∅ / ona budet žit' v Pariže ne sbylas'.*
 Maša's dream that she will-live.3SG live.INF in Paris NEG came-true
 'Maša's dream that she will live in Paris did not come true.'

- (13) *[O pai do Paulo]_i disse que Ø_{*i/j} vai ser promovido.*
 the father of.the Paulo said that will be.INF promoted
 ‘Paulo’s father said that he will be promoted.’
 (Brazilian Portuguese; Rodrigues 2004:145)

- (14) *[Veljeni_i vaimo]_j oli niin iloinen, ettei Ø_{*i/j} voinut nukkua.*
 brother-gen wife was so happy that.not could sleep
 ‘My brother’s wife was so happy that she could not sleep.’
 (Finnish; Vainikka and Levy 1999: 648)

Moreover, finite control requires a local antecedent—the antecedent of the silent subject must be the subject of the next highest clause.

- (15) *Petja skazal čto Maša podumala čto *Ø ploxo igral v*
 Petja said that Maša thought.SG.FEM that badly played.SG.MASC in
futbol.
 soccer
 ‘Petja_i thinks that Maša_j said that he_{*i/j} plays soccer badly.’
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- (16) *[o João]_i disse que [o pai do [Pedro]_j]_k acha que Ø_{*i/*j/k/*l} vai*
 the João said that the father of-the Pedro thinks that goes
ganhar.
 win
 ‘João said that Pedro’s father thinks that he is going to win.’
 (Brazilian Portuguese; Modesto 2011: ex.1b)

- (17) *Jukka_i sanoi että Pekka_j ajattelee että Ø_{*i/j} oli*
 Jukka.NOM said.3SG that Pekka.NOM think.3SG that had.3SG won
voittanut arpajaisissa.
 lottery
 ‘Jukka_i said that Pekka_j thinks that he (Pekka) had won the lottery.’
 (Finnish; Rodrigues 2004:146)

Like subjects of obligatory control clauses, silent subjects in finite control constructions prohibit split antecedents.

NO SPLIT ANTECEDENTS

- (18) **Ivan_i skazal žene_j čto \emptyset_{i+j} prigotovjat pirog vmeste.*
 Ivan.NOM said.SG wife.DAT that will-prepare.3PL pie together
 ‘Ivan said to his wife that they will prepare a pie together.’
 (Russian; Tsedryk 2012: ex. 19)
- (19) *?*Pekka_i kysyi vaimoltaan_j voiovatko \emptyset_{i+j} mennä Espanjaan lomalle.*
 Pekka asked.3SG wife can.3PL go.INF Spain vacation
 ‘Pekka asked his wife if they can go to Spain for a vacation.’
 (Finnish; Vainikka and Levy 1999:651)
- (20) **O Feco_i disse pra Dani_j que \emptyset_{i+j} fizeram besteira.*
 the Feco said to.the Dani that did something-wrong
 ‘Feco told Dani that they did something wrong.’
 (Brazilian Portuguese; Modesto 2008:383)

Recently the claim that subjects of finite control constructions do not tolerate split antecedents has been challenged for Brazilian Portuguese. Holmberg et al (2009) point out an intriguing fact about Brazilian Portuguese, namely that although split antecedents are generally prohibited for finite control, they are allowed if one of the antecedents is plural, as in (21)

- (21) *O Zé_i convenceu os meninos_j que \emptyset_{i+j} tinham que ir embora.*
 DET Ze convinced the kids that had that go away.
 ‘Ze convinced the kids that they had to leave.’
 (Brazilian Portuguese; Holmberg et al. 2009:85)

Russian, however, disallows this type of disjoint reference. Speakers generally reject the equivalent of (21), regardless of verb.

- a. **Petja_i skazal svojim vnukam_j čto ∅_{i+j} poedut vmeste*
 Petja.NOM told.SG his grandsons.DAT that will-go.PL together
v Pariž.
 in Paris
 ‘Petja told his grandsons that they will go to Paris together.’
- b. **Maša_i ubedila svoix podrug_j čto vmeste ∅_{i+j}*
 Maša.NOM convinced.SG her friends.ACC that together
uberut kvartiru bystree.
 will-clean.3PL apartment faster
 ‘Maša convinced her friends that together they will clean the apartment faster.’
- c. **Maša_i napomnila svojim sestram_j čto zavtra ∅_{i+j}*
 Maša.NOM reminded.SG her sisters.DAT that tomorrow
uezžajut v 7 utra.
 leave.3PL in 7 morning
 ‘Maša reminded her sisters that tomorrow they leave at 7am.’

By contrast, speakers do occasionally accept disjoint antecedents in the following construction, where the first rather than the second conjunct is plural. Judgments differ from speaker to speaker, but on average the constructions are significantly improved.⁴

⁴The possibility of split reference could be seen as an example of partial control, parallel to (i). Landau (2000) argues that partial control should be understood as obligatory control where PRO has plural reference; crucially, the plural referent of PRO must include the matrix subject.

- (i) *Petja_i xotel ∅_{i+j} vstretit'sja večerom.*
 Petja wanted meet evening
 ‘Petja wanted to meet in the evening.’

(23)

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- a. ??*Roditeli_i poobeščali Dime_j čto ∅_{i+j} poedut v otpusk*
parents promised.PL Dima.DAT that will-go.3PL in vacation
vmeste.
together
'The parents promised Dima that they will go on vacation together.'
- b. ??*Roditeli_i napomnili Dime_j čto zavtra ∅_{i+j} uežžajut v 7*
parents reminded.PL Dima.DAT that tomorrow leave.3PL in 7
utra.
morning
'The parents reminded Dima that tomorrow that they leave at 7am.'
- c. ??*Družja_i ubedili Petju_j čto vmeste ∅_{i+j} smogut*
friends.NOM convinced.PL Petja.ACC that together can.3PL
počinit' televizor.
fix.INF television
'Friends convinced Petja that together they can fix the television.'

The asymmetry between (22) and (23) is that the latter examples are perfectly grammatical on a non-split-antecedent reading. The φ -features of the embedded subject match those of the matrix subject, so an Agree relation linking the two is, in principle, possible. A true split-antecedent reading, however, is impossible in Russian.

Many authors have also argued that finite control, like obligatory control, allows only a sloppy reading for the embedded subject under ellipsis.⁵

- (24) *Ivan nadeetsja čto ∅ vyigraet poedinok i Miša tože.*
Ivan hopes that will-win duel and Miša also
'Ivan hopes to win the duel and so does Miša.'
SLOPPY READING ONLY

(Russian; Tsedryk 2012: ex.16)

⁵The data on ellipsis, however, are not unequivocal, as I will address in more detail in Section 3.3.2.

- (25) *O João 'tá achando que Ø vai ganhar a corrida e o Pedro*
 the João is thinking that goes win.INF the race and the Pedro
também 'tá.
 too is
 'João thinks that that he's going to win the race and Pedro does, too.'
 SLOPPY READING ONLY
 (Brazilian Portuguese; Modesto 2011: ex.1d)

- (26) *Jukka sanoi että Ø oli voittanut arpajaisissa, ja niin*
 Jukka.NOM said that had.3SG won lottery and so
Pekkakin.
 Pekka-also
 'Jukka said that he had won the lottery and so did Pekka.'
 SLOPPY READING ONLY
 (Finnish; Rodrigues 2004:148)

Finally, it has been proposed that like PRO, null subjects in finite clauses only allow a *de se* reading. In each of the two contexts below, the unfortunate has amnesia, and the claim is that the sentences are impossible on reading where the amnesiacs do not realize that they are holding a belief/hope about themselves receiving a medal.

- (27) *O infeliz_i acha que Ø_i devia receber uma medalha.*
 the unfortunate thinks that should receive a medal
 'The unfortunate thinks the he should receive a medal.'
de se READING ONLY
 (Brazilian Portuguese; Modesto 2011: ex.1e)
- (28) *Neudačnik_i nadeetsja čto Ø_i polučit medal'.*
 unfortunate.NOM hopes that will receive medal
 'The unfortunate hopes to receive a medal.'
de se READING ONLY
 (Russian; Tsedryk 2012: ex.17)

The restrictions on the interpretation of the embedded silent embedded subject in finite control constructions parallels the restrictions on the interpretation of the

subject in obligatory control clauses. This suggests that the silent subject of Russian embedded finite clauses should be analyzed as a $\varphi P_{[\varphi: _]}$ that receives its interpretation via the same Agree chain that results in its silence.

3.2.2 The referential dependence of overt embedded subjects

As mentioned above, an overt pronominal subject in Russian embedded finite and infinitival clauses can optionally be interpreted as referentially dependent on the matrix subject.

- (29) *Petja_i skazal čto vesnoj on_{i/j} poedet v Pariž.*
 Petja said that spring he will-go.3SG in Paris
 ‘Petja_i said that he_{i/j} will go to Paris in the spring.’

Moreover, in (30) and (31) the overt embedded subjects receive a bound-variable interpretation, demonstrating that this referential dependence is not an instance of accidental coreference.

- (30) *[Ni odin bol’noj]_i ne otrical čto $\emptyset_{i/*j}$ / on_{i/j} inogda kurit.*
 not one patient NEG deny that / he sometimes smokes.3SG
 ‘No patient admitted that he occasionally smokes.’
- (31) *Kto_i xvastalsja čto $\emptyset_{i/*j}$ / on_{i/j} pobedit Petju?*
 Who bragged that / he will-defeat.3SG Petja
 ‘Who bragged that he will defeat Petja?’

The availability of a bound-variable reading for the overt pronouns in (30) and (31) is surprising for many approaches to pronominal binding, which are based on the empirical generalization that in any given context, referential dependence must be expressed with the most referentially dependent element available (32)–(33).

- (32) **Rule I:** NP A cannot corefer with NP B if replacing A with X, X a variable A-bound by B, yields an indistinguishable interpretation. (Grodzinsky and Reinhart 1993:79)
- (33) **Form to Interpretation Principle:** If x c-commands y, and z is not the most dependent form available in position y with respect to x, then y cannot be directly dependent on x. (Safir 2004:50)⁶

Although the above formalizations do not address silent, PRO-like pronouns, they are reminiscent of Chomsky's (1981) Avoid Pronoun principle. Chomsky (1981) noted, for instance, that in a context where both silent and overt pronouns are possible, only silent pronouns can be referentially dependent. This pattern is formalized as the Avoid Pronoun principle, which states that PRO is preferred over an overt pronoun where available. The data that originally led Chomsky to propose the Avoid Pronoun principle comes from contexts where PRO and an overt pronoun alternate in English (34). In these contexts, an overt pronoun, while grammatical, is infelicitous if coindexed with the matrix subject. We see a similar contrast in ECM constructions (35).

- (34) a. John_i prefers [$\emptyset_{\text{PRO } i/*j}$ going to the movie].
 b. John_i would much prefer [his_{*i/j} going to the movie].

(Chomsky 1981:65)

⁶According to Safir, PRO and overt pronouns are never in competition, because PRO does not occur in case-marked positions, i.e., there is no environment where PRO and an overt pronoun are both possible. However, in both finite and infinitival clauses in Russian where silent and overt pronouns alternate, there is evidence that the silent pronoun bears case.

- (35) a. John_i expects [$\emptyset_{\text{PRO}_i/*j}$ to get the job].
 b. John_i expects [him_{*i/j} to get the job].

All competition-based approaches to binding theory predict that the most referentially dependent element available should be used to express referential dependence. The most referentially dependent element available in (30)–(31) is \emptyset , which, as discussed in Section 3.2.1 is only compatible with a referentially dependent reading. A bound-variable reading is predicted to be unavailable for an overt pronoun, contrary to fact.

Note, by contrast, that the referential dependence of an overt embedded subject in the parallel English construction (36) is completely expected because English lacks a more dependent pronominal form that could occur in subject position of a finite clause. Since *he* is the only pronoun possible in embedded subject position in (36), it can be referentially dependent on the matrix subject.

- (36) John_i/every boy_i said [that he_{i/j} will leave for Paris on Sunday].

A recent reformulation of binding theory in derivational terms (Reuland 2001, 2006, 2011) is able to capture the crosslinguistic parallelism in the interpretation of overt subjects in embedded finite clauses in Russian and English.

Similar to Landau's (2004, 2008) Agree-based approach to control, Reuland proposes that referential dependence is established by feature-checking/Agree between a pronoun/anaphor deficient in its φ -feature specifications and its antecedent, mediated by functional heads (37).

- (37) DP T v pronoun
 └─┘ └─┘ └─┘

Reuland argues that this syntactic binding relation is restricted by the Chain Condition (38).

- (38) **Chain Condition:** the tail of an Agree-chain cannot be fully specified for φ -features. (Reuland 2011)

Pronouns (as opposed to anaphors), according to Reuland, are fully specified for φ -features and thus cannot be the tail of a chain. This means that a syntactic binding relation cannot be formed in the following ECM example, because the Chain Condition prevents *him* from being bound.

- (39) John_i [_{VP} expects [him_{*i/j} to win]].
 └─┘ └─┘

As we see in (36), however, overt pronouns in embedded clauses can be referentially dependent. In these instances, Reuland proposes that referential dependence is achieved via variable binding in the semantics. In order to prevent variable binding in semantics from applying more generally—to save (39), for example—Reuland formulates a set of economy conditions that account for the complementary distribution of full pronouns and referentially deficient elements. One of these conditions is that a referentially dependent reading must be derived syntactically if such a derivation is possible. Since an Agree chain linking the antecedent and embedded subject position is technically possible in (39), any referential dependence via variable binding is blocked. By contrast no Agree chain is possible that connects the matrix and

embedded subjects in (36), which accounts for the availability of a bound-variable reading for the full pronoun.

Given Reuland's approach, the fact that an overt pronoun can be referentially dependent in Russian embedded finite clauses, suggests that an Agree chain connecting the embedded and matrix subjects should be impossible. Note that this is the opposite conclusion to the one reached at the end of the preceding section.

Assuming the derivational link between silence and referential dependence developed in Chapter 2, the referential dependence of the silent embedded subject must be derived syntactically. By Reuland's economy conditions, this means that a full pronoun in the same position should be prevented from being interpreted as a bound variable in the semantics, contrary to fact. In the following section I appeal to a theory of phases to account for the seemingly contradictory behavior of embedded subjects.

3.2.3 A defective-goal account of the alternation

The generalization that emerges from embedded finite clauses in Russian is that (i) a silent subject is associated with obligatory dependent reference on the matrix subject, while (ii) an overt pronominal subject is free in reference; it can refer to the matrix subject or to another individual salient in the discourse. In this section, I demonstrate that the framework developed in Chapter 2, in conjunction with a theory of phasal Spell Out, is able to capture the alternation between overt and silent pronouns in Russian, in a way that makes it compatible with the traditional wisdom from the binding literature that such an alternation should be impossible.

3.2.3.1 Related alternation in *wh*-infinitives

The conclusion at the end of Section 3.2.1 was that silent embedded subjects in Russian embedded finite clauses are $\varphi P_{[i\varphi: _]\text{S}}$, and their silence follows from their status as a defective goal. Further support for this conclusion comes from an alternation between overt and silent pronouns in infinitival clauses.

While most infinitival clauses in Russian prohibit overt subjects, we see both overt and silent subjects in infinitival *wh*-questions (40-b), (41-b). Exactly as in finite clauses, silent pronouns are obligatorily referentially dependent on the matrix subject, while the overt pronouns are free to refer to another individual in the discourse.⁷

⁷Tsedryk (2012, 2013) claims that control into finite *wh*-clauses is impossible. While the example he provides is, in fact, ungrammatical for me, there exist a number of perfectly natural examples of null subjects in finite *wh*-clauses.

- (i) **Ivan sprosil čto ∅ mog sdelat' v etoj situacii.*
Ivan asked what could do.INF in this situation
'Ivan_i asked what he_i could do in this situation.'

(Russian; Tsedryk 2013: ex.18b)

(40)

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- a. *Petja_i ne znaet kak $\emptyset_{i/*j}$ / on_{i/j} sjuda popal.*
Petja NEG knows how / he.NOM here ended-up
'Petja doesn't know how he ended up here.'
- b. *Petja_i znaet kak $\emptyset_{i/*j}$ / emu_{i/j} vyigrat' vybory.*
Petja knows how / he.DAT win.INF election
'Petja knows how he can win the election.'

(41)

RUSSIAN

- a. *Petja_i s užasom vspomnil čto $\emptyset_{i/*j}$ / on_{i/j} včera skazal načal'niku.*
Petja with horror remembered what / he.NOM yesterday said
boss.
'Petja remembered with horror what he said to his boss yesterday.'
- b. *Petja ne znaet čto $\emptyset_{i/*j}$ / emu_{i/j} skazat' načal'niku.*
Petja NEG know what / he.DAT say.INF boss.DAT
'Petja doesn't know what to say to his boss.'

Note that an obvious difference between the finite and infinitival clauses in (40) and (41)—the case marking on the embedded subject—is, in fact, immaterial. As discussed in Chapter 2, nominals that bear nominative case in finite clauses are assigned dative case in infinitival clauses. Adding a secondary predicate in the infinitival clause allows us to verify that the silent subject of the infinitival clause bears dative case as well.

- (42) *Petja_i znaet kak $\emptyset_{i/*j}$ *sam/samomu vyigrat' vybory.*
Petja knows how self.NOM/DAT win.INF election
'Petja knows how he can win the election by himself.'

RUSSIAN

The persistence of the link between silence and referential dependence in both the (a) and (b) examples in (40)–(41) suggests that the alternation in finite clauses

should be analyzed parallel to the alternation in infinitival clauses. It might be suggested that the reason infinitival *wh*-questions pattern with finite clauses in allowing an alternation between overt and silent pronouns is that they are not instances of obligatory control. In fact, it has often been assumed in the literature that infinitival questions exemplify non-obligatory (or arbitrary) control. Landau (2000), however, convincingly argues that *wh*-infinitives involve obligatory control.⁸ There is additional evidence against analyzing infinitival questions as arbitrary control constructions from Russian gender agreement, which to my knowledge has not been presented before. Recall that secondary predicates in Russian must agree in case, gender, and number with the noun they modify. An arbitrary reading of PRO allows default masculine agreement on the secondary predicate.

- (43) \emptyset *xodit' odnomu v les opasno.*
 go.INF alone.DAT.SG.M in forest dangerous
 'It is dangerous to go into the forest alone.' RUSSIAN

However, a secondary predicate inside an embedded *wh*-question must agree in gender with the matrix subject, suggesting that an arbitrary interpretation is unavailable.

- (44) **Maša znaet kak \emptyset vyigrat' vybory samomu.*
 Maša knows how win.INF election self.DAT.SG.M
 'Maša knows how to win an election by oneself.' RUSSIAN

Since the infinitival *wh*-questions are instances of obligatory control and the display the same alternation between silent and overt pronouns that finite clauses do, the

⁸Barrie (2007) argues that infinitival *wh*-questions are, in fact, ambiguous between finite and infinitival control, but the important point for the present discussion is that they do exhibit obligatory control.

silent pronouns in finite clauses should be analyzed as defective goals in the way that the silent pronouns in control contexts were in Chapter 2.

3.2.3.2 The role of phases

An analysis of the silent pronouns in Russian embedded finite clauses as $\varphi P_{[i\varphi: _]}s$ would mean that there is an Agree chain that links the matrix and embedded subjects. However, it is standardly assumed in the literature that no Agree relation is possible across a finite clause boundary, such as between *he* and *John* in (45).

(45) John_i/every boy_i said [that he_{i/j} will leave for Paris on Sunday].

As discussed in Chapter 2, a syntactic derivation proceeds in cycles (phases), and at the end of each phase the syntactic derivation is transferred to semantics and phonology for interpretation (Chomsky 2000, 2001, 2004, 2008). Material within a completed phase is inaccessible to subsequent computations in the narrow syntax, formalized as the Phase Impenetrability Condition (PIC).

(46) **Phase Impenetrability Condition:** after a phase has been spelled out it is no longer accessible to the computation.

I assume here with Chomsky (2008) that the complement of a phase head is spelled out when the phase is completed. Therefore, after a phase is completed, only the head and specifier of the phase head (the edge of the phase) are accessible for subsequent computations in the narrow syntax. I also assume here that CP and transitive v^*P are phases. Therefore, in an embedded finite clause, the subject in SpecTP would not be

accessible to Probes from outside the phase, and therefore, an Agree relation would be impossible between a matrix functional head and the embedded subject.

However, it has also been repeatedly shown that phase boundaries can be shifted either through movement of the phase head (den Dikken 2007) or through agreement of the phase head with a higher head (Rackowski and Richards 2005). Recent work by Wurmbrand (to appear) and Wurmbrand and Bobaljik (2013) proposes that a phase is voided or suspended if the phase head depends on a higher head for a feature value. Specifically, Wurmbrand is aiming to account for an asymmetry in the acceptability of QR that depends on clause type. QR in English is possible out of subjunctive and control clauses, but not out of raising clauses or finite clauses.

(47) (Bobaljik and Wurmbrand 2013:189)

a. #Someone said that Sue is married to every man.

$*\forall \gg \exists$ (finite)

b. Sue has requested that they read only Aspects.

only \gg *request* (subjunctive)

c. A different student decided to report on every article.

$\forall \gg \exists$ (control)

d. #This soldier seems to someone to be likely to die in every battle.

$*\forall \gg \exists$ (raising)

Wurmbrand argues that the asymmetry stems from the phasal status of different clause types. Specifically, she argues that subjunctive and control clauses are not phases in English, but finite clauses and raising clauses are. Combined with the no-

tion of Scope Economy (Fox 2000), the phasal status of finite and raising clauses explains why the quantifiers cannot raise out.

Wurmbrand proposes that the difference between control clauses and finite clauses is that there exists a selectional relationship between V and the highest head of the control clause. Specifically, it is not the selectional relationship that matters, but the fact that the highest head in a control clause lacks a value for tense or mood. This value is provided by the selecting head, which has an uninterpretable, but valued occurrence of the same feature. Note that the notion of selection is not crucial here—the reason that an embedded clause is not a phase is that there exists a featural dependency between the phase head and a head outside the phase. A similar featural dependency can be arrived at by Agree, which is what I propose happens in instances of finite control.

Combining the notion of phases with Reuland's economy conditions on binding allows us to account more explicitly for the referential dependence of the embedded subject in the English example in (36). There are two phase boundaries between the matrix subject and the embedded subject (matrix ν and embedded C); when matrix ν is merged, the complement of embedded C (i.e., embedded TP) is spelled out, meaning that the embedded subject is unavailable to any Probe on matrix ν or higher.

Because of the PIC, an Agree chain is impossible between the matrix and embedded subject positions—elements in the embedded clause are simply invisible to matrix probes. Therefore, variable binding in the semantics is correctly predicted to be available.

From the perspective of the PIC, the alternation in Russian presents a new puzzle. On the one hand, the PIC accounts for the referentially dependent reading of an overt embedded subject in Russian, exactly as it does in English (48).

- (48) *Petja_i skazal čto vesnoj on_{i/j} poedet v Pariž.*
 Petja said that spring he will-go.3SG in Paris
 ‘Petja_i said that he_{i/j} will go to Paris in the spring.’ RUSSIAN

The matrix antecedent is separated from the embedded subject position by a phase boundary—the embedded CP. Therefore, by the PIC, no Agree relation is possible linking the matrix and embedded subject positions. As a result, Reuland’s economy conditions permit establishing referential dependence in the semantics.

However, within the framework developed in this dissertation, silent referentially dependent pronouns are the result of an Agree chain between the pronoun and its antecedent. Since silent referentially dependent pronouns can occur in the same position, it means that an Agree chain must be possible across the phase boundary. This seems to lead to a contradiction: an Agree relation across a finite CP must be both possible and impossible in Russian.

In Section 3.2.3.3 I derive the alternation in Russian from the properties of phases introduced here.

3.2.3.3 Deriving the alternation

In this section I derive the possibility of an Agree relation across a phase boundary from the notion of C-control in the sense of Landau (2004, 2008). I will then demonstrate how the same derivation can prohibit an Agree relation in the same context depending on properties of the embedded subject.

(49) *Petja_i znaet kak $\emptyset_{i/*j}$ / emu_{i/j} *sam/samomu vyigrat' vybory.*
 Petja knows how / he.DAT self.NOM/DAT win.INF election
 'Petja knows how he can win the election by himself.'
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(50) $[_{\text{vP}} \text{DP}_{[\text{i}\phi:3\text{SG}]} [_{\text{v}} \text{V}_{[\text{u}\phi: _]} [\text{CP} \text{C}_{[\text{u}\phi: _]} [\text{TP} \text{PRO}_{[\text{i}\phi: _]} \text{T}]]]$

3 2 1

(51) *Petja_i ne znaet kak $\emptyset_{i/*j}$ / emu vyigrat' vybory.*
 Petja NEG know how / he.DAT win.INF election
 'Petja doesn't know how he can win the election.'
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matrix v and the embedded subject. Agreeing with a finite C, however, does not result in dative case on the embedded subject; instead the subject receives nominative case as a result of an Agree relation with the embedded finite T. If the embedded subject pronoun is referentially deficient (has unvalued φ -features), it will be unable to value the φ -features on C. Since C will depend on a higher head for φ -feature values, the phasal status of C is suspended until the next phase. By contrast, when the embedded pronoun is referentially independent and enters the derivation with valued φ -features, it will value and delete C's unvalued φ -features. As a result, the bundle of φ -features associated with the embedded subject will be invisible to subsequent Agree operations. Thus depending on the feature content of the embedded subject an Agree relation is either possible or impossible in the same exact context.

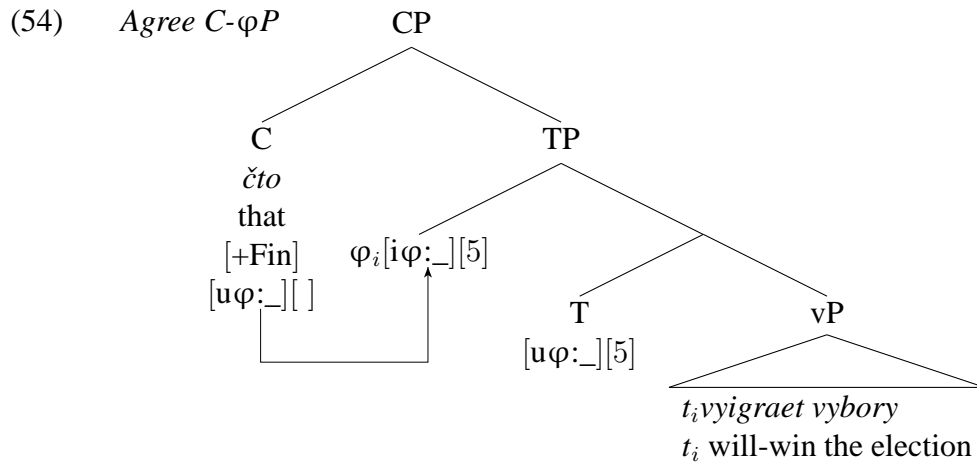
There is one more important structural difference between the overt and silent pronouns—as discussed in Chapter 2, the ability to refer is associated with more pronominal structure. Therefore, while referentially dependent pronouns are $\varphi P_{[i\varphi: _]}s$, the referentially independent pronouns in Russian are full DPs.

3.2.3.3.1 Deriving finite control Let us first consider the derivation that results in a silent, referentially dependent pronoun in finite control constructions (52), as well as in infinitival *wh*-questions (53).

- (52) *Petja_i skazal čto $\emptyset_{i/*j}$ vyigraet vybory.*
 Petja said that will-win.3SG election
 ‘Petja said that he will win the election.’

- (53) *Petja_i ne znaet kak $\emptyset_{i/*j}$ vyigrat' vybory.*
 Petja NEG know how win.INF election
 ‘Petja doesn’t know how he can win the election.’

The subject of the embedded clause is a $\varphi P_{[i\varphi: _]}$. First T Agrees with the embedded subject, and the subject raises to Spec TP. Subsequently C enters the derivation with uninterpretable, unvalued φ -features. Embedded C agrees with the subject of the embedded clause, resulting in the φ -feature bundle of the embedded subject being represented on on C. This is illustrated below with the same index on both instances of φ .⁹

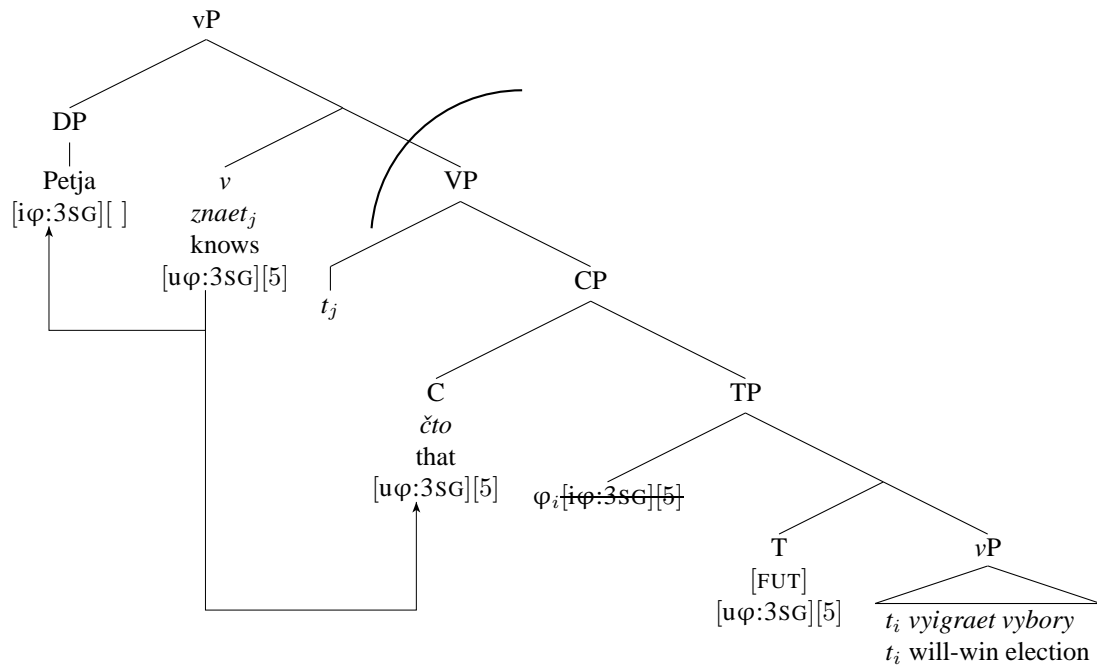


When the CP is complete, however, the φ features of C remain unvalued. This means that the phase boundary is suspended—the embedded TP is not yet spelled out. Next, matrix V and v are merged, and v probes for φ features. When embedded C cannot value v 's φ -features, v will Probe its specifier once the external argument is merged there. Once the vP phase is complete, its complement will be spelled

⁹Recent instantiations of Minimalism have assumed feature inheritance—the notion that all features start out on phase heads and are transferred to a lower head at the end of the phase. On such an approach, the φ -features that we see on T are actually associated with C. While I have not addressed feature inheritance directly, the present proposal is, in principle, compatible with a version of this theory. Ouali (2008) proposes that under certain circumstances, C can keep its features while also transferring them to T, and each set of features can Probe independently. This would seem to describe the situation in Russian, where C and T in embedded clauses probe independently for φ -features.

out, including the embedded CP. The embedded φ P subject is a defective goal with respect to embedded C, and will thus be deleted.

(55)



3.2.3.3.2 A note on null subjects and the EPP It should be noted that there are actually three copies of φ P in the derivation when the matrix **vP** phase is complete—the one in its first-merge position, the one in **Spec,TP**, and the one on **C**. At this point, all but the highest copy are deleted.

One empirical question that arises is whether the subject ever actually raises to **Spec,TP**. Recall the proposal from Chapter 2 that the notion of defective goal only comes into play at the end of a phase; until that point, the derivation proceeds as

if the φ P were any other subject. Data from both Finnish and Russian support this proposal.

There is evidence that a silent embedded subject fulfills the EPP requirement of embedded finite clauses. However, the EPP in Russian is less strict than the EPP in a typical non-null-subject language like English. For example, verb-initial constructions are permitted when the clause does not contain a thematic subject, as in weather predicates Franks (1995). In other words, Russian does not have expletives.¹⁰

- (56) *Temneet.*
 darken.3SG
 ‘It is getting dark.’ (Russian; Franks 1995:292)

Holmberg (2005) formulates a generalization for Finnish, another partial-null-subject language, which applies equally well to Russian (Livitz 2006, Wood and Livitz 2012). If a clause contains an element capable of fulfilling the requirement for a preverbal element, then this element must move to preverbal position; otherwise, the subject position can remain null, as in weather predicates. In Russian, as in Finnish, a number of elements, including non-nominative DPs, PPs, and even locative or temporal adverbs, can fulfill the requirement for a preverbal element (Babyonyshev 1996; Bailyn 2004). Holmberg also demonstrates that non-referential

¹⁰Similarly, a verb-first order is permitted in unaccusatives. However, the verb-first order is associated with a deictic locative interpretation (Babyonyshev 1996), i.e., in (i) and (ii) the location of the event is interpreted as ‘here’. Babyonyshev posits that a silent locative *pro* fills the preverbal position.

- (i) *Zazvonil telefon.*
 rang phone.NOM
 ‘The phone rang at my place’
- (ii) *Prišel Petja.*
 came Peter.NOM
 ‘Peter came to my place.’ (Russian; Babyonyshev 1996:44)

elements, including quantifiers like *no one*, can also fulfill the EPP requirement in Finnish, if it is a grammatical subject.

We see in both Finnish and Russian that silent referentially dependent pronouns are also able to fulfill the EPP in embedded clauses. Holmberg (2010) demonstrates that a referentially dependent reading is only available for a silent embedded subject if nothing else raises to preverbal position. If the locative adverb *here* fulfills the EPP, the only interpretation for the silent pronoun is a generic one. This suggests that the locative adverb intervenes and blocks the Agree relation between C and embedded subject. Similar facts hold for Brazilian Portuguese (Holmberg 2010).

(57) (Finnish; Holmberg 2010:102)

- a. *Jari sanoo että tässä ∅ istuu mukavasti.*
 Jari says that here sits comfortably
 ‘Jari says that one can sit comfortably here.’
 ≠ ‘Jari says that he sits comfortably here.’
- b. *Jari sanoo että ∅ istuu mukavasti tässä*
 Jari says that sits comfortably here
 ‘Jari says that he sits comfortably here.’
 ≠ ‘Jari says that one can sit comfortably here.’

We see a similar effect in Russian, even though Russian does not allow a generic reading for a silent third person singular pronoun in finite clauses. In dative experiencer constructions, it is the dative argument that fulfills the EPP requirement in unmarked cases. However, in a finite control construction, the dative subject does not have to raise to preverbal position, and, in fact, the construction is degraded. This suggests that in finite control constructions the ϕ P must fulfill the EPP requirement,

despite not being a DP or referentially independent. Note that if it does not raise, the derivation will not converge because the dative object will serve as an intervener.

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- a. *Maše nraivitsja Petja.*
 Maša.DAT pleases Petja.NOM
 ‘Maša likes Petja.’
- b. *Petja_i skazal čto ∅_i nraivitsja Maše.*
 Petja.NOM said that pleases Maša.DAT
 ‘Petja said that Maša likes him.’
- c. *?*Petja_i skazal čto Maše ∅_i nraivitsja.*
 Petja.NOM said that Maša.DAT pleases

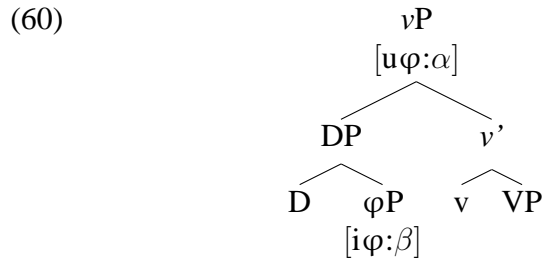
In this way, finite control constructions illustrate that the notion of defective goal is relevant at the phase level. Until the phase containing the embedded subject is spelled out, $\varphi P_{[i\varphi: _]}$ is treated by the derivation exactly like every other subject. At Spell Out, however, it is a defective goal with respect to embedded C (though not with respect to embedded T because the embedded subject raises to Spec,TP to fulfill the EPP; recall from Chapter 2 that T is not considered a member of the chain in such a configuration). Subsequently, when T enters the derivation, it will Probe for φ -features, and Agree with the subject in Spec, ν P.

3.2.3.3.3 Deriving overt embedded subjects Now let us consider the derivation that results in an overt embedded subject. In this case, the embedded pronoun is independently referential, and, therefore, a full DP with valued φ -features. Embedded C, entering the derivation with uninterpretable φ -features, probes for the closest phrase that contains φ -features.

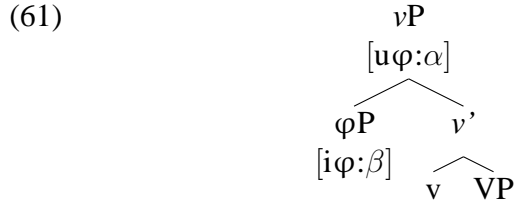
It is important to point out at this juncture that the φ -features on a DP originate in the same position as the φ -features on a φ P, namely on φ^0 . However, DPs enter into Agree relations exactly in the same way that φ Ps do; when T probes for φ -features, it agrees with the subject DP in Spec, v P and not with the φ -features on v P, which may be considered closer than the φ -features embedded in Spec, v P. The relevant definition of locality for Agree is formulated by Rackowski and Richards (2005), who define the closest goal to a probe as follows:

- (59) “A goal α is the closest one to a probe if there is no distinct goal β such that for some X (X a head or maximal projection), X c-commands α but not β .”

Consider what this means for DPs in Spec, v P. Both v P and φ P have φ -features, but there is an X (namely, D) that c-commands φ P but not v P. As a result, the φ -features within the DP would not enter into an Agree relation with matrix T.



By contrast, when the φ P is not contained within a DP, Rackowski and Richard’s definition ensures that the φ -features on φ P and v P are equidistant from a c-commanding φ -probe because no such X exists that c-commands φ P but not v P.



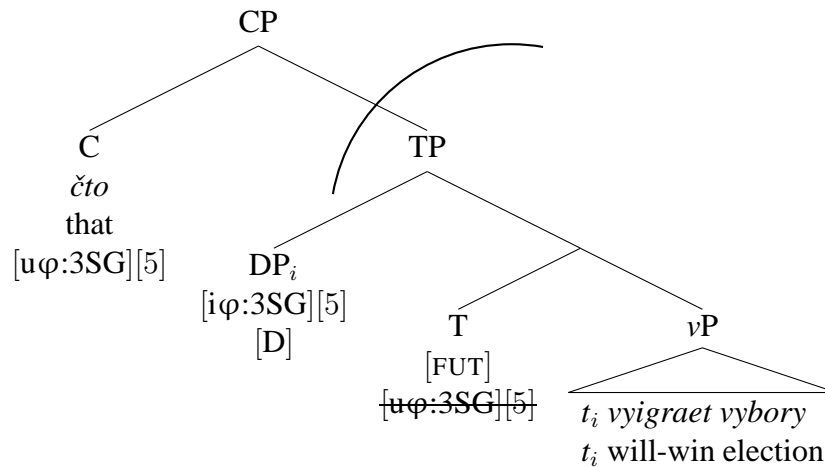
However, since we see subject-verb agreement regardless of whether a subject is a DP or a φP , the φ -features must be visible on the DP itself. These features percolate from the φP to the DP, which means that φ -features are added to the set of formal features already contained in the lexical entry of D (e.g., definiteness). This raises two related questions—why do the φ -features percolate to D, and why do they not percolate higher, i.e., to νP and TP? I propose that interpretable formal features associated with a lexical item will generally percolate to the highest projection in the phase containing that item. In addition to CPs and νPs , DPs (and PPs) are commonly assumed to be phases, and, therefore, the φ -features on φP will percolate to the phase head—D—but not higher to νP , which is in a different phase.¹¹

Embedded C, entering the derivation with $u\varphi$, agrees with the embedded DP-subject, thereby getting its φ -features valued (the Agree relation results in dative case on the infinitival subject, while finite subjects receive nominative case from embedded T). When the embedded CP-phase is complete, it has no unvalued features, and the complement of C is spelled out. The referentially independent pronoun is a

¹¹This still leaves open the question of why the φ -features of a φP do not percolate to νP . Here I follow Bošković (2012) in assuming that the highest projection in a noun phrase is a phase; therefore a φP is a potential phase, and thus the limit of φ -feature percolation. Such an approach is also in line with Wurmbrand (to appear), who posits that the highest projection in any cyclic domain constitutes a potential phase; the cyclic domains she identifies are the aspectual/thematic domain (roughly νP) and the C-T domain (roughly CP), but the same can be applied to the DP. There is, however, an additional way to understand the restrictions on feature-percolation: suppose features cannot percolate to a head that already has a specification for the same feature. Therefore, the φ -features of the subject could not percolate to ν , which has φ -features of its own. However, some would need an additional explanation to prevent the φ -features of direct objects from percolating to V.

DP, and therefore it is not a defective goal with respect to embedded C, since the features associated with the pronominal D layer are absent on C. By the PIC, after Spell Out, the φ -features on the embedded DP are invisible to the φ -probe on v or other operations in the next phase. This is precisely the configuration, then, where a bound variable reading for a pronoun can be established in the semantics, following Reuland (2001, 2011).

(62) *CP complete, Spell Out TP*



Additionally, there exists empirical evidence that the embedded CP is not a phase when the embedded subject is silent. Scrambling and extraction out of finite clauses is generally difficult in Russian (63-a). Using a null subject in the embedded clauses makes extraction possible for a set of speakers (63-b).

(63) Why is Petja not here?

- a. *?*Petja_i ZAVTRA skazal čto on_{i/j} zajdet.*
 Petja tomorrow said that he.NOM drop-by.3SG
 'Petja_i said that he_{i/j} will drop by TOMORROW.'

- b. ?*Petja_i ZAVTRA skazal čto ∅_i zajdet.*
 Petja tomorrow said that drop-by.3SG
 'Petja_i said that he_i will drop by TOMORROW.'

Similarly, negative concord does not apply across a finite clause boundary, and scrambling *nothing* into the matrix clause is impossible (64-a). When the embedded subject is null, it becomes marginally possible to scramble the negative embedded object into the matrix clause and to license negative concord there (64-b).

(64) I thought Petja said that he will at least bring the wine.

- a. ?**Net, Petja_i ničego_k ne skazal čto on_{i/j} prineset t_k.*
 no, Petja nothing NEG said that he.NOM will-bring.3SG
 'No, Petja_i didn't say that he_{i/j} would bring anything.'
- b. ?*Net, Petja_i ničego_k ne skazal čto ∅_i prineset t_k.*
 no, Petja nothing NEG said that will-bring.3SG
 'No, Petja_i didn't say that he_i would bring anything.'

To summarize, the derivational approach to pronominal silence developed in Chapter 2 can be extended to account for the alternation between overt and silent pronouns in Russian embedded clauses. If the embedded subject is a $\varphi P_{[i\varphi:_]}$, it will enter into an Agree relation with the embedded C but not value C's φ -features, which will delay Spell Out until the νP phase, and thus allow the Agree relation to span the C phase boundary. However, if the embedded subject is referentially independent, it will value the φ -feature on C, which results in the embedded clause being spelled out and thus no Agree relation being possible that could possibly link the embedded subject and the matrix antecedent. This leads us to an interesting conclusion about phasal spell out—whether or not a particular phrase is a phase depends not only on elements outside the phase, but also on elements within the phase itself.

3.3 Some differences between finite and infinitival subjects

So far in this chapter, we have seen that null subjects in Russian finite clauses behave in many respects like subjects of infinitival control clauses. However, research on finite control constructions in Finnish and Brazilian Portuguese has identified certain differences between the two types of control that also carry over to Russian. In this section, I review some of these differences and propose an account that maintains a defective-goal approach to the silence of embedded pronouns.

3.3.1 Availability of object control

As we established earlier in this chapter, the antecedent of the embedded pronoun must be the closest c-commanding subject. Thus if there are multiple embedded clauses in a given construction, it is the subject of the clause immediately above the one containing the controlled subject that serves as its antecedent.

- (65) *Petja_i dumal čto Vasja_j znaet čto $\emptyset_{*i/j}$ vyigral lotterēju.*
Petja thought that Vasja knows that won lottery
'Petja thought that Vasja knew that he won the lottery.'

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- (66) *Jukka_i sanoi että Pekka_j ajattelee että $\emptyset_{*i/j}$ oli voittanut*
Jukka.NOM said that Pekka.NOM thinks that had won
arpajaisissa.
lottery
'Jukka said that Pekka thinks that he had won the lottery'

(Finnish; Rodrigues 2004:146)

- (67) *O Paulo_i sabe que o João_j disse que $\emptyset_{*i/j}$ tinha de sair.*
 the Paulo knows that the João said that had of leave.INF
 ‘Paulo knows that João said that he had to leave’
 (Brazilian Portuguese; Rodrigues 2004:145)

Notice that unlike infinitival control constructions, finite control requires the antecedent of the null subject to be itself a subject. In Finnish and Brazilian Portuguese, however, object control into finite clauses is sometimes possible. In Finnish, object control into finite clauses is marginally possible with certain predicates (69).

- (68) *Liisa_i vakuutti Jussille_j, että $\emptyset_{i/*j}$ voi tulla valituksi.*
 Liisa assured Jussi that \emptyset can come elected
 ‘Liisa_i assured Jussi_j that she_{i/*j} can be elected.’
 (Finnish; Modesto 2008:381)

- (69) *Pekka_i muistutti Juhania_j että $\emptyset_{i/?j}$ oli luvannut leikata nurmikko.*
 Pekka reminded John that had promised mow lawn
 ‘Pekka reminded John that he had promised to mow the lawn.’
 (Finnish; Holmberg and Sheehan 2010:145)

Brazilian Portuguese generally prohibits object control into finite clauses.

- (70) a. *O Pedro_i convenceu a Cilene_j a $\emptyset_{*i/j}$ jogar futebol.*
 the Pedro convinced the Cilene PREP play.INF soccer
 ‘Pedro convinced Cilene to play soccer.’
 b. *O Pedro_i convenceu a Cilene_j (de) que $\emptyset_{i/*j}$ joga futebol*
 the Pedro convinced the Cilene (of) that play soccer
 ‘Pedro convinced Cilene that he plays soccer.’ (Modesto 2011: ex.12)

However, object control is possible when the object moves into the matrix left periphery, whether by *wh*-movement, focus, or topicalization (Modesto 2008, 2010).

- (71) a. *O Feco_i convenceu a Dani_j que $\emptyset_{i/*j}$ ganhou na loteria.*
 the Feco convinced the Dani that won in.the lottery
 ‘Feco convinced Dani that he won the lottery.’
- b. *Quem_j que o Feco_i convenceu t_j que $\emptyset_{*i/j}$ ganhou na loteria?*
 who that the Feco convinced that won in.the lottery
 ‘Who did Feco convince that s/he won the lottery?’

(Brazilian Portuguese; Modesto 2011: ex.21)

Here Russian behaves differently from Finnish and Brazilian Portuguese, as pointed out by Tsedryk (2012). Russian consistently exhibits a subject-object asymmetry in finite control.

- (72) *Ivan skazal synu čto \emptyset prigotovit pirog.*
 Ivan said son.DAT that will-prepare pie
 ‘Ivan_i said to [his son]_j that he_{i/*j/*k} will prepare a pie.’

(Russian; Tsedryk 2012: ex.10a)

- (73) *Ivan skazal synu čto on prigotovit pirog.*
 Ivan said son.DAT that he will-prepare pie
 ‘Ivan_i said to [his son]_j that he_{i/j/k} will prepare a pie.’

(Russian; Tsedryk 2012: ex.12a)

Even an object control verb like *ubedit*’, ‘persuade’, does not allow a matrix object to antecede a silent subject in the embedded clause.

- (74) *Petja_i ubedil Vasju_j $\emptyset_{*i/j}$ ničego ne pit’.*
 Petja convinced Vasja nothing NEGdrink.
 ‘Petja convinced Vasja not to drink anything.’

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- a. (*Xotja Vasja ničego ne pomnil*) *Petja_i ubedil ego_j, čto*
although Vasja nothing NEG remembered, Petja convinced him that
*∅_{i/*j} včera ne pil.*
yesterday NEG drink.
‘Although Vasja didn’t remember anything, Petja_i convinced him_j that
he_{i/*j} didn’t drink yesterday.’
- b. (*Xotja Vasja ničego ne pomnil*) *Petja_i ubedil ego_j, čto*
although Vasja nothing NEG remembered, Petja convinced him that
on_{i/j} včera ne pil.
he yesterday NEG drink.
‘Although Vasja didn’t remember anything, Petja_i convinced him_j that
he_{i/j} didn’t drink yesterday.’

Tsedryk (2012) also notes that unlike Brazilian Portuguese, Russian prohibits object control into finite clauses even when the matrix object raises to Spec, CP.

(76)

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- a. *Petja_i ubedil Vasju_j čto ∅_{i/*j} vyigral lotteriju.*
Petja convinced Vasja that won lottery
‘Petja convinced Vasja that he won the lottery.’
- b. *Kogo_i Petja_j ubedil t_i čto ∅_{i/*j} vyigral lotteriju?*
who Petja convinced that won lottery
‘Who_j did Petja_i convince that he won the lottery?’

3.3.2 Sloppy/covariant readings

There is some disagreement in the literature with respect to the interpretation of the embedded subject in finite control constructions. Most authors agree that a silent embedded subject receives only a bound-variable interpretation under ellipsis as well as when antecedent is modified by *only*.

- (77) *Ivan nadeetsja čto ∅ vyigraet poedinok i Miša tože.*
 Ivan hopes that will-win.3SG duel and Miša also
 ‘Ivan hopes to win the duel and so does Miša.’

SLOPPY READING ONLY

(Russian; Tsedryk 2012: ex.16)

- (78) *O João 'tá achando que ∅ vai ganhar a corrida e o Pedro também 'tá.*
 the João is thinking that goes win.INF the race and the Pedro
também 'tá.
 too is
 ‘João thinks that that he’s going to win the race and Pedro does, too.’

SLOPPY READING ONLY

(Brazilian Portuguese; Modesto 2010: 3)

- (79) *Jukka sanoι että ∅ oli voittanut arpajaisissa, ja niin Pekkakin.*
 Jukka.NOM said that had.3SG won lottery and so
Pekkakin.
 Pekka-also
 ‘Jukka said that he had won the lottery and so did Pekka.’

SLOPPY READING ONLY

(Finnish; Rodrigues 2004:148)

- (80) *Odin Ivan pomnit čto ∅ byl na svad'be.*
 only Ivan.NOM remembers that was on wedding
 ‘Only Ivan is an x, such that x remembers being at the wedding.’

(Russian; Tsedryk 2012: ex.18)

- (81) *Só o Maluf acha que e vai ganhar as eleições.*
 only the Maluf think-3Sg that will-3Sg win-Inf the elections
 ‘Only Maluf is an x that thinks that x will win the elections.’

(Brazilian Portuguese; Rodrigues 2004: 154)

- (82) *Vain Jukka ajatteli että ∅ oli voittanut arpajaisissa.*
 only Jukka thought that be.PAST-3SG won lottery
 ‘Only Jukka is an x that thinks that x had won the lottery.’

(Finnish; Rodrigues 2004: 158)

However, Holmberg et al. (2009) and Holmberg and Sheehan (2010) claim that a strict reading is possible in both types of sentences in Finnish.

Taking a closer look at the Russian data, it seems that while strict readings are dispreferred, they are sometimes possible. While a strict reading is difficult to impossible in sentences like (83), it seems natural with the verbs in (84), where the strict reading is forced or strongly contextually implied. Note that it is not just the factive verb *forget* that allows a strict reading under ellipsis.

(83) RUSSIAN

- a. *Maša otricala čto kurit i Petja tože.*
 Maša denied that smokes and Petja too
 OK 'Maša denied that she smokes and Petja did too (deny that Petja smokes).'
 ≠ 'Maša denied that she smokes and Petja did too (deny that Maša smokes).'
- b. *Maša skazala čto stanet učitel'nicej i Marina tože.*
 Maša said that will-become teacher.FEM and Marina too
 OK 'Maša said that she will become a teacher and Marina did too (say that Marina will become a teacher).'
 ≠ 'Maša said that she will become a teacher and Marina did too (say that Maša will become a teacher).'

(84) RUSSIAN

- a. *Maša zabyła čto zanjala u Peti \$100 i Petja tože.*
 Maša forgot that borrowed at Petja \$100 and Petja too
 OK 'Maša forgot that she borrowed \$100 from Petja and Petja did too (forget that Maša borrowed \$100).'
- b. *Maša uverena čto popadet v Garvard i ejo papa tože.*
 Maša convinced that will-get-in in Harvard and her father too
 OK 'Maša is convinced that she will get into Harvard, and her father is too (convinced that Maša will get into Harvard).'

The possibility of a strict reading in finite control is particularly intriguing, because the absence of a strict reading under ellipsis is historically one of the key diagnostics for obligatorily controlled PRO. Moreover, the availability of a strict reading also suggests that we should be able to find examples of *de re* readings of silent subjects of embedded finite clauses. This prediction appears to be confirmed in the following example, which allows a reading where Maša does not realize she's admitting that it is her own singing that is terrible.

- (85) a. Context: Maša sings terribly but is convinced that she has the most melodious voice. We decide to record her singing and tell her that it is a recording of a contestant on American Idol. Maša listens to the recording and proclaims that the singer has absolutely no talent and is not worth listening to.
- b. *Maša_i priznalas', čto \emptyset_i ploxo poet!*
 Maša admitted that poorly sings
 'Maša_i admitted that she_i sings poorly!'

To summarize, we see a number of differences crosslinguistically in the interpretation of a silent pronoun in a finite and in an infinitival clause. The most striking and consistent of these in Russian are 1) the possibility of a strict reading under ellipsis and 2) the impossibility of object control with finite clauses. What remains constant, however, is the obligatory referential dependence of silent pronouns on a c-commanding antecedent in the matrix clause. Below, I summarize some approaches that aim to account for the differences between finite and infinitival control.

3.3.3 Alternative accounts of finite control

3.3.3.1 Finite control as topic drop

In order to capture the differences rather than the similarities between control into finite and infinitival clauses, several authors propose that in contrast to obligatory control, the relationship between the antecedent and the embedded subject in finite control is formed directly, without the involvement of clausal heads (Holmberg et al. 2009; Holmberg and Sheehan 2010; Modesto 2008, 2011). The silence of the embedded subject is a result of it being a member of a chain with the matrix subject. Consider the derivation proposed in Modesto (2011) for a finite control construction in Brazilian Portuguese.

- (86) *O Pedro disse que ele comprou um carro novo.*
the Pedro said that he bought a car new
'Pedro said that he bought a new car.'

- (87) [FP o Pedro_i [TP *t_i* disse [CP que [FP ~~ele_i~~ [TP *t_i* comprou um carro novo]]]]]
(Modesto 2011: ex.20)

Modesto assumes that there is a position FP, above TP but below CP, that unmarked topics move to in Brazilian Portuguese, in line with work on Brazilian Portuguese topics in Martins and Nunes (2005).¹² Modesto also adopts Holmberg's (2005) proposal that in partial null-subject languages, silent pronouns are φ Ps and, given their lack of a DP-layer, are not independently referential. According to Modesto, they acquire their bound-variable reading when they move into Spec,FP and enter into a topic-chain with the matrix subject, which raises to Spec,FP in the matrix clause. A

¹²Rodrigues (2004) also assumes that such a position exists in Brazilian Portuguese clause structure, and that subjects can move to Spec,FP bypassing Spec,TP, where they would otherwise be assigned nominative case.

crucial property of FP, on this account, is that it is capable of hosting non-referential elements, including quantificational DPs, provided that they are grammatical subjects. As mentioned earlier, these properties of FP are tied to the nature of the EPP in Finnish and other partial null subject languages, as observed in Holmberg (2005) “The subject may check the EPP even if it is not a referential category, for example a quantified NP, but non-subjects have to be referential and interpretable as topics, to check the EPP.” A φ P subject is able to move to Spec,FP precisely when it is a grammatical subject, and then, the embedded subject is deleted, since it is the lower copy in a chain with the matrix subject.

Similar to Modesto, Holmberg et al (2009) and Holmberg and Sheehan (2010) propose that finite control is an Agree relation between two nominal elements. They propose that the embedded subject pronoun in finite control is a DP. The referential index (D-feature) of the embedded subject is unvalued, however, requiring it to enter into an Agree relation with (and thus be referentially dependent on) the matrix subject. Holmberg and Sheehan propose that in this Agree relation the embedded DP is a defective goal, and is thus deleted. This direct Agree relation is able to explain the stricter c-command requirement of finite control mentioned in footnote 3.

Although Holmberg and Sheehan do not argue that the silent pronouns are topics, they do propose that they raise to Spec,CP of the embedded clause, making their proposal very similar to Modesto’s. It is unclear from their account, however, what drives or allows an Agree relation to hold between two phrases in Specifier positions.

One advantage of the topic-drop approach is that it appears to account for the availability of finite control in Russian and English in certain instances when an ad-

ditional finite clause intervenes between the matrix clause and the clause containing the controlled subject. Specifically, an intervening clause is possible if that clause contains no thematic argument. If the controller and controllee form a topic chain, it makes sense that such a chain is possible across a clause that lacks a topic.

- (88) *A Maria_i me_j disse que parece que \emptyset_i vai ser promovida.*
 the Maria me told that seems that will be.INF promoted
 ‘Maria told me that it seems that she will be promoted.’

(Brazilian Portuguese; Rodrigues 2004:139)

- (89) *Jukka_i sanoi, että oli onni, että \emptyset_i oli arpajaisissa voittanut*
 Jukka said that is fortune that was won lottery
 ‘Jukka said that it was fortunate that he had won the lottery.’

(Finnish; Rodrigues 2004:139)

Russian, by contrast does not allow a clause to intervene between a silent embedded subject and its antecedent, even when the intermediate predicate introduces no thematic argument.

- (90) *Petja_i skazal čto kažetsja čto * \emptyset_i / on_i vyigral konkurs.*
 Petja said that seems.3SG that he won competition
 ‘Petja said that it seems that he won the competition.’ RUSSIAN
- (91) **Petja_i думаet čto eto udačno čto * \emptyset_i / on_i polučil premiju.*
 Petja thinks that this lucky that he received award
 ‘Petja thinks that it is lucky that he received an award.’ RUSSIAN

3.3.3.2 Finite control is not topic drop

Like Brazilian Portuguese and Finnish, Russian generally allows topic drop, as in (92), and it is, possible that the same process of topic deletion operates across a finite clause boundary.

- (92) *Petja zavtra prijedet v gosti. Ø privedet s soboj svoju novuju*
 Petja tomorrow arrives in guest. brings with self self new
znakomuju.
 acquaintance
 ‘Petja will visit us. He will bring his new acquaintance.’

Tsedryk (2013) cites several reasons, however, that Russian finite control should not be equated with topic drop. First of all, he notes that there are certain intervention effects with topic drop (93) that are absent in finite control constructions (94).

- (93) *Ja nedavno videl Mašu. Ona/*Ø mne skazala čto naš dom budet*
 I recently saw Maša.ACC she/ I.DAT said that our house will-be
prodan.
 sold
 ‘I have recently seen Maša. She told me that our house will be sold.’

(Russian; Tsedryk 2013:ex.10b)

- (94) *Maša думаet čto Ø mne skazala nepravdu.*
 Maša thinks that I.DAT said untruth
 ‘Maša thinks that she told me an untruth.’ (Russian; Tsedryk 2013:ex.11)

However, recall from Section 3.2.3.3 that certain phrases do block finite control. As discussed earlier, the unmarked word order for Russian dative-nominative experiencer constructions is for the dative to surface in the preverbal subject position. Therefore (95-a) is unmarked relative to (95-b)—the latter is usually associated with focus on the dative DP. However, in a finite control construction, the dative DP must occur postverbally (95-d). This suggests that Russian makes a fundamental distinction between topics—which may block the formation of a topic chain—from more subject-like phrases (elements that fulfill the EPP). It is the latter that interfere with

finite control, which makes sense if the position that the dative subjects raise to is an A-position, and not an A-bar position.

(95)

RUSSIAN

- a. *Maše nravitsja Petja.*
 Maša.DAT likes Petja.NOM
 ‘Maša pleases Petja.’
- b. *Petja nravitsja Maše.*
 Petja.NOM pleases Maša.DAT
 ‘Maša likes Petja.’
- c. *Petja skazal čto ∅ nravitsja Maše.*
 Petja.NOM said that ∅ pleases Maša.DAT
 ‘Petja said that Maša likes him.’
- d. *?*Petja skazal čto Maše ∅nravitsja .*
 Petja.NOM said that Maša.DAT pleases

Moreover, from a crosslinguistic perspective, there are a number of languages that have topic drop but lack finite control construction. Modesto claims that what distinguishes Brazilian Portuguese and Finnish from e.g., English is that they are topic prominent in the sense of Li and Thompson (1976); the word order in these languages reflects a topic-comment structure rather than a subject-predicate structure. However, Hindi has also been argued to be a topic prominent language (Junghare 1988) and topic drop is very common in Hindi.¹³

¹³Thank you to Rajesh Bhatt for bringing the following examples to my attention.

(96)

(Hindi; Rajesh Bhatt, p.c.)

- a. *A: Ram-ne ek nayii film banaayii hai*
Ram-ERG a new film.FEM make.PFV.FEM is
'Ram has made a new film'
- b. *B: tum-ne Ødekhii hai?*
you-ERG seen.FEM is
'Have you seen (it)?'

Embedded subjects in Hindi can be freely dropped as topics given the right context.¹⁴

(97)

(Hindi; Simpson et al. 2013:108)

- a. *Gita-ko lagta hai uske bete-ko puraskar milega.*
Gita-DAT feel is her son-DAT prize will-get
'Gita feels her son will win the prize.'
- b. *Sunita-ko bhi lagta hai Ø milega.*
Sunita-DAT also feel is will-get
'Sunita also feels (he) will.'

It is thus particularly striking that finite control is unavailable in Hindi (98), especially given that Marathi, a related topic-prominent language (Junghare 1988) has been argued to exhibit finite control (Holmberg et al 2009; Holmberg and Sheehan 2010).

(98)

(Hindi; Rajesh Bhatt, p.c.)

- a. *har laRkaa_i sochtaa hai ki *Ø / vo_i bahut bahaadur hai.*
every boy thinks is that / he very brave is
Every boy_i thinks that he_i is very brave.
- b. *Ram_i sochtaa hai ki *Ø / vo_i bahut bahaadur hai.*
Ram thinks is that / he very brave is
Ram thinks that he is very brave.

¹⁴Note, however, that only a strict reading is available for the gap in (97)

Finally, the proposal that a syntactic chain connects the left periphery of the two clauses presents a number of issues within a framework derivation that proceeds phase by phase. Modesto assumes that an element in Spec FP is visible to a matrix subject in Spec FP, which means that the chain is separated by two phase boundaries. Holmberg and Sheehan fare better in this respect, by proposing that the embedded subject raises to Spec,CP in the embedded clause, making it accessible to Probes in the matrix clause (which do not have to be in Spec,CP themselves), although, as mentioned above, it is unclear what the precise nature of the Agree relation is that can connect these two DPs.¹⁵

3.3.3.3 Finite control as movement

In contrast to the extensive work on other partial null subject languages, there is a paucity of work on finite control in Russian, with Tsedryk (2012, 2013) being the only work on the topic to date. According to Tsedryk, control into finite clauses, like control into infinitival clauses is derived by movement (Hornstein 1999; Boeckx and Hornstein 2003, 2004, 2006a,b; Boeckx et al. 2010a,b). Tsedryk's account is similar to previous analyses of finite control in Brazilian Portuguese and Finnish (Rodrigues 2004; Nunes 2008; Ferreira 2009, Boeckx, Hornstein, Nunes 2010). The underlying idea is that the embedded subject raises into the matrix clause to receive a theta role from the matrix verb, and subsequently agrees with matrix T.

¹⁵ Although, as Holmberg and Sheehan point out themselves, this account faces an additional difficulty in Finnish and Brazilian Portuguese given the observation that another (subjectless) clause is allowed to intervene between the antecedent and the finite clause with a silent subject. This means that an entire CP can separate the silent subject from its antecedent.

- (99) *My znaem čto ∅ vyigraem etot poedinok.*
 we know.PL that will-win1PL this duel
 ‘We know that we will win this duel.’

(Tsedryk 2012: ex. 59b)

- (100) $[_{TP} \text{my}_{[NOM]} T [_{VP} \text{my}_{[NOM]} \text{znaem} [_{CP} \text{čto} [_{TP} \text{my}_{[NOM]} T \text{vyigraem} \dots]]]]$

One obvious difference between finite and infinitival control is the presence of overt agreement on T, which in Russian is associated exclusively with nominative subjects. In the original formulation of the MTC, the embedded subject is visible to a theta-probe on matrix V because it has not entered into an Agree relation with a φ -complete T. In languages that exhibit finite control, embedded finite clauses appear to be φ -complete, and different MTC accounts have proposed different solutions for this issue.

Several accounts have relied on the impoverishment of verbal inflection in Brazilian Portuguese, and propose that this impoverishment is associated with the optional φ -incompleteness of T. A φ -incomplete T cannot value case on the subject, and therefore the subject must raise into the matrix clause to get case. Although Nunes (2008) and Ferreira (2009) have slightly different formulations of what it means for T to be optionally φ -incomplete, they propose almost identical analyses of the alternation between overt and silent pronouns. The idea is that if embedded T is φ -complete, the embedded subject cannot move into the matrix clause because it will be deactivated after having its uninterpretable case feature valued. By contrast if the embedded T is φ -incomplete, the embedded subject will have to raise into the matrix clause to get case. All other derivations simply do not converge: if the numeration

contains a single DP embedded T must be φ -incomplete, otherwise the derivation crashes.

Rodrigues (2004) proposes a different movement analysis of Brazilian Portuguese and Finnish finite control. She proposes an asymmetry between agreement and case assignment; while Agree take place long-distance, case assignment requires Spec-Head agreement. According to Rodrigues, partial null subject languages do not require the subject to move to Spec,TP to satisfy the EPP (because Agr has a D-feature), and as a result the embedded subject in a finite control construction does not receive structural case in the embedded clause, even though it Agrees with T.

Tsedryk (2012) argues, however, that Russian agreement is not impoverished to a degree where it could be argued to be φ -incomplete in the relevant sense. Instead, Tsedryk assumes that a nominative subject in embedded Spec,TP is visible to a theta-probe in the matrix clause despite having been assigned structural case.

However, the presence of structural case on the embedded subject adds an additional restriction in Russian on finite control constructions, according to Tsedryk. Recall, from Section 3.3 that Russian categorically prohibits object control into finite clauses, in a way that distinguishes Russian from other languages that exhibit finite control.

- (101) *Ivan skazal synu čto ∅ prigotovit pirog.*
 Ivan said son.DAT that will-prepare pie
 ‘Ivan_i said to [his son]_j that he_{i/*j} will prepare a pie.

(Russian; Tsedryk 2012: ex.9a)

More generally, Tsedryk identifies the striking restriction that a non-nominative argument cannot antecede a silent subject of a finite clause, in contrast to control into infinitival clauses.

- (102) *Pete_i ne jasno kak \emptyset_i tuda popast'*
 Petja.DAT NEG clear how there end-up.INF
 'It is unclear to Petja how to get there.' RUSSIAN
- (103) **Pete_i ne jasno kak \emptyset_i sjuda popal*
 Petja.DAT NEG clear how here ended-up
 'It is unclear to Petja how he ended up here.' RUSSIAN

Tsedryk formulates this restriction as a case-matching requirement on the moved embedded subject. In other words, the embedded subject cannot agree with a head that is specified for a different case than the one it has already received in Spec,TP of the embedded clause. He proposes that matrix T bears an interpretable [NOM] feature, while matrix *v* bears an interpretable [ACC] feature, which means that the embedded subject can only agree with matrix T. Similarly, inherent case positions in the matrix clause would result in case mismatch if the embedded subject were to move there.¹⁶ An embedded subject can only Agree with a functional head that assigns nominative case.

Tsedryk proposes that control by a matrix dative argument is possible with embedded infinitival clauses because the infinitival subject lacks a case feature and is, therefore, free to raise into an inherent-case position. However, as we have already seen, even when the embedded subject receives case within the infinitival clause, case mismatches are allowed between infinitival subjects and their controllers. For in-

¹⁶Tsedryk also proposes that the movement of a nominative subject into an inherent case position would violate Last Resort (Chomsky 1995) because there are no unvalued features to drive the movement (Case is interpretable on the matrix verb and valued on the embedded subject). Therefore, there should be no reason for the embedded subject to raise. Presumably, however, the need of the matrix verb to assign a θ -role should be enough to drive movement of the embedded subject into an inherent case position. In fact, this is precisely how Boeckx et al. (2010a) account case mismatches between controllers and controlled subjects in infinitival clauses in Icelandic: when an embedded subject raises into the matrix clause to receive a θ -role from the matrix verb, the case assigned to the subject in the lower clause is overridden by any inherent case that the matrix verb assigns.

stance, in (104) the matrix subject bears nominative case while the infinitival (silent) subject receives dative case (as evinced by the case on the agreeing secondary predicate *self*). Adopting Tsedryk's proposal for finite control means that derivation of control into finite and infinitival clauses must be fundamentally distinct.

- (104) *Ivan_i ne znal kak \emptyset_i počinit' mašinu samomu.*
 Ivan.NOM NEG knew how \emptyset .DAT fix.INF car self.DAT
 'Ivan didn't know how to fix the car himself.' RUSSIAN

What is particularly intriguing about the case restriction on Russian finite control is that the notion of "case matching" is not precise enough to account for the Russian pattern, since finite control of a dative subject is ungrammatical even if the controller bears dative case, as in (105). If a nominative subject is available to a theta probe from the matrix clause, it is not clear why a dative experiencer subject in the embedded clause cannot be assigned another experiencer theta role in the matrix clause.

- (105) **Ivanu_i jasno čto \emptyset_i nravitsja Nataša*
 Ivan.DAT clear that \emptyset .DAT pleases Nataša.NOM
 'It is clear to Ivan that he likes Nataša.' RUSSIAN

Finally, in certain cases when a dative infinitival subject antecedes a silent subject in a finite clause, a mismatch is possible even with finite control, although these are rare and require further research.

- (106) *Petja ne znaet gde emu žit' kogda \emptyset vyjdet iz*
 Petja.NOM NEG knows where he.DAT live.INF when exits from
tjur'my.
 jail
 'Petja doesn't know where he should live when he gets out of jail.'

Phasal spell out also remains a problem for MTC accounts. Few authors address the issue of phases, with Rodrigues (2004) and Tsedryk (2013) offering the most articulated proposals. Rodrigues' proposal rests on the assumption that when matrix phase head *v* is merged, only domains within CP that are themselves phases are spelled out. This excludes the position of the embedded subject, which is then available to higher probes. Tsedryk (2013) also relies on the notion of a weak phase to account for the accessibility of the embedded subject. He posits that finite CP is a weak phase, in the sense that it lacks an edge feature. However, this chapter has demonstrated the availability of control into finite *wh*-clauses, which means that even finite clauses that do have an edge feature allow finite control.

3.3.4 Towards an account of the differences

In this dissertation I have argued that the referential dependence and silence of an embedded subject pronoun are syntactically linked in a particular way—silent, referentially dependent embedded subjects are always defective goals. Therefore, in the following discussion I consider another approach to the differences between finite and infinitival control; I aim to derive the differences between finite and obligatory control from independent properties of clausal complementation, while maintaining a uniform link between silence and referential dependence of subject pronouns.

It has been proposed that finite clausal complementation in Russian involves a relative clause structure (Stepanov 2001). Stepanov (2001) argues that the complement of the matrix verb is a silent NP TO, 'that' parallel to the overt demonstrative in (107), while the finite clause is an adjunct to TO.

- (107) *Petja ob"javil to čto Maša uxodit.*
 Petja announced that that_{COMP} Maša leaves
 'Petja announced that Maša was leaving.'
- (108) *Petr sčital [NP TO [CP čto Ivan ljubit Mašu].*
 Petr believed TO that Ivan loves Maša

Stepanov's proposal is meant to account for the difficulty of long-distance *wh*-extraction out of Russian finite clauses (Comrie 1971; Stepanov 2001; Khomitsevich 2007; Rojina 2011). While a number of languages exhibit an asymmetry in the extraction of subjects of objects from complement clauses, with subject extraction being more restricted, Russian also prohibits long-distance object extraction. This seems to mirror the difficulty of extracting out of adjuncts more generally.¹⁷

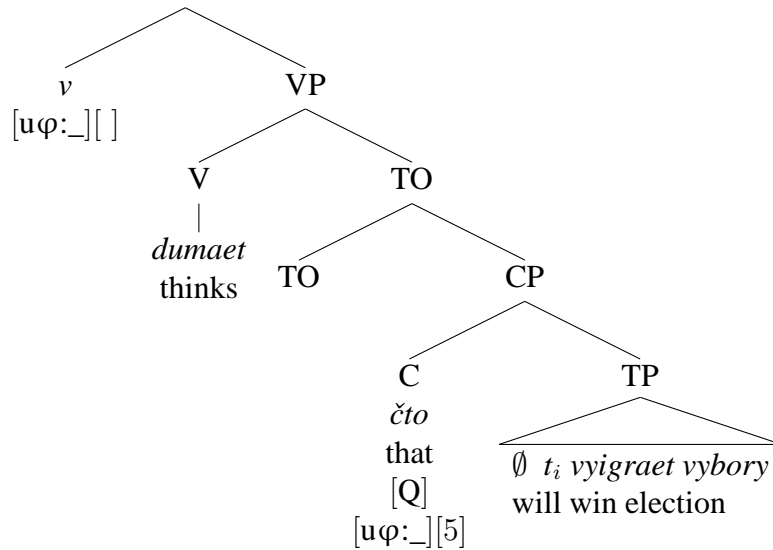
- (109) RUSSIAN
- a. *?*Kogo_i Ivan polagaet, čto Maria ljubit t_i?*
 whom Ivan supposes that Maria likes
 'Who does John think that Mary likes?' (Stepanov 2001:189)
- b. **Čto_i ty dumaes' čto prines Petja t_i*
 what you think that brought Petja
 'What do you think that Petja brought?'
- c. **Kto_i Petja dumaet' čto t_i prišel?*
 who Petja thinks that arrived
 'Who does Petja think arrived?'

Without espousing Stepanov's idea that relative clauses are merged late in the derivation, I propose that Russian finite complements contain a nominal layer, headed by

¹⁷It should be pointed out that judgments for (109-a) vary across speakers. I have included Stepanov's judgments here, which are the standard judgments in the literature. Some authors, like Antonenko (2010) consider (109-a) marginal, but acceptable in colloquial Russian. Most authors agree, however, that despite interspeaker variation, extraction of an object from a finite clause is considerably worse than extraction from e.g., a subjunctive.

TO (in the spirit of the proposal in Kayne 2009, 2010 that finite complements are actually relative clause structures).

(110)



Positing a relative clause structure for finite complementation is consistent with the general availability of finite control into relative clauses in Russian.

- (111) *Ivan_i razbil vazu kotoruju 0_{i/*j} podaril žene na svad'bu.*
 Ivan broke vase which offered wife on wedding
 'Ivan_i broke the vase that he_{i/*j} gave to his wife on their wedding day.'

(Russian; Tsedryk 2012: ex.50)

- (112) *Maša_i našla busy kotorye 0_{i/*j} god nazad poterjala.*
 Maša found necklace which year ago lost.
 'Maša_i found the necklace that she_{i/*j} lost a year ago.'

- (113) *Petja_i rasskazal o tom kak 0_{i/*j} s"ezdil v Pariž.*
 Petja told about that how went in Paris
 'Petja_i talked about how he_{i/*j} went to Paris.'

- (114) *Petja_i sovsem zabyl to čto ∅_{i/*j} skazal včera.*
 Petja completely forgot that what said yesterday
 ‘Petja_i completely forgot what he_{i/*j} said yesterday.’

How does a relative clause structure affect the account developed in Section 3.2.3.3?
 I propose that only one additional assumption is needed to reconcile a relative clause structure with a derivational approach to the alternation between overt and silent pronouns. Specifically, I assume that the operation Agree can target adjuncts.

There is some precedent for such an assumption. First of all, Bobaljik (1995) argues that floating quantifiers should be analyzed as adverbs. Floating quantifiers, however, agree in number and gender with the DP that they modify, which means that an Agree relation must be able to target adverbial positions. Additionally, the existence of agreement with adjuncts has been proposed specifically for Russian. Certain temporal adjuncts surface with accusative case, which reflects agreement with *v* if it can be shown to be structural rather than inherent case.

- (115) *Boris putešetvoval vsego nedelju*
 Boris traveled only week.ACC
 ‘Boris traveled only for a week.’ (Russian; Borovikoff 1997:67)

Borovikoff (1997) argues that these adjuncts do, in fact, receive structural accusative case because they surface in genitive case under negation, exactly like direct objects.

- (116) *Boris ne putešetvoval i nedeli*
 Boris NEG traveled even week.GEN
 ‘Boris didn’t travel even for a week.’ (Russian; Borovikoff 1997:67)

- (117) a. *Boris kupil knigu.*
 Boris bought book.ACC
 ‘Boris bought a book.’

- b. *Boris ne kupil i knigi.*
 Boris NEG bought even book.GEN
 ‘Boris didn’t buy even a book.’

Since the finite CP is an adjunct, it is merged at the edge of the phase containing TO, which means that it should be visible even after the phase is complete. Given the present assumption that adjuncts with unvalued φ -features are visible to φ -probes, the derivation will proceed exactly as outlined in Section 3.2.3.3. A referentially independent subject will value and delete the features on C, while a referentially dependent subject will suspend the domain until matrix vP is complete and the features on C and the embedded subject are valued.

Stepanov’s approach to Russian makes a step towards accounting for the availability of strict readings under ellipsis in Russian finite control. Consider an infinitival control construction where a strict reading is unavailable (118). It is also possible to subsequently refer to the embedded clause with a demonstrative pronoun (*etogo*), in which case the strict reading emerges (119). We see a similar effect in English-ellipsis.

- (118) *Maša xočet kupit’ mašinu i Petja tože.*
 Maša wants buy.INF car and Petja too
 ‘Maša wants to buy a car and Petja does too.’ RUSSIAN
 ONLY SLOPPY READING
- (119) *Maša xočet kupit’ mašinu i Petja tože etogo xočet*
 Maša wants buy.INF car and Petja too this.GEN wants
 ‘Maša wants to buy a car and Petja wants it too (for Maša to buy a car).’

- (120) a. Mary wants to buy a car and Peter does too.
 ONLY SLOPPY READING
 b. Mary wants to buy a car and Peter wants it too (for Mary to buy a car).

On a relative-clause approach of finite complementation, a demonstrative element is inherently available in the structure, which means that the strict reading available in (120-b) should come for free.

- (121) *Maša vspomnila TO čto ∅ poedet v Pariž i Petja tože*
 Maša remembered that that_{COMP} will-go in Paris and Petja too
 ~~*{vspomnil TO}*~~
 remembered TO
 Maša remembered that she will go to Paris and Petja remember it too
 (that Maša will go to Paris).

Thus, at least one major difference between finite and infinitival control—the availability of strict readings under ellipsis—can be understood as following independent properties of finite and infinitival complementation. The silent controlled pronouns in both infinitival and finite contexts are $\varphi P_{[i\varphi: _]}$, and their silence is derived identically from their status as defective goals.

As mentioned above, the other major difference between finite and infinitival control is the impossibility of object control into finite clauses. Although it is not obvious how a relative clause structure can account for this restriction, subject orientation of PRO seems to be a broader requirement of control into adjuncts. In fact, Rodrigues argues that finite complements of verbs are vP adjuncts, citing in part the prohibition on extraction from Brazilian Portuguese complement clauses when the matrix predicate also an additional object. If, as Rodrigues proposes, finite clauses

are merged as *v*P adjuncts in the presence of a matrix object, this would explain why only subjects can antecede the null subject in the embedded clause—the only functional head available to probe the embedded clause is matrix T, which also agrees with the subject.

- (122) (*Xotja Vasja_j ničego ne pomnil*) *Petja_i ubedil ego_j, čto*
 although Vasja nothing NEG remembered, Petja convinced him that
*∅_{i/*j} včera ne pil.*
 yeseterday NEG drink.
 ‘Although Vasja didn’t remember anything, Petja_i convinced him_j that he_{i/*j}
 didn’t drink yesterday.’
- (123) *Petja_i uvolil Vasju_j prežde čem ∅_{i/*j} poexat’ v Pariž.*
 Petja fired Vasja.ACC before what.INST go.INF in Paris
 ‘Petja fired Vasja before going to Paris.’

Adopting a relative clause approach to finite complementation in Russian also has the potential to account for some differences between Russian and Brazilian Portuguese. Given that finite complementation involves a nominal layer in Russian, but not Brazilian Portuguese—and this nominal layer is what makes a strict reading available under ellipsis for finite control—it is correctly predicted that Russian, but not Brazilian Portuguese should allow strict readings under ellipsis in finite control.

Moreover, such an approach is consistent with an additional difference between Brazilian Portuguese and Russian, namely that Brazilian Portuguese prohibits finite control into relative clauses.

- (124) *O João encontrou a carteira que ele/*∅ perdeu.*
 the João met.3SG the wallet that he lost.3SG
 ‘João found the wallet that he lost.’

(Brazilian Portuguese; Rodrigues 2004:173)

The presence of a nominal layer in Russian, but not in Brazilian Portuguese, is also consistent with the differences between the two languages in *how*-complements. Both languages can use *how* in place of the regular finite complementizers *que* and *čto*.

- (125) *Você vai ver como (que) a Maria tinha razão*
 you will.3SG see how that the Maria had.3SG right
 ‘You are going to see that Mary was right.’

(Brazilian Portuguese; Rodrigues 2004:162)

- (126) *Petja pomnit kak Maša prišla k nemu v gosti.*
 Petja remembers how Maša came to him in guests
 ‘Petja remembers Maša coming to visit him.’

RUSSIAN

Torrego and Uriagereka (1995) argue for Spanish that *como*, but not *que*, involves a relative clause structure, based on differences between the two types of complements with respect to *wh*-movement and NPI licensing. Rodrigues (2004) demonstrates a similar difference in Brazilian Portuguese, arguing that clauses introduced by *como*, but not, *que* involve an additional DP layer. Clauses introduced by *como* prohibit silent referentially dependent subjects in Brazilian Portuguese, in contrast to Russian clauses introduced by *kak*.

- (127) *Com o tempo, a Maria_i vai ver como ela_{i/j}/* \emptyset tem*
 with the time, the Maria will.3SG see.INF how she has.3SG
razão
 right
 ‘With time, Maria will see how s/he is right.’

(Brazilian Portuguese; Rodrigues 2004:163)

- (128) *So vremenem Maša_i pojmet kak \emptyset _i byla neprava.*
 with time Maša will-understand how was wrong
 ‘With time Maša will understand how she was wrong.’ RUSSIAN

3.3.5 Languages that lack finite control

The focus of this chapter has been on languages that exhibit finite control. But how can we account for other languages, like English, that prohibit null subjects in embedded finite clauses?

- (129) *John_i said that \emptyset _i will go to Paris next spring.

One way to account for the difference between English and Russian is to posit that functional heads can select complements with valued φ -features. On such an approach, a finite C in English requires that its complement (finite T) have valued φ -features. By contrast, in Russian, finite C places no such requirement on its complement, which allows finite control. Notice that the same requirement can account for the prohibition on silent subjects in infinitival *for*-clauses in English (130).

- (130) *John wanted for \emptyset to leave.

The infinitival complementizer *for* requires that its complement have valued φ -features when it is Merged with *for*. This requirement means that the subject of a *for*-infinitive must be referentially independent (and, therefore, a full DP).

The same mechanism can be implemented to enforce for the requirement that referentially independent pronouns are full DPs in partial null-subject languages and non-null-subject languages. D in these languages selects a complement (φ P), whose φ -features are valued. Therefore, only φ Ps can have unvalued φ -features.

The present proposal still leaves open the question of what exactly predicts whether a given language will have a finite C that requires its complement to have fully valued φ -features. It is potentially important that for all languages that exhibit finite control it has been independently proposed that the subject position (or EPP position) is located higher than Spec, TP—this is the position that Modesto and Holmberg and Nikanne (2002) call FP, and in partial null-subject languages it attracts a variety of phrases to its specifier, not just nominative DPs. Wood and Livitz (2012) demonstrate for Russian that this position exhibits certain A-bar properties, in that it appears to be sensitive to the topicality or “aboutness” of lexical items, while at the same time exhibiting certain A-properties, like allowing control into fronted adjuncts.¹⁸ I tentatively propose that what makes finite control possible specifically in partial null-subject languages is that the C domain has both A- and A-bar positions. The requirement that TP have valued φ -features is a property of language where the finite C-domain hosts exclusively A-bar projections.

¹⁸Though see arguments summarized in Chapter 4 against the existence of dedicated topic position in the left periphery.

3.4 Conclusion

In Chapter 2, I proposed that the notion of defective goal is relevant cyclically, at the completion of each phase. In this chapter, I drew on properties of phases to account for an alternation between overt and silent pronouns in Russian finite embedded clauses (131).

- (131) *Petja skazal čto vesnoj ∅ / on poedet v Pariž.*
Petja said that spring / he.NOM go.3SG in Paris
'Petja_i said that he_i will go to Paris in the spring.'

I proposed that the obligatory referential dependence of silent pronouns and the optional referential dependence of overt pronouns can both be explained by the interaction between the features on embedded C and the features on the embedded subject. Specifically, whether a phase head blocks an Agree relation between the embedded subject and a matrix functional head depends on the features of the embedded subject. If the embedded subject is a $\varphi P_{[i\varphi: _]}$, the φ -features on embedded C are not valued by the time the CP phase is complete, and its phasal status is suspended until the next phase is complete. However, if the embedded subject is a full DP, it will value and delete the φ -features on embedded C, leading to the Spell Out of C's complement. As a result no Agree relation is possible across a finite CP if the embedded subject is a DP. The variable nature of CPs phasal status allows us to account for the referentially dependent reading of overt pronouns in finite clauses in a way that is compatible with economy conditions on binding as formulated in Reuland (2011).

I also challenged prior conclusions from the literature that finite control does not allow a strict reading under ellipsis. I argued that finite complementation involves

a relative clause structure, which can account for the availability of said strict readings in finite, but not infinitival, control clauses. I demonstrated that such an approach is able to account for several differences between Brazilian Portuguese and Russian.

Chapter 4

Focus and the failure to be defective

4.1 Introduction

This dissertation argues that an Agree relation that derives the referential dependence of a featurally deficient pronoun is responsible for its silence—a referentially dependent pronoun has unvalued φ -features that force it to enter an Agree relation in which it is a defective goal. The defective goal approach to pronominal silence developed in this dissertation provides a natural explanation for differences in interpretation between overt and silent pronouns that occur in the same syntactic context. Chapter 3 focused on a particular alternation between overt and silent pronouns in embedded finite clauses in languages like Russian (1) and Brazilian Portuguese (2), where the overt pronoun has additional referential possibilities; while a silent pronoun is obligatorily referentially dependent on the matrix subject, an overt pronoun in the same context can refer either to the matrix subject or to another salient individual in the discourse.

- (1) *Petja_i skazal čto vesnoj $\emptyset_{i/*j}$ / on_{i/j} poedet v Pariž.*
 Petja said that spring / he.NOM go.3SG in Paris
 ‘Petja said that he will go to Paris in the spring.’ RUSSIAN

- (2) *O João_i disse que $\emptyset_{i/*j}$ / ele_{i/j} tinha comprado uma casa.*
 the João said that / he.NOM have.3SG bought a house
 ‘João said that he had bought a house.’

(Brazilian Portuguese; Holmberg and Sheehan 2010:131)

In this chapter, I investigate a different type of alternation between overt and silent pronouns, in contexts where the referential capabilities of overt and silent pronouns are identical. Languages including Hungarian and European Portuguese allow silent referentially dependent pronouns to alternate with overt pronouns in infinitival control clauses (3)–(4). These overt pronouns are obligatorily referentially dependent on the matrix controller just like its silent counterpart.

- (3) \emptyset_i *nem akar* [$\emptyset_{i/*j}$ / $\acute{o}_{i/*j}$ *menni busszal*].
 not want.3SG / he go.INF bus-with
 ‘He doesn’t want to (be the one to) take the bus.’

(Hungarian; Anna Szabolcsi, p.c.)

- (4) \emptyset_i *decidiu* [*ir* $\emptyset_{i/*j}$ / *ele_{i/*j} ao mercado*].
 decided.3SG go.INF / he to-the market
 ‘He decided to (be the one to) go to the market.’

(European Portuguese; Barbosa 2009:104)

It is not the case, however, that the interpretation of overt and silent pronouns is indistinguishable—as will be discussed in the following section, overt subjects of infinitival control clauses are focused. In this chapter I argue that the overt infinitival subjects in (3)–(4) are an instance of $\varphi P_{[i\varphi: _]}$ exactly as the silent ones, and demon-

strate that the existence of such an alternation follows naturally from a defective-goal approach to pronominal silence. Section 4.2 introduces the phenomenon and reviews existing evidence that these overt pronouns occur in the same syntactic context as the silent, referentially dependent pronouns. Section 4.3 evaluates the similarities and differences in the interpretation of overt and silent pronouns in control clauses and presents a preliminary proposal within the defective-goal approach to pronominal silence. Section 4.4 refines the proposed syntactic representation of focus in light of arguments from Hungarian that there is no syntactic focus feature. I propose that $\varphi P_{[i\varphi: _]}$ surfaces overtly when a functional head with its own formal features has taken the φP as complement. It is this larger phrase that will serve as the goal for a φ -probe, and in this Agree relation the larger phrase will not be a defective goal.

4.2 Overt nominative subjects of infinitival clauses

As discussed extensively in Chapter 2, the subjects of infinitival control clauses are crosslinguistically silent; it is precisely the crosslinguistic consistency that led me to propose a defective goal analysis for PRO. However, a number of languages allow an overt subject pronoun to alternate with the silent pronoun in the same context (Cardinaletti 1999; Belletti 2005; Szabolcsi 2005, 2009a,b; Barbosa 2009). These overt pronouns can be modified by focus particles like *only* and *also*. In Hungarian, which distinguishes nominative and accusative pronouns, the overt pronouns bear nominative case.

- (5) a. *Utálna mindig Ø büntetést kapni.*
would-hate..3SG always get.INF punishment.ACC
‘He hates to always get punished.’

- b. *Utálna mindig csak ő kapni büntetést.*
 would-hate.3SG always only he get.INF punishment.ACC
 ‘He would hate it if always only he got punished.’

(Hungarian; Szabolcsi 2009b:16)

- (6) a. *Gianni odierrebbe ∅ andare a Milano*
 Gianni would-hate.3SG go.INF to Milan
 ‘Gianni would hate to go to Milan.’
 b. *Gianni odierrebbe andare anche lui a Milano.*
 Gianni would-hate.3SG go.INF also he to Milan
 ‘Gianni would hate it if also he went to Milan.’

(Italian; Szabolcsi 2009a:2)

- (7) a. *Só o João detestou resolver ∅ o problema.*
 only the João hated solve.INF the problem
 ‘Only João hated solving the problem.’
 b. *Só o João detestou resolver só ele o problema.*
 only the João hated solve.INF only he the problem
 ‘Only João hated it that only him solved the problem.’

(European Portuguese; Barbosa 2009:106)

Notably, the infinitival subjects are equally referentially dependent on the matrix subject regardless of whether they are silent or overt. Unlike in the alternation discussed in Chapter 3, the overt pronoun cannot refer to another salient individual in the discourse. In this section, I review the existing evidence that the overt and silent pronouns occur in the same syntactic context. I then demonstrate that the existence of these elements follows straightforwardly from the theory introduced in Chapter 2.

4.2.1 Position of pronouns within the infinitival clause

We have thus far seen that some languages allow overt subject pronouns in obligatory control contexts. In order to argue that silent referentially dependent pronouns (“PRO”) alternate with overt pronouns, it is important to ascertain that the overt pronouns do, in fact, occur within the infinitival clause.

This is something that has been well established in the literature. In Hungarian, obligatory focus fronting provides a strong argument that these pronouns are located within the infinitival clause (Szabolcsi 2009a,b). Hungarian has a dedicated preverbal focus position, and elements modified by focus-sensitive particles like *csak* ‘only’ must move to this position. The sentence in (8-a) is ungrammatical because *csak én*, ‘only I’ remains in post-verbal position.

- (8) a. **Olvastam csak én egy könyvet.*
read.PST.1SG only I.NOM a book.ACC
‘Only I read a book.’
- b. *Csak én olvastam egy könyvet.*
only I.NOM read.PST.1SG a book.ACC
‘Only I read a book.’ (Hungarian; Szabolcsi 2009a:11)

However, in a control context like (9), *csak én* remains post-verbally, which is compatible only with the phrase occupying the preverbal focus position in the infinitival clause.

- (9) *Szeretnék csak én lenni magas.*
 would-like.1SG only I be.INF tall
 ‘I want it to be the case that I am the only one who is tall.’

(Hungarian; Szabolcsi 2009a:11)

In contrast to Hungarian, Portuguese allows focused elements to occur postverbally, which means that (10) is ambiguous between a matrix and embedded reading of *só ele*, ‘only he’.

- (10) *Decidiu ir ao mercado só ele.*
 decided go.INF to-the market only he
 MATRIX READING: ‘He is the only one who decided to go to the market’
 EMBEDDED READING: ‘He decided for it to be the case that only he goes to the market.’

(European Portuguese: Barbosa 2009:103)

There is an additional position, however, where *só ele* can surface, between the embedded verb and other arguments of the embedded predicate. This position is clearly within the infinitival clause, and as expected, only the embedded reading is available for *só ele*.

- (11) *Decidiu ir só ele ao mercado.*
 decided go.INF only he to-the market
 ‘He decided for it to be the case that only he goes to the market.’

Italian, like Portuguese, allows pronouns to surface postverbally. When the pronoun intervenes between the embedded verb and the direct object (12-a), there is no ambiguity; the pronoun only allows an embedded reading (Cardinaletti 1999).

- (12) a. *Il Rettore ha deciso [di aprire lui il convegno].*
 the Dean has decided to open he the conference
 ‘The Dean decided that he will be the one to open the conference.’
- b. *Il Rettore ha deciso [di aprire il convegno] lui*
 the Dean has decided to open the conference he
 ‘The Dean is the one who decided to open the conference.’

(Italian;Cardinaletti 1999:79)

The position and the reference of these overt pronouns suggest that they are subjects of the infinitival clause, in complementary distribution with PRO. However the data at this point are also compatible with an alternative hypothesis that the overt pronoun actually co-occurs with a silent subject of the infinitival clause. Under such an approach, the overt postverbal pronouns in infinitival clauses are additional elements.

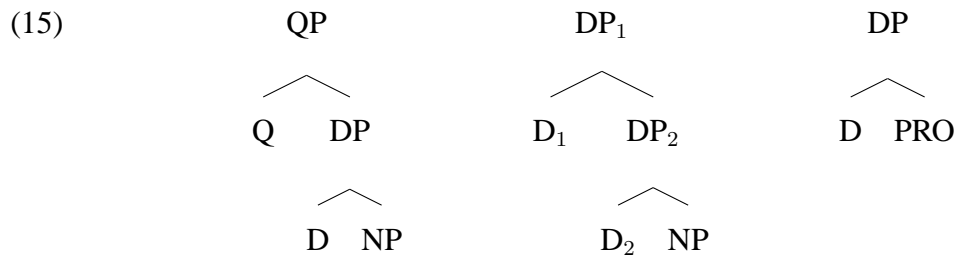
The latter is the analysis proposed by Belletti (2005) for the Italian data. She bases her proposal on the availability of emphatic pronoun doubles in Italian more generally, as in (13).

- (13) *Gianni verrà lui*
 Gianni will-come he
 ‘Gianni himself will come.’
- (Italian; Belletti 2005:6)

Belletti draws on the similarity of such pronominal doubling to floating quantifier constructions like (14). The floated quantifier *tutti*, ‘all’ is interpreted as modifying the subject *i miei amici*, ‘my friends,’ despite not forming a single constituent on the surface. Sportiche (1988) argues that the association between floated quantifiers and subjects stems from them forming a single constituent at some point in the derivation; the subject subsequently raises to its surface position, stranding the quantifier.

- (14) *I miei amici andranno tutti al cinema.*
 the my friends will-go all to cinema
 ‘My friends will all go to the movies.’ (Italian; Belletti 2005:3)

On the generalized approach to doubling and quantifier float proposed in Belletti (2005), the pronominal double is the equivalent of a floated quantifier—it is a nominal functional head (D) whose complement can be another DP or *pro* or PRO. It is this lower nominal element element that moves out to subject position, while the remnant containing the emphatic pronoun moves to a *v*P-peripheral focus or topic position.



In infinitival clauses, PRO moves to Spec,TP stranding the emphatic pronoun.

- (16) (Italian; Belletti 2005:21)

- a. *Maria mi ha chiesto di [PRO parlare io con Gianni].*
 Maria me has asked to speak I with Gianni
 ‘Maria asked me that I myself speak with Gianni.’
- b. ... [PRO parlare [io ...] ...]
- ↑

The advantage of a doubling approach is that it explains both the form and the reference of the overt pronouns in infinitival clauses, because they start out as part of the DP containing the silent subject. The form of the overt pronouns in infinitival clauses is identical to strong pronouns in the sense of Cardinaletti and Starke (1999),

which, according to the authors indicates the presence of a D-layer. It may seem surprising that the infinitival clause can have a DP subject, given that full DPs are otherwise prohibited in subject position of the infinitival clause.

- (17) **Pensa di [parlare Gianni di questo problema]*
 thinks to speak Gianni of this problem (Belletti 2005:22)

On a doubling approach, however, the D-layer of overt infinitival subjects follows from the doubling structure—the doubler is always a D or Q head. If overt infinitival pronouns are nothing other than pronominal doubles, there is no reason to expect them to differ in form from pronominal doubles in matrix clauses.

Since a D-head can double any nominal element, it can double PRO. The prohibition on DPs in subject position of the infinitival clause is irrelevant because it is not the DP, but exclusively PRO that actually raises to Spec,TP.¹

¹While the next section discusses evidence against treating overt pronouns in infinitival clauses as emphatic doubles, Belletti's doubling account is, in principle, compatible with the defective goal approach to PRO's silence developed in Chapter 2. If PRO raises out of the DP, stranding the D-head, and raises to Spec,TP, it is still a defective goal with respect to matrix *v* since the only features on the element in subject position will be ϕ -features. In this way, Belletti's doubling approach is distinct from the doubling approach to pronoun-antecedent relations in Kayne (2005). Kayne argues that all pronoun-antecedent relations are underlyingly doubling structures from which the antecedent has moved out.

- (i) thinks [John he] is smart →
 John_{*i*} thinks [*t_i* he] is smart

The subject of control clauses (PRO) is also assumed to be part of a doubling structure from which the controller has been extracted.

- (ii) tried to [John PRO] solve the problem →
 John_{*i*} tried to [*t_i* PRO] solve the problem

4.2.2 The overt pronoun is not a pronominal double

An immediate problem for Belletti's proposal is that while it can, in principle, be extended to European Portuguese, which allows pronouns to double DP subjects (18), it cannot account for overt pronouns in Hungarian infinitival clauses, since Hungarian lacks Italian-style doubling constructions.

- (18) *A Teresa escreveu ela o poema.*
the Teresa wrote she the poem
'It was Teresa who wrote the poem.' (European Portuguese; Barbosa 2009:107)

- (19) **Péter ő is dolgozott.*
Peter he too worked
'Peter himself worked too.' (Hungarian; Szabolcsi 2009a:14)

Therefore, an independent mechanism must be responsible for licensing overt subject pronouns in infinitival clauses in Hungarian. Additionally, there exist arguments against treating the overt pronouns as doubles of PRO in Italian (Cardinaletti 1999; Szabolcsi 2009a,b) and Portuguese (Barbosa 2009).

Barbosa (2009) makes the general argument that emphatic post-verbal pronouns in European Portuguese or Italian cannot be analyzed as doublers, but instead as the actual subjects of the clause. She bases her argument, in part, on the incompatibility of postverbal subject pronouns with certain quantified expressions in subject position. Given the possibility of clitic doubling with negative (non-subject) quanti-

Under such an approach to control, however, the silence of PRO must be stipulated. PRO would not be a defective goal with respect to the functional head that acts as a Probe because the subject of the infinitival clause is the remnant of the full DP, not only the φ -features associated with PRO.

(20) **Nenhuma criança escreveu ela o poema.*
 no child wrote she the poem
 (European Portuguese; Barbosa 2009:110)

Moreover, Szabolcsi (2009a) provides evidence that overt subject pronouns in control clauses are qualitatively different from emphatic postverbal pronouns in monoclausal environments. It is well known that pronouns can have nominal complements, such as the English *we linguists*. Italian allows *noi linguisti*, ‘we linguists’ to surface within infinitival clause (22), but prohibits *noi linguisti* to function as a pronominal double in a monoclausal environment (23-a). The same monoclausal environment is compatible with a simple pronominal double (23-b).²

(22) *Vorremmo andare solo noi linguisti a Milano.*
would-like.1PL go.INF only we linguists to Milan
'We would like it to be the case that only we linguists go to Milan.'
(Italian; Szabolcsi 2009a:28)

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- (23) Context: We philosophers are the only people who work!
- a. **Guarda che noi, abbiamo lavorato anche noi linguisti!*
look that we have.1PL worked also we linguists
‘Look, we, we linguists have worked too!’
 - b. *Guarda che noi, abbiamo lavorato anche noi!*
look that we have.1PL worked also we
‘Look, we, we have worked too!’ (Italian; Szabolcsi 2009a:28)

The asymmetry between doubling constructions and pronouns in infinitival clauses suggests that a separate mechanism for licensing overt pronouns in infinitival clauses is necessary for Italian as well as Hungarian, and similar arguments have been made for Portuguese by Barbosa (2009).³

There is further evidence from Italian that pronominal doublers should be distinguished from overt pronouns in infinitival clauses. Cardinaletti (1999) notes that in a Central Italian dialect that distinguishes nominative and accusative pronouns, there is a case distinction between postverbal emphatic pronouns in finite clauses (accusative (24)) and overt subject pronouns in infinitival clauses (nominative (25)).

- (24) *Hai vinto *tu/te.*
have.2SG won you
‘You have won.’

(Central Italian dialect; Cardinaletti 1999:81)

³I assume with Déchaine and Wiltschko (2002) and Baltin et al. (2013) that φ Ps (unlike full DP pronouns) cannot, in the standard case, have an N complement. It is not obvious why additional structure in the nominal domain makes an NP-complement possible, but focus appears to add enough structure in the relevant sense to allow an NP complement of φ P.

- (25) *Vorrei chieder-ti se ti farebbe piacere aprire tu/*te il*
 would-like.1SG ask.INF-YOU if you would please open.INF you the
congressino.
 workshop
 ‘I would like to ask you if it would please you to open the workshop.’

(Central Italian dialect; Cardinaletti 1999:81)

Therefore, overt controlled pronouns in infinitival clauses cannot be analyzed as doubling a silent PRO. Instead, data from Hungarian and Italian demonstrate that silent controlled subjects (“PRO”), which in Chapter 2 I argued to be $\varphi P_{[i\varphi: _]}s$, can alternate with an overt pronoun that in form resembles strong pronouns in Italian and European Portuguese. In the next section I compare the interpretation of silent and overt pronominal subjects in infinitival clauses.

4.3 Non-defective goals

4.3.1 Reference of overt controlled subjects

The preceding discussion has established that overt nominative pronouns in infinitival clauses are, in fact, infinitival subjects. Here, I provide evidence that the overt pronouns are, like the silent pronouns, $\varphi P_{[i\varphi: _]}s$. On the surface, these overt infinitival subjects resemble strong pronouns, in the sense of Cardinaletti and Starke (1999). As mentioned in Chapter 2, strong pronouns are generally assumed to be full DPs and referentially independent, but as we will see overt subjects in infinitival clauses have the same exact referential properties as PRO. Unlike the alternation between overt and silent subjects in Russian and Brazilian Portuguese finite clauses, the alternation in infinitival control clauses is not an alternation between φP s and full DPs.

First of all, note that referentially independent strong subject pronouns are generally prohibited in infinitival control clauses. In the following examples, a pronoun that does not match the controller in φ -features is prohibited.

- (26) **Decidiu ir nós ao mercado.*
 decided.3SG go.INF I to-the market
 (Portuguese; Teresa Cravo, p.c.)

- (27) **Odierebbe andare io a Milano.*
 would-hate.3SG go.INF I to Milan
 (Italian; Nino Luraghi, p.c.)

- (28) **Utál csak én dolgozni*
 hate.3SG only I work.INF
 (Hungarian; Szabolcsi 2009a:17)

Moreover, the overt pronoun is obligatorily referentially dependent on the matrix subject, just like a silent pronoun in the same context.

- (29) \emptyset_i *nem akar* [$\emptyset_{i/*j}$ / *csak ő_{i/*j} menni busszal*].
 not want.3SG / only he go.INF bus-with
 ‘He/she doesn’t want to be the only one to take the bus.’
 (Hungarian; Szabolcsi 2005:621)

- (30) *Gianni_i odierebbe* *andare* $\emptyset_{i/*j}$ / *anche lui_{i/*j} a Milano.*
 Gianni would-hate.3SG go.INF / also he to Milan
 ‘Gianni would hate it if only/also he went to Milan.’
 (Italian; Szabolcsi 2009a:2)

- (31) *Só o João_i detestou resolver $\emptyset_{i/*j}$ / só ele_{i/*j} o problema.*
 only the João hated solve.INF / only he the problem
 ‘Only João hated it that only him solved the problem.’

(European Portuguese; Barbosa 2009:106)

Second, these strong pronouns are compatible with quantificational controllers, which means that the embedded pronoun is interpreted as a bound-variable.

- (32) *[Nenhum hóspede]_i optará por fazer ele_i o pequeno almoço*
 no guest will-choose by make.INF he the breakfast every
todos os dias
 the days
 ‘No guest will choose to prepare his breakfast himself every day.’

(European Portuguese; Barbosa 2009:113)

- (33) *Nessuno_i sperava di poter intervenire lui_i.*
 nobody hoped to be-able.INF interven.INF he
 ‘Nobody hoped to be able to intervene himself.’

(Italian; Cardinaletti 1999:84)

- (34) *Senki_i nem akart csak ő_i leülni.*
 nobody not wanted.3SG only he/she sit.INF
 ‘Nobody wanted it to be the case that only he/she takes a seat.’

(Hungarian; Szabolcsi 2009b:251)

Therefore, while overt infinitival subjects look like full DPs that are referentially independent, they are, in fact, identical in interpretation to PRO. This conclusion is supported by two additional interpretational properties traditionally associated with subject control clauses that are exhibited by overt pronouns in infinitival clauses.

As discussed in Chapters 2 and 3, a well-known characteristic of PRO is that it only allows a sloppy reading under ellipsis. Overt nominative infinitival subjects pattern with PRO in this respect.

- (35) *Orsi nem akar csak ő leülni, és Péter se.*
 Orsi not want.3SG only she sit.INF and Peter neither
 ‘Orsi doesn’t want to be the only one to sit down, and neither does Peter.’
 (OK Peter doesn’t want to be the only one to sit down.)
 (≠ Peter doesn’t want for Orsi to be the only one to sit down.)

(Hungarian; Anna Szabolcsi, p.c.)

- (36) *O João não quer lavar só ele os pratos, e o Filipe também não.*
 the João not wants.3SG wash.INF only he the dishes, and the Philip
também não.
 also not
 ‘João doesn’t want to be the only one to wash dishes, and Philip doesn’t either.’
 (OK Philip doesn’t want to be the only one to wash dishes)
 (≠ Philip doesn’t want for João to be the only one to wash dishes)

(European Portuguese; Salvador Mascarenhas, p.c.)

- (37) *Gianni non vuole lavare solo lui i piatti, e nemmeno Luigi.*
 Gianni not wants wash.INF only he the dishes and neither Luigi
 ‘Gianni doesn’t to be the only one to wash the dishes and neither does Luigi.’
 (OK Luigi doesn’t want to be the only one to wash dishes)
 (≠ Luigi doesn’t want for Gianni to be the only one to wash dishes)

(Italian; Nino Luraghi, p.c.)

As discussed earlier, PRO is compatible only with a *de se* reading—in (38) John must realize that his expectation is about himself.

- (38) John_i expects PRO_i to receive a medal for bravery.

Overt infinitival subjects of control clauses also receive exclusively a *de se* interpretation, as illustrated below for Hungarian. Hungarian makes a distinction in this respect between an overt infinitival subject and an overt subjunctive subject. While a subjunctive subject can be interpreted *de re* (39), overt infinitival subjects behave like PRO in that they receive an obligatory *de se* interpretation (40), according to Márta Abrusán's generalization in Szabolcsi (2009a,b). This generalization, which holds crosslinguistically, is illustrated for Hungarian below.

- (39) *A(z amnéziás) hős nem akarta, hogy csak ő kapjon*
the amnesiac hero not wanted.3SG that only he get.SBJV.3SG
érdemrendet.
medal.ACC
'The (amnesiac) hero did not want that only he get a medal.'
⇒ *de re* or *de se* (Hungarian; Szabolcsi 2009a:23)
- (40) *A(z amnéziás) hős nem akart csak ő kapni érdemrendet.*
the amnesiac hero not wanted.3SG only he get.INF medal.ACC
'The (amnesiac) hero did not want it to be the case that only he gets a medal.'
⇒ Only *de se* (Hungarian; Szabolcsi 2009a:23)

To summarize the data discussed in this section: a number of languages allow overt pronouns to alternate with referentially dependent silent pronouns in infinitival control clauses. Although these pronouns look like strong pronouns in languages that distinguish between strong and weak pronouns, they are not interpreted like other strong pronouns. They receive the same exact interpretation as silent subjects of infinitival control clauses.

4.3.2 Overt subjects of control clauses are associated with focus

While overt and silent pronouns in infinitival subject position are equally referentially dependent, they are not identical in interpretation. In many of the examples where we find these overt pronouns they are modified by focus-sensitive particles like negation, *only*, and *also*.

- (41) *Nem szeretnék én is elcsúszni.*
not would-like.1SG I.NOM too slip.INF
'I wouldn't like for it to be the case that I, too, slip.'

(Hungarian; Szabolcsi 2005:618)

- (42) *Szeretnék csak én lenni magas.*
would.like.1SG only I be.INF tall
'I want it to be the case that I am the only one who is tall.'

- (43) *Szeretnék nem én lenni magas.*
would.like.1SG not I be.INF tall
'I want it to be the case that I am not the one who is tall.'

(Hungarian; Szabolcsi 2009b:258)

- (44) *Gianni odierrebbe andare anche lui a Milano.*
Gianni would-hate.3SG go.INF also he to Milan
'Gianni would hate it if also he went to Milan.'

(Italian; Szabolcsi 2009a:2)

- (45) *Gianni non vuole lavare solo lui i piatti.*
Gianni NEG wants wash.INF only he the dishes
'Gianni doesn't want to be the only one to wash the dishes.'

(Italian; Nino Luraghi, p.c.)

- (46) *Decidi ir só eu ao mercado.*
 decided.1SG go.INF only I to-the market
 ‘I decided to go to the market alone.’

(European Portuguese; Teresa Cravo, p.c.)

- (47) *Decidimos ir também nós a Coimbra*
 decided.1PL go.INF also we to Coimbra
 ‘We decided that we, too, should go to Coimbra.’

(European Portuguese; Teresa Cravo, p.c.)

It is also possible for the embedded subject to lack an overt modifier, in which case it is interpreted as contrastively focused.

- (48) *Decidiu ir ELE ao mercado.*
 decided.3SG go.INF he to-the market
 ‘He decided that he would be the one to go to the market.’

(European Portuguese; Barbosa 2009:104)

- (49) *Penso di parlare IO di questo problema*
 think.1SG to speak.INF I of this problem
 ‘I think that I myself will speak of this problem.’

(Italian; Belletti 2005:20)

- (50) *Utálok mindent ÉN csinálni helyetted.*
 hate.1SG everything.ACC I do.INF instead.of.you
 ‘I hate to be the one doing everything for you.’

(Hungarian; Szabolcsi 2005:622)

Focus appears to play a privileged role in the overt realization of infinitival subjects. In Section 4.3.2 we saw that overt subjects of infinitival clauses were associated with contrastive focus in Hungarian, Italian, and European Portuguese.

Overt controlled subjects in other languages have also been tied to focus. For example Sundaresan (to appear) argues that in Tamil, PRO can be replaced by an overt anaphor *taan*, ‘self’ if it is contrastively focused.

- (51) *ramani_i ∅_{i/*j} / taan_{i/*j} saadatt.ai saappi.q.a paa.tt.aan*
 raman.NOM / self.NOM rice.ACC eat.INF try.PST.3M.SG
 ‘Raman_i tried [CP for HIMSELF_i to eat the rice.]’

(Tamil; Sundaresan 2010:15)

Madigan (2008) demonstrates that Korean control constructions also allow overt subjects. The verb *yaksok*, ‘promise’ is an obligatory subject control verb, which takes a nonfinite complement clause marked with the volitional mood marker *keyss*. The embedded subject can be an overt anaphor if focused, but it is obligatorily referentially dependent on the matrix subject regardless of form.

- (52) *Inho-ka_i Jwuhi-eykey_j ∅ / caki-ka_{i/*j} cip-ey ka-keyss-ta-ko*
 Ihno-NOM Jwuhi-DAT / self-NOM home-LOC go-VOL-DC-C
yaksok-ha-yess-ta.
 promise-do-PST-DC
 ‘Inho_i promised Jwuhi (for himself_i) to go home.’

(Korean; Madigan 2008:237)

We see a similar pattern in Serbo-Croatian (Zec 1987). Serbo-Croatian uses finite morphology in certain types of control clauses, but the embedded subject is obligatorily referentially dependent on the matrix controller (although Serbo-Croatian allows referentially independent null subjects in other contexts).⁴

⁴There is an interesting asymmetry between Serbo-Croatian on the one hand and Hungarian and Italian on the other—Hungarian and Italian lack overt controlled subjects in object control constructions while (Szabolcsi 2009a), while Serbo-Croatian prohibits it with subject control constructions (Zec 1987). This is a fascinating issue that merits further research.

- (53) *Ana_j je naterala Mariju_i da Ø_{i/*j/*k} dodje.*
 Ana.NOM AUX forced Marija.ACC COMP she come
 ‘Ana forced Marija_i that she_i should come.’

(Serbo-Croatia; Zec 1987:150)

In these constructions, an overt subject is prohibited in the embedded clause, unless it is focused.

- (54) *Ana je naterala Mariju_i da *ona/ONA_{i/*j} dodje.*
 Ana.NOM AUX forced Marija.ACC COMP she come
 ‘Ana forced Marija_i that she_i should come.’

(Serbo-Croatia; Zec 1987:151)

The generalization from the literature appears to be that if control clauses (regardless of the corresponding verbal morphology) allow an overt subject, the overt pronoun a) has the referential properties of the silent subject and b) is interpreted as contrastively focused.

As will be demonstrated in the following section, the present approach provides a straightforward way to understand the existence of an overt pronoun that passes the diagnostics for PRO. The existence of an overt correlate of PRO is, in fact, predicted by the analysis of PRO as a defective goal. In (41)-(50), the embedded subject is not a defective goal because it has features (related to its focus interpretation) that the probe lacks.

4.3.3 A preliminary proposal

I have argued in this dissertation that silence is a derived feature of pronouns. An element consisting of nothing other than φ -features will always be a defective goal

when it enters into Agree relation for φ -features. It is the minimal content of pronouns in subject position of infinitival control clauses that explains their silence.

The most straightforward way to account for overt “PRO” is to analyze the focus interpretation associated with the overt pronouns as a feature on PRO. Assuming for the moment that focus is a syntactic feature, the presence of this additional feature on PRO means that PRO is no longer a defective goal in its Agree relation with matrix v .⁵ Thus in (55), there is only a single instance of the feature bundle [Focus, 3SG] following the Agree operations. Because focused PRO is not a defective goal when it agrees with v , the features in T are not a copy of the features on PRO, and PRO is not deleted as a lower copy.

- (55) 1[_{vP} [D, 3SG] [_v $u\varphi$] [_{CP}[_{TP}[Focus, $i\varphi$]]T...]]] →
 2[_{vP} [D, 3SG] [_v $u\varphi$ [8] [_{CP}[_{TP}[Focus, $i\varphi$ [8]]T...]]] →
 3[_{vP} [D, 3SG [8]] [_v $u\varphi$ [8] [_{CP}[_{TP}[Focus, $i\varphi$ [8]]T...]]] →
 4[_{vP} [D, 3SG [8]] [_v [3SG [8]] [_{CP}[_{TP}[Focus, [3SG [8]] T...]]]

As discussed in Chapter 2, this approach to pronominal silence establishes a natural link between pronominal silence and dependent reference, since the unvalued φ -features of a $\varphi P_{[i\varphi: _]}$ force it to enter into an Agree relation, and the absence of any additional content in the φP result in its silence.

An important consequence of such an approach is that while providing a principled explanation for the silence of referentially dependent elements, it at the same

⁵Belletti (2001, 2004) posits that the vP periphery contains a focus projection, parallel to the CP periphery, which could be taken as indication that focus is a feature on v , in the same way that e.g., Miyagawa (2009) takes Focus to be a feature on C. This assumption would make PRO a defective goal with respect to v ; in the next section, however, I argue for a modification of the present proposal on independent grounds.

time separates silence from the reference of a pronoun. The silence and referential dependence of a pronoun are linked only derivationally, not in the lexical entry of the pronoun, as they were in the original PRO-Theorem. Such a proposal makes the prediction that a controlled subject could in theory be overt, if only it had a feature that it did not share with the φ -probe—and this prediction is confirmed by overt focused pronouns in infinitival control clauses.

4.3.4 Aside: focusing inherently silent elements

In this chapter, I argue that the effects of focus on controlled subjects demonstrate that the silence of such pronominal subjects is a derived property.

Contrastively focused elements are generally associated with pitch accent (56), and many theories have taken this phonetic prominence of focused elements to be the PF realization of a syntactic focus (F) feature (Rooth 1992, 1996a; Selkirk 1995, 2008; Schwarzschild 1999).

- (56) a. I bought [PERRIER]_F, not vodka.
 b. [JOHN]_F invited me to dinner, not Bob.

Many functional lexical items, like auxiliaries and prepositions, have both full or phonetically reduced exponents, but when focused the functional elements must surface in their full form (Selkirk 1996).

(57) Reduced and full functional elements (Selkirk 1996:193)

at [æt] [ət]
 him [hɪm] [ɪm],[ɪ̃m]
 can [kæn] [kɪ̃], [kɪ̃m]

- (58) a. She spoke AT the microphone not WITH it.
 b. We need HER, not HIM.
 c. Bettina CAN speak, but refuses to. (Selkirk 1996:194)

Selkirk hypothesizes that it is the obligatory association of pitch accent with focus that forces the use of the full form of functional elements in this context.

The phonetic effect of focus on reduced functional elements also holds for second occurrence focus. Second occurrence focus is the repetition of contrastive focus in an utterance that contains a new focused element. For example, in (59), Anscombe is contrastively focused in A as well as in B, but in B, Anscombe has been mentioned in the discourse before (i.e., it is Given), which is generally associated with phonetic reduction (Selkirk 1995; Schwarzschild 1999). It has been noted that second occurrence focus lacks pitch accent, as indicated in (59).

- (59) A: Wittgenstein only brought a gláss of wíne over to Ánscombe_F
 B: Also Géach_F only brought a glass of wine over to Anscombe_{soF}
 (Selkirk 2008:335)

Rooth (1996b) notes, however, that functional lexical items that are normally reduced, like the pronoun *him* cannot be reduced when focused, even under second occurrence focus.

(60) Do you lik'er?

(61) Mary's boyfriend only likes HER

#Even her BOSS only likes'er

(Rooth 1996b:213)

These data lead Rooth (1996b), to posit that the focus feature is realized by phonetic prominence, which prohibits the reduction and cliticization of pronouns. Selkirk (2008) restates this proposal as the Contrastive Focus Prominence Rule (CFPR), based in part on a similar proposal from Truckenbrodt (1995).

(62) Contrastive Focus Prominence Rule : Within the scope of a focus interpretation operator, the corresponding F-marked [contrastive focus] constituent is the most metrically prominent. (Selkirk 2008:333)

In (59) *only* is the focus operator, and the F-marked constituent in its scope is Anscombe—therefore, it must be the most metrically prominent element in both A and B. It is obvious from the phrasing of (62) that a contrastively focused element cannot remain silent without violating the CFRP.

However, there is very little discussion in the literature of what happens when focus applies to an element that is inherently silent. It has been shown that some elements are reluctant to bear pitch accent. Specifically German et al. (2006) demon-

strate that prepositions often remain unaccented, even in situations where they are predicted to bear the nuclear stress by Selkirk (1995) and Schwarzschild (1999). In (63), *play their game* is Given—in the sense of having been mentioned in a preceding utterance—and, as mentioned above, Given elements are generally deaccented (unless focused). The only new element within the VP is *in*, and, as such, it is expected to bear the nuclear accent.

(63) A: Are the children playing their game?

B: Paul took down the tent that they play their game in.

(German et al. 2006:156)

German et al find, however, that speakers prefer to place the accent on the verb or the internal argument rather than the preposition. It seems, therefore, that if certain elements disprefer focus, the next most eligible element (in the relevant structural sense) will bear pitch accent. This conclusion does not address the bigger issue of focusing silent elements, because prepositions can easily bear accent if contrastively focused (see, e.g., (58) above), despite avoiding it in (63).

A thought experiment suggests that there is no plausible way to contrastively focus an element that has a null phonological exponent. Take, for example, the plural morpheme, which can be contrastively focused in the following discourse. Speaker A (not knowing that Anya has two children) responds incredulously to someone mentioning Anya's child.

(64) A: Wait, Anya had a BABY?

B: No, baBIES!

In English, the plural morpheme associated with certain nouns, like *sheep*, is silent. Consider a discourse where speaker A has no idea that Andras bought two sheep. When someone mentions that Andras took his black sheep to the vet, Speaker A responds with incredulity. Speaker B, however, cannot correct Speaker A about the plurality of sheep Andras has purchased by focusing the plural morpheme. Although there is some disagreement among speakers, it is my own intuition that Speaker B also cannot simply render the focus on a different part of the DP (he would have to resort to inserting, and focusing, TWO).

(65) A: Wait, Andras bought a SHEEP?

B: #No, sheep/SHEEP!

However, to the degree (65) is acceptable, it may be that what is really being contrasted in A and B is the singular vs. plural determiner. English lacks an overt indefinite article, and thus by placing emphasis on SHEEP, the silent determiner is being emphasized.

By contrast, it is impossible to focus an infinitival control subject by emphasizing any surrounding material.

(66) Jamie didn't want TO LEAVE.

≠ Jamie didn't want for JOHN to leave

(67) Jamie didn't want ONLY to leave.

≠ Jamie didn't want only for JOHN to leave

Many clausal functional heads like *v*, Voice, and Appl, are also assumed to be inherently silent in English, although they have overt exponents in a number of other languages. Ahn (2012), following Laka (1990) proposes that when a silent head is focused, its specifier bears the PF effects of focus.

Laka (1990) proposes that when pitch accent is associated with an inherently silent head, the accent is transferred to the specifier. Laka investigates affirmative and negative sentences in Basque. Laka proposes a clausal projection ΣP that is headed by both affirmative and negative elements. In addition to overt polarity heads *ez* and *ba*, Laka argues that Basque has a silent polarity head [_{Aff}] which is realized phonologically as accent. Since it otherwise has no PF features, the accent in (68-c) (and only in (68-c)) falls on the specifier of the polarity head—the subject.

- (68) a. *Jon ez da etorri.*
 Jon not has arrived
 ‘John hasn’t arrived.’
- b. *Jon ba da etorri.*
 Jon so has arrived
 ‘Jon has so arrived.’
- c. *IRUNE [_{Aff}] da etorri.*
 Irene has arrived
 ‘Irene has arrived.’

(Laka 1990:105)

Ahn (2012) generalizes Laka’s proposal to account for focus on reflexives in examples like (69).

(69) Q: Who injured Charles

A: Charles injured **himsélf**.

(Ahn 2012:2)

The accent on *himsélf* in (69) is surprising because at first glance the sequence disobeys the well-established principle of Question-Answer Congruence. According to Question-Answer Congruence, an answer must focus the element being questioned, as in (70)

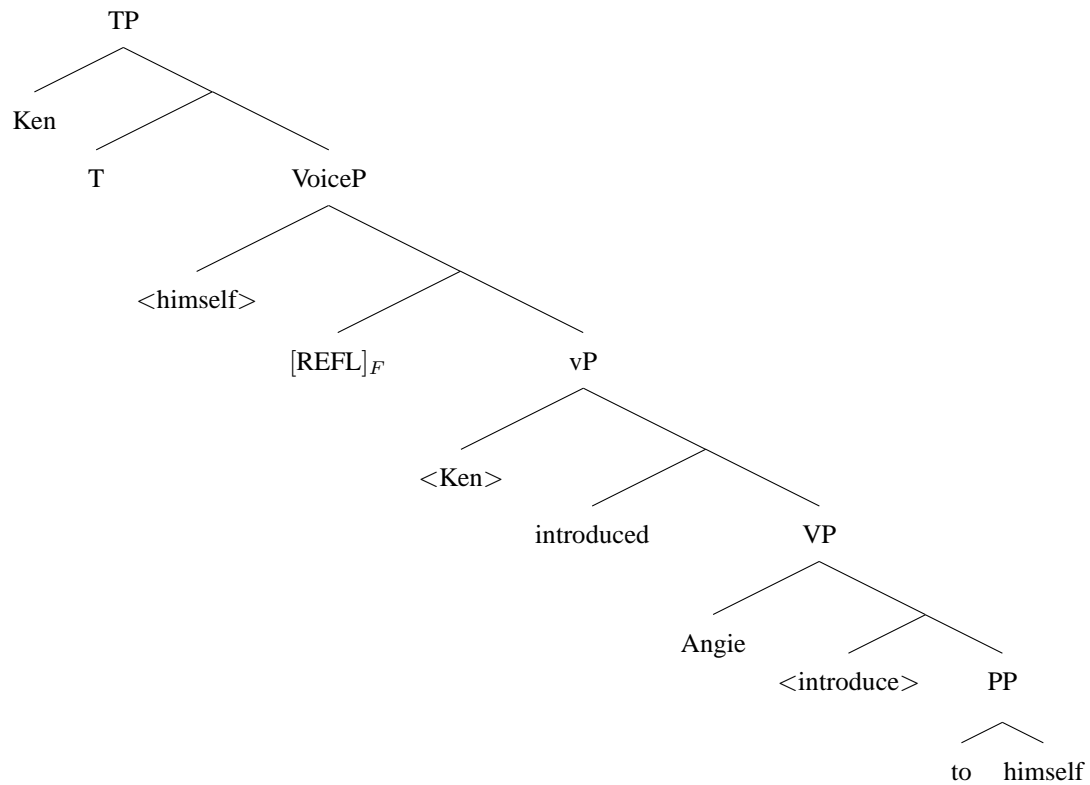
(70) Q: Who injured Charles

A: **Émma** injured Charles.

Ahn proposes, however, that the focus of the answer in (69) is the silent Voice head. According to Ahn, a possible exponent of Voice is a reflexive. When reflexive voice is focused, the pitch accent associated with Focus must fall on the specifier of Voice, which is occupied by a copy of *himsélf* (although it is the lower copy that gets pronounced).

(71) Q: Who introduced Angie to Ken?

A: Ken introduced Angie to **himsélf**



Since ϕ P has no specifier that could bear pitch accent, Ahn's proposal cannot be straightforwardly tested with controlled subjects. We have seen above, however, that focus particles, which are possibly interpreted as contained within ϕ P, cannot bear accent for a focused PRO.

This discussion highlights the crucial difference between defective goals and inherently silent elements. To the degree that we can assess the effects of focus on inherently silent elements, we would expect an inherently silent pronoun to be focused by pitch accent on surrounding material. However, as we have seen, in languages that allow a control subject to be focused at all, focus is associated with an overt realization of a normally silent subject.

The existence of overt controlled subjects provides evidence in favor of my proposal that pronominal silence is derived syntactically. The notion of a defective goal predicts the existence of overt subjects in infinitival clauses if they have a feature that makes them distinct from the matrix Probe. Focus can be understood as such a feature—present on the infinitival subject and absent on matrix v , which Probes the φP for φ -features.⁶ In the next section, however, I revise the original proposal in a way that does not rely on a focus feature.

4.4 The syntax of focus

The preliminary proposal in Section 4.3.3 made use of a syntactic focus feature on the embedded subject to account for the overt realization of $\varphi P_{[i\varphi: _]}$. In this section I reevaluate that proposal in light of existing arguments that such a syntactic feature does not exist. I propose, instead, that the additional features that make a focused $\varphi P_{[i\varphi: _]}$ no longer a defective goal is introduced by a functional head that takes the φP as a complement.

4.4.1 Arguments against a syntactic focus feature

Horvath (2005, 2010, 2013) presents a series of arguments from Hungarian against a focus feature that is active in the syntactic derivation. She specifically argues against the Cartographic position that information structure notions like focus and topic are encoded in the syntax as formal features. According to this position, focus and topic move to the left periphery because the left periphery contains functional heads with

⁶Note that a movement analysis of control can also in principle account for these facts (Bartos 2007), since the silence of controlled subjects on a movement approach is also derived. However, I have discussed the advantages of a defective goal approach to pronominal silence in Chapter 2.

uninterpretable focus and topic features that probe for and Agree with matching interpretable focus and topic features. Hungarian has traditionally been considered a strong argument for the existence of such features because it has clearly identifiable positions in the left periphery for focus and topic (Horvath 1986; Brody 1990).

A telling diagnostic for the location of an element in the left periphery in Hungarian is the position of the verbal prefix (Kiss 2002). Verbs like *fel-vesz*, ‘to take up’ and *fel-hív*, ‘to call up’ contain the separable verbal prefix *fel*. When an element occupies the preverbal focus position as in (73), the prefix follows the verb. However, when the preverbal field only contains a topic, the prefix remains in immediately preverbal position (74).

- (73) *PÉTER vitte fel ezt.*
 Peter took up this.ACC
 ‘PETER took this up’
 (It was Peter who took this up) (Hungarian; Brody 1990:116)
- (74) *Marit fel-hívta János.*
 Mary-ACC up-called John-NOM
 ‘Mary was called up by John.’ (Hungarian; Kiss 2002:3)

That the topic position is a distinct—and higher—syntactic position can be further illustrated by the relative word order in a sentence that contains both topic and focus (the verb introduce is *be-mutat*, which occurs with the prefix post-verbally because János is focused).

- (75) *[TopP Pétert [FocP JÁNOS] mutatta be Marinak]]*
 Peter-ACC John introduced in Mary-DAT
 ‘As for Peter it was John who introduced him to Mary.’

(Kiss 2002:77)

Horvath argues, however, that focus movement cannot be attributed to a [+focus] feature because some focus movement is optional, while instances of feature-driven movement should be obligatory (with interrogative *wh*-movement as a classic example). Specifically, while (73) involves movement to a preverbal position, in (76) the focused phrase can remain in post-verbal position.

- (76) a. *Q: Kiket hívott már meg Anna?*
 who.PL.ACC invited already PERF.PRT Anna.NOM
 ‘Who has Anna (already) invited?’
- b. *A: (Valószínűleg) meg-hívta KATIT ÉS PÉTERT, és talán MARIT is.*
 probably PERF.PRT-invited Cathy.ACC and Peter.ACC and perhaps Mary.ACC also
 ‘(Probably she has invited Cathy and Peter, and perhaps also Mary.’

(Hungarian; Horvath 2010:1356)

Moreover, Horvath points out that not all phrases modified by focus particles behave uniformly. While phrases modified by *csak* ‘only’ obligatorily undergo movement, phrases modified by *meg... is* ‘even’ can remain in a lower, postverbal position (77).

- (77) a. **Mari elkésett csak [a fogdásról].*
 Mary.NOM away-late-was only the reception-from
- b. *Mari elkésett még [az esküvőjéről] is.*
 Mary.NOM away-late-was yet the wedding-her-from also
 ‘Mary was late even for HER WEDDING.’

(Hungarian; Horvath 2010:1355)

Moreover, even when a phrase modified by *meg...is*, ‘even’ does undergo movement into the left periphery, it moves into a different syntactic position from phrases modified by *csak*, ‘only’. Horvath demonstrates that a phrase modified by *csak* forces the verbal prefix to surface postverbally, while a phrase modified by *meg...is* does not.

- (78) a. *Mari csak [a fogdásról] késett el.*
 Mary.NOM only the reception-from late-was away
 ‘Mary was late only for the reception.’
- b. **Mari csak [a fogdásról] elkésett .*
 Mary.NOM only the reception-from away-late-was
- c. **Mari meg [az esküvőjéről] is késett el.*
 Mary.NOM yet the wedding-her-from also late-was away
- d. *Mari még [az esküvőjéről] is elkésett .*
 Mary.NOM yet the wedding-her-from also away-late-was
 ‘Mary was late even for HER WEDDING.’

(Hungarian; Horvath 2010:1355)

Both *even* and *only* are focus particles sensitive to the semantic alternatives of the associated DP, in the sense of Rooth (1992). If a syntactic focus feature existed, the two types of phrases would be predicted to this feature, which would leave unexplained the difference in their landing sites in the left periphery and the optionality of movement for phrases modified by only one of the particles.

Horvath also argues against a more general [+contrast] feature that has been to distinguish between the type of focus that forces movement, and the type of focus that is allowed to remain in situ, as in (76). Horvath demonstrates that contrastive topics, which would be predicted to bear such a feature, do not move to the same

position in the left periphery as focused phrases modified by *only*. Note that the verbal prefix *el-* in (79) surfaces preverbally.

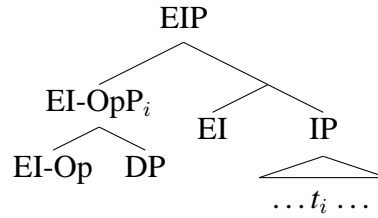
- (79) a. Context: Do you know what they stole from your classmates in the gym?
- b. *Mari el-vesztette az óráját, János (el-vesztette a pénztárcáját...*
 Mary away-lost the watch, John away-lost the wallet
 ‘Mary lost her watch, John lost his wallet.’

(Hungarian; Horvath 2010:1357)

According to Horvath, the crucial interpretational difference between focused elements that move obligatorily to a position that forces the verbal prefix to surface postverbally and focused or contrastive elements that remain in situ or move to a higher position in the left periphery is that the former have an import of exhaustivity. An exhaustivity operation applied to a set identifies the exhaustive, or maximal, subset for which the relevant predicate holds.

Horvath proposes instead that what drives the movement of contrastively focused phrases and phrases modified by *csak*, ‘only’, is the presence of an Exhaustive Identification Operator (EI-Op) within the focused DP, which interacts with the semantics of the focused phrase. The left periphery of the clause contains an Exhaustive Identification Phrase that Probes for the Exhaustive Identification Operator and pipes the entire DP (or φ P) to the specifier of EIP (80). In the most recent formulation Horvath (2013) proposes that the EI-Op takes the DP as its complement, as illustrated below.

(80)



What fundamentally distinguishes the exhaustive identification focus from other types of focus or from contrastive topic, that this notion of focus is associated with a truth-conditional notion. Horvath introduces the Strong Modularity Hypothesis, according to which only such semantically-relevant properties can be encoded by formal features that can enter into an Agree relation.

- (81) *The Strong Modularity Hypothesis for Discourse Features:* No information structure notions—i.e., purely discourse-related notions—can be encoded in the grammar as formal features. (Horvath 2010:1349)

Horvath proposes that the movement of other focused phrases or topics do not involve formal features and are not constrained by syntax; instead they are driven by requirements of the interfaces, specifically by prosodic requirements of information structure module.

4.4.2 Overt controlled subjects and the non-uniformity of contrast

If there is no such feature in Hungarian (or Italian, as argued by Horvath), then we cannot rely on a simple syntactic focus feature to account for the overt realization of $\varphi P_{[i\varphi: _]}$. The main issue that emerges is that it is not only phrases modified by the focus particle *only* and the purported exhaustivity operator that surfaces overtly; all

focus particles are associated with an overt pronoun in control clauses in languages that allow them.

For instance, consider the additive particle *is*, which forces the overt realization of the embedded subject in control clauses, just like embedded subjects modified by the particle *csak*.

- (82) \emptyset_i *nem akar* [$\emptyset_{i/*j}$ / *csak ő_{i/*j} menni busszal*].
 not want.3SG / only he go.INF bus-with
 ‘He/she doesn’t want to be the only one to take the bus.’

(Hungarian; Szabolcsi 2005:621)

- (83) \emptyset_i *nem szeretnék én is el-csúszni*.
 not would.like.1SG I too PRT-slip.INF
 ‘I wouldn’t like for it to be the case that I likewise slip.’

(Hungarian; Szabolcsi 2009b:618)

Judging by the position of the verbal prefix, however, the Hungarian additive particle *is* moves to a higher position than Spec, EIP. Therefore, positing a [+contrast] feature to account for the overt realization of the pronouns would still leave open the issues noted by Horvath, namely that not all focus particles are associated with movement to the same syntactic position. This suggests that a single syntactic feature would be unable to account for both the movement and the overt realization of the embedded subject.

Controlled subjects provide additional evidence against assuming a single syntactic feature like [+contrast] to account for their overt realization. As Szabolcsi (2005) points out, there is an asymmetry in the interaction of Hungarian additive focus particles with controlled subjects. Hungarian, in addition to the additive particle

is that occurs with overt controlled subjects (84-a), has a vP-modifying additive particle, *szintén*, ‘also’. The latter particle does not force the controlled subject to surface overtly.

- (84) a. *Nem szeretnék *(én) is elcsúszni.*
 not would.like.1SG I too slip.INF
 ‘I wouldn’t like for it to be the case that I likewise slip.’
- b. *Nem szeretnék ∅ szintén elcsúszni.*
 not would-like.1SG likewise slip.INF
 ‘I wouldn’t like for it to be the case that I likewise slip.’

(Hungarian; Szabolcsi 2005:618)

It has been previously noted that additive focus particles differ in their syntactic behavior from focus particles like *even* and *only*. The discussion of additive focus particles has centered primarily on German (Reis and Rosengren 1997; Krifka 1999; Sudhoff 2010), and the central observation of this literature is that the stressed form of the additive particle *auch* ‘also’ can appear in a syntactic position unavailable to other types of focus particles—namely following the associated constituent (but not necessarily adjacent to it), as demonstrated in (85). The associated constituent of a focus particle is the element that introduces alternatives that the focus particle interacts with. For example, in (85) the associated constituent is Peter; the meaning of *auch*, ‘also’ includes the presupposition that someone other than Peter, i.e., an alternative to Peter, visited the exhibition.

- (85) *PETER hat die Ausstellung AUCH/ *NUR/ *SOGAR besucht.*
 Peter has the exhibit also/ only/ even visited
 ‘PETER has also/only/even visited the exhibition.’

(German; Krifka 1999:113)

As Krifka points out, this difference between focus particles holds crosslinguistically. Stressed additive, but not scalar or exhaustive particles, can associate with the subject from a postposed position. Even though the string *Cailin eats pasta only* is grammatical, it does not allow the relevant interpretation of *Only Cailin eats pasta*.

(86) Cailin eats pasta too/*only/*even.

(87) *DANI ba gam/ *rak/ *afilu.*
 Dani came also/ only/ even
 ‘Dani came too.’

(Hebrew; Krifka 1999:112)

Moreover, stressed postposed additive particles are able to associate with silent pronouns.

(88) \emptyset *komm bitte auch!*
 come please too!
 ‘Please come, too!’

(German; Krifka 1999:117)

(89) *Er bat sie [\emptyset auch zu kommen].*
 he asked her also to come
 ‘He asked her to come, too.’

(German; Krifka 1999:117)

Krifka (1999) argues that the special properties of the postposed stressed German particle *auch* ‘also’ follow from its association with a contrastive topic rather than with focus. He points out that the intonation pattern assigned to stressed *auch* and its associated constituent is identical to the intonation pattern that marks a contrastive topic and the focus of the comment. A classic example of a contrastive topic is Peter in (90-b); Peter is necessarily a topic, since it is mentioned in the preceding question. However, Peter also contrasts with Pia, which means that the topic is associated with alternatives (i.e., is contrastive). According to Krifka, a contrastive topic

receives a rising accent, while the focus of the comment (*Ausstellung* and *einkaufen*) is marked with a falling accent, as is indicated in the accent marks in the following example.

- (90) a. [What did Peter and Pia do in Houston?]
 b. *Péter hat die Ausstellung besucht und Pía ist einkaufen gegangen.*
 Peter has the exhibition visited and Pia is shopping gone
 ‘Péter visited the exhibition, and Pía went shopping.’
 (German; Krifka 1999:113)

Krifka argues on the basis of this stress pattern that the associate of a stressed additive particle is also a contrastive topic—in (91), the associated constituent receives a rising accent, just like the contrastive topic in (90-b), and *auch* receives a falling accent, just like the focus of the comment.

- (91) *Péter hat die Ausstellung wahrscheinlich auch besucht.*
 Peter has the exhibition probably also visited
 ‘Peter probably visited the exhibition, too.’
 (German; Krifka 1999:113)

Importantly, even though *auch* associates with contrastive topics, its associate can be null (89). Similarly, intonation reveals that the associate of *szintén*, ‘also’, in Hungarian is a contrastive topic (Anna Szabolcsi, p.c.), and as we saw in (84-b) the associate of *szintén* can remain null. This means that contrast is not enough to force the overt realization of a φ P. Therefore, positing the feature [+contrast] would overgenerate, since not every element that would be associated with the features [+contrast] surfaces overtly.

Krifka proposes a diachronic explanation for the ability of *auch* to associate with null elements, but in the following discussion, I propose that it follows from Horvath's distinction between exhaustive identification focus and other types of contrast.

4.4.3 A revised proposal

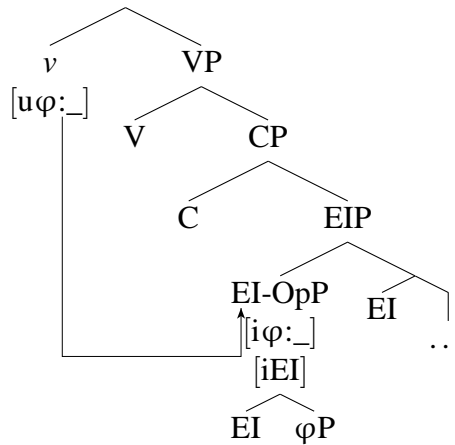
In light of the previous discussion, I present an alternative analysis of the derivational source of overt controlled subjects. Let us first consider exhaustivity focus, whether expressed by an exhaustivity operator or the focus particle *only*. Horvath's proposal that such focus constructions contain an EI-Op that takes the noun as its complement can be integrated straightforwardly with a defective goal approach to the silence of subjects in control clauses. Referentially dependent pronouns in control clauses will surface overtly when the φ P is modified by an EI-Op, because such an operator would introduce an additional projection within the nominal left periphery of the φ P.

Recall the discussion of full DP-pronouns from Chapter 3. In a DP, the φ -features percolate from φ P to D, and the closest instance of φ -features to the probe in C are the φ -features on the DP in Spec, TP. Similarly, when the controlled subject is modified by an EI-Op, the features percolate from the φ P complement of the EI-Op to EI-OpP. When matrix *v* probes for φ -features, it encounters them first on EI-OpP in Spec, EIP. Moreover, just as a D-head introduces definiteness features, EI-Op introduces an additional interpretable EI-feature. Therefore, in the Agree relation for φ -features, the embedded subject will not be a defective goal.

The derivation proceeds as follows: the clausal Exhaustive Identification head in the left periphery would probe for the EI-Op and attract the φ P to its specifier (at

least in Hungarian, which does not allow EI-Op in-situ, movement is obligatory). The matrix v head will probe for φ -features, itself having uninterpretable, unvalued φ -features. The closest phrase that has φ -features is the EI-Op phrase, which has the φ -features of its complement. The pronoun will subsequently Agree with matrix v , and its features will be valued when v probes its specifier. When the v P is complete, EI-OpP will not be a defective goal because the features associated with exhaustive identification are not contained on matrix v .

(92) EI-OpP is not a defective goal with respect to matrix v



A potentially important difference between EI-OpP and DP, however, is that while DPs are generally considered to be phases as mentioned in Chapter 3, EI-OpPs do not contain a D-layer when they modify a φ P. If, as I proposed in Chapter 3, percolation of interpretable features is indeed constrained by phase boundaries, it is not obvious why the interpretable φ -features do not percolate higher than EI-OpP.⁷ A

⁷The present proposal pertains specifically to interpretable features; it seems undesirable and empirically incorrect to extend the same proposal to uninterpretable features. For instance, the uninterpretable EI-feature in the left periphery would be expected to percolate to every projection in the CP-domain, and therefore, it would be impossible to identify a unique landing site for exhaustively

possible answer is mentioned in footnote 11 in Chapter 3. A number of recent proposals have treated phases as dynamic, rather than immutable domains (Bošković 2012; Bobaljik and Wurmbrand 2005; Wurmbrand to appear; Wurmbrand and Bobaljik 2013), where the highest projection in any cyclic domain is the potential phase head—therefore, even though a CP is a phase, something smaller than a CP can be a phase if it is not the complement of C, but rather of a head that belongs to a different domain. Similarly, EI-OpP is the highest projection that belongs to the domain containing the φ P—the domain ends when EI-OpP is merged with ν , which is part of a different phase.⁸

Let us now turn to overt controlled subjects that lack an EI-Op according to Horvath. Recall the observation that associates of the focus particle *is* must surface overtly, while the associate of the adverbial *szintén* must remain overt, even though the latter can be analyzed as contrastive topics. There is an important, if obvious

focused phrases, contrary to fact, as demonstrated by Hungarian. The fundamental asymmetry between uninterpretable and interpretable features is that every instance of the former acts as a probe, while not every instance of an interpretable feature has to enter into an Agree relation.

⁸Note that the percolation of φ -features is somewhat more constrained than the percolation of *wh*-features. A *wh*-feature can percolate from the specifier of a DP to the entire DP; note that the entire DP undergoes *wh*-movement. By contrast, subject-verb agreement cannot (in most cases) target the features contained within the specifier of a DP.

- (i) Whose book did you find?
- (ii) *My book am on the table.

The difference may lie in a tentative proposal made in footnote 11 in Chapter 3. There, I proposed that the further percolation of features is blocked if the head that they would percolate to already contains a specification for the same feature. The DP *book* is already specified for φ -features; therefore, they cannot percolate to D from its specifier. By contrast, the DP is not specified for a *wh*-feature, which means that the *wh*-feature can percolate to the entire DP. This same approach can also explain why the φ -features on EI-OpP do not percolate to ν P— ν enters the derivation with its own φ -features.

syntactic distinction between Hungarian particles *szintén* and *is*; they differ in the size of the syntactic constituent that they modify. While *szintén* is an adverb and modifies the *vP*, *is* modifies different kinds of XPs, including DPs.

We see a similar contrast crosslinguistically. For instance, Russian has distinct lexical items for constituent-modifying additive particles and *vP* modifying additive particles. The equivalent of sentential *too* is *tože*. The constituent-modifying additive particle in Russian is *i*, which is identical to the word for *and*.

- (93) *Petju, ja tože ljublju.*
 Peter I also love
 ‘Peter, too, I love’
- RUSSIAN

- (94) a. *I ja ljublju Petju.*
 and I love Peter
 ‘I, too, love Peter.’
- b. *I Petju ja ljublju.*
 and Petja.ACC I love
 ‘Petja, too, I love.’
- RUSSIAN

Like Hungarian *is*, only the DP-modifying additive particle in Russian is incompatible with silent subjects.

- (95) RUSSIAN
- a. *Ja xoču ∅_i tože vyigrat’ lotterēju.*
 I want also win.INF lottery
 ‘I want it to be the case that I, too, win the lottery.’
- b. **Ja xoču [i ∅] vyigrat’ lotterēju.*
 I want and also win.INF lottery
 ‘I want it to be the case that I, too, win the lottery.’

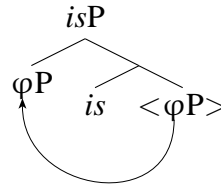
To summarize the discussion: contrastive controlled subjects surface overtly when they are modified directly by a focus particle, but they remain silent when associated with a ν P adverb. I propose that this distinction is crucial—a φ P_[i φ : _] modified by *is* in Hungarian must surface overtly because it is the presence of *is* that prevents the embedded subject from being a defective goal.

Horvath’s Strong Modularity Hypothesis posits that notions of information structure, such as contrast, topic, and focus, cannot be encoded by formal features. Therefore, movement into the left periphery seems linked to information structure cannot have its source in an uninterpretable feature in the left periphery that probes for a matching feature in its c-command domain. Horvath’s approach explains straightforwardly why the contrastive topic associates of adverbial ‘also’ remain silent crosslinguistically. Even though they are contrastive topics, the notion of contrastive topic does not add any features to the φ P that would prevent the embedded subject from being a defective goal with respect to a φ -probe.

What about phrases modified by particles like *is*? I propose that *is* contains a set of formal features, but not ones that encode any notions associated with information structure. Recall the discussion from Chapter 2 of different types of formal features; the particle *is* has both categorial and selectional features that determine which phrases it can be Merged with—it can attach to both φ Ps or DPs, for instance. I will label the categorial feature of *is* as [+particle], even though this is a purely descriptive label for a set of features that account for the syntactic distribution of focus particles. Moreover, *is* contains an EPP feature that attracts the phrase that it modifies to its own specifier. Similar to EI-Op, additive particles head a phrase that takes a φ P

or a DP as a complement. In Hungarian (as in English), it also attracts the modified element to its specifier.⁹

(96)

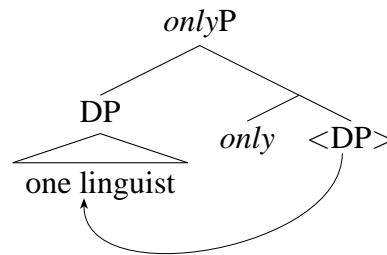


This proposal for the syntactic representation of exhaustive focus is largely in the spirit of Brennan's (2008) account of sentence-final *only*.

(97) John spoke to one linguist only.

Brennan argues that sentence-final *only* modifies the object DP. He proposes that *only* heads a projection in the extended DP periphery, which attracts the modified DP to its specifier (98).

(98)



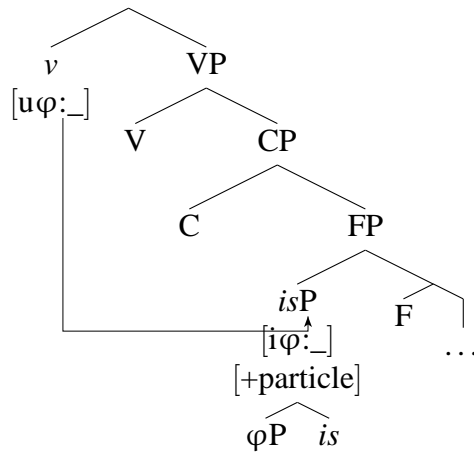
Subsequently *onlyP* is attracted to the specifier of a clausal *onlyP* (in the sense of Kayne 1998), which Brennan argues is silent when another *onlyP* fills its specifier.

⁹Note that $\varphi P_{[\bar{i}\varphi: _]}$ lacks any selectional features, since it does not take an NP complement; its category is φ , which happen to be the only features the φP has.

Similar to this proposal, I will assume that the EI-Op heads a projection in the nominal left periphery, instead of being an adjunct.¹⁰

When a φ P is the complement of *is*, the phrase containing the pronoun is not a defective goal with respect to matrix v in Hungarian control constructions. The φ -features of φ P percolate to *is*P, and when matrix v probes, the closest set of φ -features that it encounters will be on *is*P. Since *is*P contains the categorial features of *is*, in addition to φ -features, the embedded subject will not be a defective goal and will surface overtly. I remain agnostic about the nature of the position to which *is*P moves in the left periphery, but I have marked it as FP below.

(99) *is*P is not a defective goal with respect to matrix v



Therefore, the alternation between overt and silent pronouns in obligatory control contexts is similar to the alternation between overt and silent subjects in Rus-

¹⁰It is worth noting that a defective goal approach provides a possible (if tentative) explanation for the silence of a clausal head like *only* in case it attracts an *only*P to its specifier—assuming that clausal *only* has no features other than those attributable to the lexical item *only*, its features are a subset of the features of the *only*P in its specifier, which means that it may be deleted like a lower copy of *only*P.

sian finite embedded clauses—certain pronouns have additional features introduced by functional heads that take the pronouns as a complement, which, in turn, means that the newly formed phrase is no longer a defective goal with respect to probes that Agree with them in φ -features. The difference, however, between the alternation discussed in Chapter 3 and the present chapter is that referentially dependent overt pronouns in control clauses have unvalued φ -features.

What makes exhaustivity focus special is that it is associated with an additional feature (EI) regardless of whether or not an overt particle modifies the φ P. By contrast, when the embedded subject is any other type of focused or topic, an overt particle must be present to add an extra feature to the subject to make it not a defective goal. This explains why contrastive topics must remain silent, while exhaustive foci surface overtly in Hungarian.

4.4.3.1 Additional DP-internal modifiers of defective goals

Korean provides additional evidence that a functional head that takes φ P as a complement is responsible for the extra feature that prevents controlled subjects from being defective goals. As mentioned earlier, Madigan (2008) demonstrates that Korean control constructions allow both silent and overt subjects. The verbs ‘promise’ and ‘insist’ in (100)–(102) are obligatory subject control verbs, which take a nonfinite complement clause marked with the volitional mood marker *keyss*. The embedded subject can be overt or silent, but in either case it is obligatorily referentially dependent on the matrix subject. The form of the overt controlled subject depends on person—identical to the long-distance subject oriented reflexive, *caki* in third person or identical to nominative pronouns in first and second person.

- (100) *Inho-ka_i Jwuhi-eykey_j Ø_{i/*j} / caki-ka_{i/*j} cip-ey ka-keyss-ta-ko*
 Ihno-NOM Jwuhi-DAT / self-NOM home-LOC go-VOL-DC-C
yaksok-ha-yess-ta.
 promise-do-PST-DC
 ‘Inho_i promised Jwuhi (SELF_i) to go home.’
 (Korean; Madiagan 2008:237)
- (101) *Na-nun_i Inho-eykey_j Ø_{i/*j} / ney-ka cip-ey_{i/*j} ka-keyss-ta-ko*
 I-TOP Inho-DAT / I-NOM home-LOC go-VOL-DC-C
yaksok-ha-yess-ta.
 promise-do-PST-DC
 ‘I promised Inho that I would go home.’
 (Korean; Madiagan 2008:248)
- (102) *Ne-nun Inho-eykey Øni-ka ilccik ttena-keyss-ta-ko kocip-ha-yess-ta.*
 you-TOP Inho-DAT you-NOM early leave-VOL-DC-C insist-do-PST-DC
 ‘You insisted to Inho that you would leave early.’
 (Korean; Madiagan 2008:248)

Madigan distinguishes controlled *caki* from its use as a long-distance anaphor. While *caki* is obligatorily subject oriented in a finite a clause (103), it is referentially dependent on the matrix object in object obligatory control constructions (104).

- (103) *Chelswu-ka_i Yengswu-eykey_j caki-ka_{i/*j} kong-ul tenci-ess-ta-ko*
 Chelswu-NOM Yengswu-DAT self-NOM ball-ACC hit-PST-DC-C
mal-ha-yess-ta.
 tell-do-PST-DC
 ‘(lit.) Chelswu_i told Yengswu_j that SELF_{i/*j} hit the ball.’
 (Korean; Madiagan 2008:242)
- (104) *Inho-ka_i Jwuhi-eykey_j caki-ka_{*i/j} cip-ey ka-la-ko mal-ha-yess-ta.*
 Inho-NOM Jwuhi-DAT self-NOM home-LOC go-IMP-C tell-do-PST-DC
 ‘(lit.) Inho_i told Jwuhi_j SELF_{*i/j} to go home.’
 (Korean; Madiagan 2008:248)

Madigan demonstrates that the overt subjects has the same reference as obligatory control PRO. When *caki* is used as a long-distance reflexive, it can be separated from its antecedent by several clause boundaries, the overt *caki* must be bound by the subject in the next highest clause. Madigan also mentions that only a *de se* interpretation is available for *caki* in obligatory control contexts, just like in Hungarian.

- (105) *Jwuhi-ka_i Inho-ka_j caki-ka_{i/j} kong-ul tenci-ess-ta-ko*
 Jwuhi-NOM Inho-NOM self-NOM ball-ACC throw-PST-DC-C
mal-ha-yess-ta-ko cwucang-ha-yess-ta.
 tell-do-PST-DC-C assert-do-PST-DC
 ‘(lit.) Jwuhi_i claimed/asserted that Inho_j said that self_{i/j} threw the ball.’
 (Korean; Madigan 2008:239)

- (106) *Jwuhi-ka_i Inho-ka_j caki-ka_{*i/j} ttena-keyss-ta-ko yaksok-ha-yess-ta-ko*
 Jwuhi-NOM Inho-NOM self-NOM leave-VOL-DC-C promise-do-DC-C
sayngkak-ha-yess-ta.
 think-do-PST-DC
 ‘(lit.) Jwuhi_i thought that Inho_j promised self_{*i/j} to leave.’
 (Korean; Madigan 2008:241)

It has been noted before in the literature that Korean allows overt controlled subjects (Yang 1984; Borer 1989). Madigan’s work, however, highlights the similarity of the Korean constructions to the data from Hungarian, Italian, and European Portuguese discussed in Section 4.2. Madigan also argues that, in Korean, overt pronouns in control contexts receive a contrastively focused interpretation, specifically one that has an exhaustive identification reading.

Madigan does not discuss, however, whether overt controlled subjects are compatible with any other modifiers in addition to the nominative case-marker. I

have found that similar to Hungarian, Italian, and Portuguese, Korean allows the embedded subject to be modified by focus-sensitive particles like *only*.

- (107) *Ne-nun_i Inho-eykey ne-man_i ilik ttena-keyss-ta-ko*
 you-TOP Inho-DAT you-only(-NOM) early leave-VOL-DC-C
kocip-ha-yess-ta.
 insist-do-PST-DC
 'You insisted to Inho that only you would leave early.'
 (Korean; Sang-Im Lee-Kim p.c.)

- (108) *Inho-ka_i Jwuhi-eykey_j caki-man_{i/*j} cip-ey ka-keyss-ta-ko*
 Inho-NOM Jwuhi-DAT self-only home-LOC go-VOL-DC-C
yaksok-ha-yess-ta.
 promise-do-PST-DC
 'Inho_i promised Jwuhij₂ that only he_{i/*j} would go home.'
 (Korean; Sang-Im Lee-Kim p.c.)

Moreover, unlike the languages we have looked at thus far, however, Korean has an overt topic marker, *nun*, that attaches to DPs (Lee 2003). This marker indicates roughly what the utterance is about.

- (109) *sakwa-nun John-i mek-ess-ta.*
 apple-TOP John-NOM eat-PST-IND
 'Speaking of the apple, John ate it.'
 (Korean; Han 1996:103)

- (110) *Mary-ka John-un ttwungttwunghata-ko mal ha-yess-ta.*
 Mary-NOM John-TOP fat-C say do-PST-IND
 'Speaking of John, Mary said that he is fat.'
 (Korean; Han 1996:106)

It turns out that Korean also allows the topic marker *nun* to modify *caki* in obligatory control clauses. According to my informants, there is a difference in inter-

pretation between focused overt controlled subjects and ones bearing a topic marker. Unlike *caki-man* in (107) and (108), *caki-nun* in (111) is not interpreted as containing exhaustive identification focus.; the interpretation of the embedded subject is best paraphrased with the English ‘as for him’.¹¹

- (111) *Inho-ka_i Jwuhi-eykey_j [caki-nun_{i/*j} cip-ey ka-keyss-ta-ko]*
 Inho-NOM Jwuhi-DAT self-TOP home-LOC go-VOL-DC-C
yaksok-ha-yess-ta.
 promise-do-PST-DC
 ‘Inho promised Jwuhi that, as for him, he would go home’

(Korean; Sang-Im Lee-Kim, p.c.)

The Korean data are consistent with the pattern revealed by Hungarian—aside from exhaustive identification contexts, only overt markers of contrast, whether *is* in Hungarian or *nun* in Korean, can force defective goals to surface overtly. This is in line with Horvath’s proposal, in which there is no syntactic feature associated with [+contrast] or [+topic], once we assume that an overt topic marker is a functional head that takes the φ P as a complement. This functional head must come with some combination of categorial/selectional/EPP features.¹² By contrast, exhaustively fo-

¹¹Ji Young Shim (p.c.) points out, however, that for her the use of the topic marker with controlled *caki* is more marked and more contrastive than the nominative case marker. The contrast in interpretation between the markers *-man* and *-nun* does suggest that *caki-nun* is a contrastive topic rather than exhaustive identification focus, but the precise interpretation of *caki* with and without the topic marker *nun* merits further investigation.

¹²There is a possible counterexample from Italian in Cardinaletti (1999:80), where a topicalized PRO surfaces overtly despite lacking an overt topic marker.

- (i) *Il Rettore ha deciso [di aprire lui IL CONVEGNO, no la seduta].*
 the Dean has decided to open he the conference not the meeting
 ‘The Dean decided that he should be the one to open the conference, not meeting.’

Cardinaletti points out that Italian does not generally permit two foci in the same sentence, which means that the overt embedded subject should be considered a contrastive topic. Moreover, a focused

cused controlled subjects are overt regardless of whether the exhaustivity operator is itself overt or null.

There is another example of nominal modifiers that can only modify controlled subjects in languages that have an overt realization of PRO. Many other nominal modifiers (like adjectives) are generally incompatible with pronouns, and, therefore, we would not expect to see them with controlled pronouns either. Quantifiers, however, commonly modify pronouns.

- (112) a. All of them
 b. Three of us
 c. Many of you

It is well known that quantifiers can also occur in a “floated” position to the right of the associated DP. Sportiche (1988) and Balitn (1995) note an interesting restriction on the occurrence of quantifiers with PRO—a floating quantifier cannot occur in SpecTP of an infinitival control clause (113-a), (113-b), but is acceptable in a raising clause (113-c).

- (113) a. ?*They tried all to be friendly to us.
 b. *They were eager all to leave at once.
 c. They seemed all to be friendly to us. (Baltin 1995:224)

This asymmetry can be understood in terms of the proposal developed in the previous section. Recall that English does not allow focus particles to modify PRO.

subject pronoun would normally follow the direct object, not precede it, providing further evidence that *lui* is not exhaustively focused. The precise interpretation of *lui* in this example merits further investigation.

- (114) *John hated [only \emptyset to leave.]

If PRO were modified by a floating quantifier (in other words if the entire QP were to raise to SpecTP without stranding the quantifier), PRO would not be a defective goal with respect to matrix T, and English does not allow PRO to surface overtly. No such restriction exists for raising, however, because the subject of the embedded clause raises to matrix clause overtly.

By contrast, in European Portuguese, which has an overt realization of $\varphi P_{[i\varphi: _]}$, quantifiers are able to modify the subject of a control clause—and, as predicted, the subject surfaces overtly:

- (115) *Pensamos falar alguns de nós / vários de nós / muitos de nós com*
 think.1PL to-speak some of us / several of us / many of us with
ela.
 her
 ‘Some of us / several of us / many of us intend to talk to her.’

(European Portuguese; Barbosa 2009:104)

It might seem intuitively unsurprising that a silent pronoun cannot be modified by an overt phrase. However, if one adopts traditional assumptions that certain pronouns, like *pro* and PRO, are inherently silent, then there is no principled explanation for the impossibility of overt modifiers of such silent elements. Moreover, it is not true that overt modifiers cannot ever modify silent pronouns. The behavior of quantifiers highlights an interesting difference between two different mechanisms for deriving silence. NP-ellipsis is perfectly compatible with overt quantifiers (116).

- (116) There were several girls playing in the park. Two/some/many \emptyset fell.

The source of the difference may be in the position of the functional head that is responsible for the silence of the pronoun. According to Merchant (2001), in ellipsis the feature that licenses ellipsis is on the head that takes the elided constituent as a complement; therefore, the relationship between the elided element and the licenser of ellipsis is more local than the Agree relation that licenses the derivation of φ P.

4.5 Conclusion and outstanding issues

This chapter focused on an alternation between overt and silent pronouns in obligatory control contexts in a number of languages, including Hungarian, Italian, European Portuguese and Korean. A distinctive property of this alternation is that the form of the subject pronoun does not determine its reference. Unlike other contexts where referential dependence and silence are linked, in obligatory control contexts, overt and silent pronouns are equally referentially dependent.

- (117) \emptyset_i *nem akar* [$\emptyset_{i/*j}$ / *csak ő_{i/*j} menni busszal*].
 not want.3SG / only he go.INF bus-with
 ‘He/she doesn’t want to be the only one to take the bus.’

(Hungarian; Szabolcsi 2005:621)

- (118) *Gianni_i odierrebbe andare* $\emptyset_{i/*j}$ / *anche lui_{i/*j} a Milano*.
 Gianni would-hate.3SG go.INF / also he to Milan
 ‘Gianni would hate it if only/also he went to Milan.’

(Italian; Szabolcsi 2009a:2)

- (119) *Só o João_i detestou resolver $\emptyset_{i/*j}$ / só ele_{i/*j} o problema.*
 only the João hated solve.INF / only he the problem
 ‘Only João hated it that only him solved the problem.’

(European Portuguese; Barbosa 2009:106)

This alternation between overt and silent pronouns is, in fact, predicted by the theory of pronominal silence developed in this dissertation. An important claim of the defective-goal approach is that referentially dependent subjects are not inherently silent, but that their silence follows from the syntactic derivation. A $\varphi P_{[i\varphi: _]}$ that is normally a defective goal in an Agree relation that values its φ -features is expected to surface overtly if its features are not a subset of the features on the φ -probe.

The discussion in this chapter has highlighted the importance of the syntactic derivation to the link between the interpretation and phonetic realization of a pronoun. A number of approaches to the syntax of pronouns have previously argued that the internal structure of a pronoun determines both its phonology and its referential possibilities. Thus, a particular phonetic form corresponds consistently either to a pro-DP or to pro- φ Ps for Déchaine and Wiltschko (2002) or to a weak or strong pronoun for Cardinaletti and Starke (1999). In this chapter, we have seen that even though the syntax of a pronoun determines its referential possibilities (φ Ps are referentially dependent; DPs are referentially independent), their phonological expression depends on the syntactic derivation and on the Agree relations that it enters into. The same pronoun (e.g., *lui* in Italian or *ele* in European Portuguese) can have two distinct syntactic sources, and these sources determine the reference of the pronoun. In other words, a strong pronoun in Italian can originate as a full DP with independent reference, or it can originate as a $\varphi P_{[i\varphi: _]}$ —a referentially dependent pronoun which

is usually silent because of its defective-goal status. However, in the presence of focus, $\varphi P_{[i\varphi: _]}$ must be spelled out overtly, and appears identical in form to a strong pronoun.

The goal of second half of this chapter was to isolate the syntactic properties of overt controlled pronouns that prevent them from being defective goals with respect to matrix v . While the referential possibilities of overt controlled pronouns match the referential possibilities of silent pronouns, overt pronouns in control contexts are additionally associated with focus. I proposed, following Horvath (2005, 2010, 2013), that only exhaustive identification focus is represented syntactically by an [EI] feature. This [EI] is introduced by a functional head that takes the $\varphi P_{[i\varphi: _]}$ as a complement, and, subsequently, the larger phrase is a (non-defective) goal for the matrix φ -probe. I argue that other instances of overt $\varphi P_{[i\varphi: _]}$ are dependent on the presence of an overt focus or topic marker that takes the $\varphi P_{[i\varphi: _]}$ as a complement and introduces additional categorial features, which prevent the larger phrase from being a defective goal relative to the φ -probe on matrix v . The present proposal accounts for the asymmetry between contrastive topics and exhaustive identification foci in their ability to force controlled subjects to surface overtly.

4.5.1 Crosslinguistic variation

The general approach developed in this dissertation predicts that the subject of a control clause should always be overt when focused because it has more features than the Probe that it Agrees with. However, Szabolcsi (2009a) identifies a number of languages, including Russian, English, Finnish, and German that disallow overt subjects in obligatory control clauses.

(120) *John would hate only HE to leave.

(121) **Petja nenavidel ezdit' tol'ko on na avtobuse.*
 Petja hated ride.INF only he.NOM on bus
 'Petja hated being the only one to ride the bus.'

What distinguishes languages that allow overt pronouns in control clauses from those that do not? When we consider the data, four different patterns emerge. First of all, it seems that at least among the languages considered in the typological analysis in Szabolcsi (2009a), null-subject languages uniformly allow PRO to be realized overtly. The languages that Szabolcsi found to allow overt controlled subjects include Spanish, Romanian, Hungarian, Italian, and European Portuguese. Non-null subject languages, like English, German, and Dutch categorically prohibit a subject in embedded clause (Szabolcsi 2009a).

It is partial null-subject languages, however, that behave inconsistently with respect to overt pronominal subjects in infinitival clauses. According to Szabolcsi, some partial null subject languages, including colloquial Brazilian Portuguese, seem to allow overt PRO. By contrast, Finnish and Russian prohibit overt subject pronouns in control clauses. These four patterns are summarized in the chart below.

(122)

	English	Hungarian	BP	Russian
Finite-matrix	only overt	silent/overt	only overt	only overt
Finite-embedded	only overt	silent/overt	silent/overt	silent/overt
Infinitival	only silent	silent/overt	silent/overt	only silent

Barbosa (2009), drawing on Szabolcsi (2009a), points out the link between the availability of null subjects in matrix clauses (*pro*-drop) and the availability of overt subjects in infinitival clauses. She proposes an analysis for this correlation within the framework of Landau's (2004) calculus of control. For Barbosa, the especially relevant aspect of Landau's calculus is the association of a [-R] feature with referentially dependent nominal elements (in the sense of Reinhart and Reuland 1993).

Barbosa derives the crosslinguistic differences in the availability of overt controlled subjects from the nature of the agreement affix (Agr) on T. She assumes that in null-subject languages, Agr is pronominal (and thus able to check the EPP feature of T). More specifically, Agr has valued, but uninterpretable ϕ -features. It is merged directly in T, valuing T's ϕ -features, and then Agrees with the infinitival subject. Landau (2004) proposes that infinitival T has a [-R] feature that must be checked by a [-R] subject. However, in null-subject languages Agr, being pronominal, is itself [-R], and can check the corresponding feature on T. This leaves the infinitival subject free to be a full, referentially independent (overt) pronoun (which must nevertheless Agree with the controller, accounting for its referentially dependent interpretation).

However, the difficulty facing an analysis that ties the availability of overt PRO to the null-subject status of a language is that the implication works only in one direction. While all null subject languages seem to allow overt PRO, a language like Brazilian Portuguese allows overt PRO without having matrix null subjects; in other words, T in Brazilian Portuguese cannot be analyzed as pronominal, which means that we would not expect Brazilian Portuguese to allow overt subjects in embedded control clauses, contrary to fact. There must be an additional parameter that distinguishes languages that have overt subjects in infinitival clauses

Szabolcsi (2009a) proposes a different approach to crosslinguistic variation. She notes an additional pattern in the data—all languages that allow overt subjects of control clauses also allow subjects of raising clauses to remain in the infinitival clause. Moreover, Finnish and Russian also allow subjects of raising constructions to remain within the embedded clause, making the set of languages that have overt PRO a subset of the languages that have overt infinitival subjects in raising constructions. Szabolcsi accounts for this relationship by proposing two parameters, one of which depends on the settings of the other. The first way in which languages differ is whether or not a given language allows the long-distance transmission of features (long-distance Agree). The first parameter is meant to account for the possibility of a raising subject to remain within the infinitival clause. The second parameter establishes whether a language allows more than one nominal element to agree with the same finite verb. A language must allow long-distance agreement to allow more than one element to agree with the same functional head. Under such an approach, Finnish and Russian would allow long-distance agreement, but not multiple agreement with the same head.

It seems, however, that in control constructions, Russian does allow multiple agreement with the same finite verb. Recall that secondary predicate agreement in Russian reveals the case on PRO, and that the case assigned independently in infinitival clauses is dative, not nominative. As Landau (2008) demonstrates, we see nominative case on PRO only in subject control constructions where the controller agrees with the finite verb (123). A dative experiencer verb as in (124) does not allow nominative-marked PRO. According to Landau (123) is indicative of matrix T agreeing with both matrix and embedded subject. Therefore, an analysis in terms of

multiple agree cannot explain the absence of overt PRO in Russian, where multiple agree appears to be possible, but only when the second goal remains silent.

- (123) *Petja popytalsja počinit' mašinu sam/*samomu.*
 Petja.NOM tried fix.INF car sefl.NOM/SELF.DAT
 'Petja tried to fix the car by himself.' RUSSIAN
- (124) *Pete nravitsja xodit' v školu *odin/odnomu.*
 Petja.DAT liked go.INF in school alone.NOM/ALONE.DAT
 'Petja liked going to school alone.' RUSSIAN

Madigan (2008) offers a different way to account for the availability of overt controlled subjects in Korean but not in English. Recall that in Korean, overt controlled subjects are identical in form to the subject anaphor *caki* (125). Madigan proposes that certain languages, like English, simply lack a lexical item that is capable of being controlled (which he defines as a pronoun that is obligatorily *de se*).

- (125) *Inho-ka_i Jwuhi-eykey_j Ø_{i/*j} / caki-ka_{i/*j} cip-ey ka-keyss-ta-ko*
 Inho-NOM Jwuhi-DAT / self-NOM home-LOC go-VOL-DC-C
yaksok-ha-yess-ta.
 promise-do-PST-DC
 'Inho_i promised Jwuhi (SELF_i) to go home.'

(Korean; Madiagan 2008:237)

We have seen, however, that languages like European Portuguese and Hungarian do not have special lexical items that are obligatorily interpreted *de se*; overt controlled subjects are identical in form to regular subject pronouns pronoun, and they only receive an obligatory *de se* reading in infinitival control clauses. Therefore, it remains unclear what prevents the English pronoun *he* from replacing PRO in infinitival control clauses.

It is possible to view the lexical gaps from a slightly different, though related, perspective. Given the defective goal approach developed in this dissertation, languages like Russian and English could both be said to lack referentially dependent lexical items that are larger than a φ P—there are no DPs, or EI-OpPs with unvalued φ -features, only φ Ps. This possibility is independently mentioned in Chapter 3, Section 3.3.5 to account for the requirement that referentially dependent pronouns in Russian finite clauses be φ Ps. On this approach, EI-Op and D in English and Russian would require that their complement have valued φ -features, which prevents them from combining with $\varphi P_{[i\varphi: _]}$. The fundamental question, however, that still remains to be answered is what property of null-subject languages allows them to have EI-OpPs with unvalued φ -features. It appears that, at present, there is no satisfying solution to the puzzle of crosslinguistic variation in the availability of overt controlled subjects. I leave the investigation of the issues raised in this section to future research.

Korean, however, raises another interesting typological question. In this chapter we saw two languages—Korean and Tamil—that use anaphors rather than pronouns to realize $\varphi P_{[i\varphi: _]}$ overtly. Both of these languages have null subjects in finite clauses, making them consistent with the original null-subject generalization. What determines whether a language uses a pronoun or an anaphor to express PRO? One explanation for the use of a long-distance anaphor in control clauses is that it specifically lexicalizes a pronoun that is smaller than a DP but contains additional structure on top of a φ P, such as an exhaustivity operator. Since overt PRO is not a full DP, if a language has a pronoun that lexicalizes a chunk of nominal structure that is smaller than a DP (but larger than a φ P), economy conditions will dictate the use of that

item rather than a full DP. I predict, therefore, that all languages with long-distance subject anaphors would use them in control clauses.

Chapter 5

Conclusion

In this dissertation I have developed a syntactic account of the link between the silence of pronouns and their referential dependence. I extended Roberts' (2010) notion of defective goal (1) to formulate a theory of derived pronominal silence.

- (1) **Defective Goal:** A Goal *G* is defective iff *G*'s formal features are a proper subset of those of *G*'s Probe. (Roberts 2010:62)

There are several distinctive properties of a defective-goal theory of silent referentially dependent pronouns. First of all, probes and defective goals stand in a fundamentally asymmetric relationship—the probe must c-command the goal and contain all of the goal's features. Second, the notion of a defective goal applies at the end of each phase; until that point, a defective goal is treated like any other goal in an Agree relation; for instance, it can raise to Spec,TP to fulfill the EPP.

Chapter 2 focused on applying the theory of defective goals to derive the obligatory silence of subjects in obligatory control constructions. The application of

the theory rests on two fundamental assumptions: first, that such referentially dependent pronouns are structurally and featurally minimal elements, consisting exclusively of unvalued, interpretable φ -features. The second assumption is that control relations are derived via the operation Agree (Landau 2004, 2008). In Chapter 2, I demonstrated the advantage of a defective-goal analysis of PRO's silence relative to other approaches.

Chapter 2 also raised a number of questions that I plan to address in future work. First of all, this dissertation has not yet fully accounted for the distribution of $\varphi P_{[i\varphi: _]}$. We see that control is only possible into the subject position of an infinitival clause, although both subjects and objects may be controllers. This raises two separate questions, first of all, what ensures control of the subject position in an infinitival clause, and what prevents control into a different position, particularly into the object position of the matrix clause.

Let us first consider the former question: what is the source of the requirement that the subject of an infinitival control clause be referentially dependent and, thus, silent? This seems to be a requirement enforced by certain matrix verbs, like *try*, which demand an infinitival control complement. One way to enforce such a requirement would be for the matrix verb to select a CP that has no valued φ -features, parallel to the way that C can select a TP with valued φ -features, as I have tentatively proposed in Chapter 3.

The question of object PRO is somewhat trickier. As mentioned at the end of Chapter 2, referentially dependent objects never surface as silent, even in languages that otherwise have object *pro*-drop. A traditional GB approach prohibits PRO in object position because PRO cannot bear case; however, the opposite has been well

established in the literature. The use of a SE-anaphor rather than \emptyset in embedded subject position of Dutch ECM constructions suggests the possibility of an antilocality condition that dictates the distribution of $\varphi P_{[i\varphi: _]}$; for example, it is possible that a defective goal cannot be in the same potential phase as a probe that also agrees with its specifier. However, the underlying reason for such antilocality condition remains to be elucidated.

The absence of $\varphi P_{[i\varphi: _]}$ in object position raises another related question—where else might we expect to see defective goals? The subject position of embedded clauses seems to strike a unique combination of being in the same phase and matrix functional heads and being far enough from matrix v to fulfill the antilocality condition on double Agree mentioned above. One possible extension of the theory of defective goals is the silence of certain functional heads—consider, for example Cinque’s (1999) proposal that adverbs are merged in the Specifier of dedicated clausal functional heads. These heads are most often null, although they can have an overt realization. One possible analysis is that the functional head is a defective goal with respect to the adverbial element in its specifier, and, therefore, the functional head receives no overt realization.

Chapters 3 addressed the interaction of defective goals with phasal Spell Out. The empirical focus was on an alternation between silent and overt pronouns in Russian finite embedded clauses, where null pronouns were obligatorily referentially dependent on the matrix subject (finite control), while overt pronouns were optionally referentially dependent (2).

- (2) *Petja_i skazal [čto vesnoj $\emptyset_{i/*j}$ / on_{i/*j} poedet v Pariž].*
 Petja said that spring / he.NOM will-go.3SG in Paris
 ‘Petja said that he will go to Paris in the spring.’

I proposed that the obligatory referential dependence of silent pronouns and the optional referential dependence of overt pronouns can both be explained by the interaction between the features on embedded C and the features on the embedded subject. Specifically, whether a phase head blocks an Agree relation between the embedded subject and a matrix functional head depends on the features of the embedded subject. If the embedded subject is a $\varphi P_{[i\varphi: _]}$, the φ -features on embedded C are not valued by the time the CP phase is complete, and its phasal status is suspended until the next phase is complete. However, if the embedded subject is a full DP, it will value and delete the φ -features on embedded C, leading to the Spell Out of C's complement. As a result, no Agree relation is possible across a finite CP if the embedded subject is a DP. The variable nature of CPs phasal status allows us to account for the referentially dependent reading of overt pronouns in finite clauses in a way that is compatible with economy conditions on binding as formulated in Reuland (2011).

Under the present approach, referentially independent pronouns that are separated by a phase boundary are expected to be optionally referentially dependent. However, crosslinguistically that is not always the case.

For instance, the overt subject of a subjunctive clause generally triggers obviation effects.

- (3) *Petja_i xočet čtoby on_{*i/j} kupil mašinu.*
 Petja wants that.SBJV he bought car
 'Petja_i wants for him_{*i/j} to buy a car.'

One possibility that is often entertained in the literature is that subjunctive clauses are not phase boundaries, based on their greater permeability to certain dependencies, like long-distance *wh*-movement in Russian (Antonenko 2010). This would mean

that the reason overt pronouns cannot be referentially dependent in a subjunctive clause is that an Agree chain is, in theory, possible between the matrix and embedded subject, which makes it impossible for a referentially independent pronoun to be bound postsyntactically.

If subjunctives were indeed not phases in Russian, we would expect them to be domains that satisfy Condition A. In other words, we might expect to see overt reflexives in subject position of embedded subjunctive clauses. Avrutin and Babyonyshev (1997) point out, however, that reflexives are impossible in subject position of subjunctive clauses. Although Russian *sebja* lacks a nominative form, and thus would be impossible in subject position, it is possible for a possessive reflexive *svoj* to occur in nominative case within a subject DP. Avrutin and Babyonyshev demonstrate, however, that a reflexive cannot occur within the subject of a subjunctive clause (and a possessive pronoun in the same position does not trigger a Condition B effect).

- (4) a. *Volodja_i provodil ego_{*i}/svoju_i ženu v Evropu*
 Volodja saw-off his/self wife in Europe
 ‘Volodja saw his wife off to Europe.’
- b. *Volodja xočet, čtoby ego_i/*svoja žena poexala v Evropu*
 Volodja wants that.SBJV his/self wife went in Europe
 ‘Volodja wants his wife to go to Europe.’

(Russian; Avrutin and Babyonyshev, 1997:234)

Moreover, Russian prohibits silent subjects in subjunctive clauses.

- (5) **Petja xočet čtoby ∅ kupil mašinu.*
 Petja wants that.SBJV bought car
 ‘Petja wants to buy a car.’

Given the behavior of reflexives and the prohibition on silent subjects (which this dissertation argues are derived via an Agree chain) subjunctive clauses appear to be phases in Russian.¹ If so, an independent explanation is needed for the obviation effects, perhaps one rooted in the semantics of subjunctive predicates.

In null-subject languages, silent subjects in subjunctive clauses, as well as overt subjects, are associated with obviation effects.

- (6) *Gianni_i pensa che \emptyset_{*i} / lui_{*i} parta domani.*
 Gianni thinks that / he leave.SBJV.3SG tomorrow
 'Gianni thinks he himself only will leave tomorrow.'

(Italian; Costantini 2009:48)

This highlights a fundamental difference between null-subject and non-null-subject languages—languages that lack null referentially independent pronouns never have obviation effects associated with null subjects. Instead, an obviation context will simply prohibit null subjects in these languages.

The pattern in Russian subjunctives (3) is also reminiscent of the prohibition on referential dependence with overt pronouns in embedded finite clauses in *pro*-drop languages. However, it is possible that these facts require an independent explanation, rooted in a general reluctance of overt pronouns in null-subject languages to refer to topics (Carminati 2002).

¹As mentioned above, Wurmbrand (to appear) argues on the basis of quantifier scope that subjunctive clauses in English are not phases. Moreover, in many Balkan languages, control is possible into subjunctive clauses, which suggests that in those constructions they are also not phases. Therefore, the status of a subjunctive clause as a phase must be determined on a language-by-language basis.

- (7) *Gianni_i dice che \emptyset_i / lui_{*i} vuole comprare una macchina.*
 Gianni says that / he wants buy.INF a car
 ‘Gianni says that he wants to buy a car.’

(Italian; adapted from Holmberg 2010:91)

Chapter 4 focused on a different alternation between overt and silent pronouns in obligatory control contexts in languages including Hungarian, Italian, European Portuguese and Korean. A distinctive property of this alternation is that the form of the subject pronoun does not determine its reference. Unlike in finite clauses that allow an alternation between overt and silent subject, in obligatory control contexts, overt and silent pronouns are equally referentially dependent.

- (8) *\emptyset_i nem akar $\emptyset_{i/*j}$ / csak ő_{i/*j} menni busszal.*
 not want.3SG / only he go.INF bus-with
 ‘He/she doesn’t want to be the only one to take the bus.’

(Hungarian; Szabolcsi 2005:621)

- (9) *Só o João_i detestou resolver $\emptyset_{i/*j}$ / só ele_{i/*j} o problema.*
 only the João hated solve.INF / only he the problem
 ‘Only João hated it that only him solved the problem.’

(European Portuguese; Barbosa 2009:106)

Such an alternation between overt and silent obligatory control pronouns is predicted by the defective-goal approach to silence. An important claim of the defective-goal approach is that referentially dependent subjects are not inherently silent, but that their silence follows from the syntactic derivation. A $\varphi P_{[i\varphi: _]}$ that is normally a defective goal in an Agree relation is expected to surface overtly if its features are not a subset of the features on the φ -Probe.

I accounted for the alternation in a similar manner to the alternation in finite clauses—overt pronouns that alternate with silent pronouns are not defective goals with respect to the matrix Probe. However, the features that prevent the embedded subject from being a defective goal are not associated with a D-head, but instead with an exhaustivity operator (Ei-Op) or focus particle that takes the $\varphi P_{[i\varphi: _]}$ as a complement. The larger phrase then serves as a goal for the φ -probe on matrix v , and due to the extra features introduced by the focus particle or exhaustivity operator, the phrase will not be a defective goal in this Agree relation.

One interesting question that is raised by the alternations discussed in Chapters 3 and 4 is how the pronunciation of a pronoun that is usually a defective goal relates to other instances of multiple copy realization. In the alternations discussed thus far, the overt realization of the embedded subject fundamentally depends on it having an additional feature that the higher ‘copy’ of the subject on the probe lacks. However there are a number of clitic doubling constructions where a clitic is realized overtly despite not having any additional features relative to the doubled subject (Cattaneo 2009). It will be important to establish whether defective goals can ever also surface overtly in such a doubling structure, and if not, why not.

Finally, this dissertation brings up another interesting empirical and theoretical issue for future research. I have argued that embedded C carries uninterpretable φ -features in control constructions and is crucial for deriving alternations. However, it is unclear that we ever see agreement on complementizers that mediate control, whether finite or non-finite, even though a number of languages, like Hungarian and European Portuguese, exhibit agreement on infinitival verbs. The goal of future research will be to verify and understand the source of such a gap.

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