DP distribution and finiteness in Tamil and other languages: selection vs. Case

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Abstract

This paper presents an alternative account of DP distribution that is based on DPs being selected rather than being Case-theoretically licensed. We argue that the fundamental prediction made by Case theory, namely that obligatorily controlled PRO and overt DPs are in complementary distribution, is not empirically justified. To this end, we provide data from nonfinite clausal adjuncts, complements and nominalizations in Tamil where subject controlled PRO and overt subject DPs seem to alternate in free variation. We further show that this type of problematic alternation is not a language-specific quirk but a widely attested crosslinguistic phenomenon with supporting evidence from Malayalam, Sinhala, Latin, Irish, Middle English as well as the Present-Day English gerundival construction. While standard Case theories are equipped to handle *either* the occurrence of PRO or that of an overt subject, they are unable to consistently handle the alternation between both types of elements described here.

1 Introduction

In Tamil, simple infinitive clauses can function as adjuncts with purpose or temporal interpretation, as in (1). Such infinitives can appear with an implicit subject which has to be coreferent with a matrix argument – i.e. we get obligatory control PRO, as in (1a).[1] However, it is also possible to have an overt non-coreferent subject in the nominative case, as in (1b).[2]

[1] Note that the surface order of the sentences in (1a) is the result of scrambling and does not represent initial c-command relations. Before scrambling, the matrix subject asymmetrically c-commands the embedded PRO subject.

[2] We will follow the common convention of using capitalization to help distinguish abstract syntactic **Case** – the theoretical construct used to account for DP distribution in terms of licensing – from morphological **case** – the typically overt marking on DPs in many but not all languages. Hence we refer to nominative case to describe the overt form of *vasu* in (1b), but abstract Case below when discussing how the same DP might be licensed.

(1) a. [PRO$_{i/*j}$ poori porikk-a] raman$_i$ maavu vaangi-n-aan
PRO poori.ACC fry-INF raman.NOM flour.ACC buy-PST-M.3SG
'Raman bought flour to fry pooris'

b. [**vasu** poori porikk-a] raman maavu vaangi-n-aan
vasu.NOM poori.ACC fry-INF raman.NOM flour.ACC buy-PST-M.3SG
'Raman bought flour for Vasu to fry pooris'

Such data are problematic for standard theories of DP distribution based on abstract Case, as it is not clear what could be assigning or checking Case to license the overt subject in (1b). Indeed, we have an alternation between PRO and overt subjects in such clauses which does not seem to correlate with any independently identifiable morphological, syntactic or semantic property. As Case theory is standardly based on the assumption that PRO and overt DPs are in complementary distribution, this presents a puzzle.

In this paper we will examine these and related data in more detail and explore the implications they have for syntactic theory. We will focus primarily on Tamil, because it has certain properties which allow us to demonstrate our points particularly clearly. However, the conclusions we draw have more general theoretical relevance, and we will present considerable additional data from other languages to show that the patterns we report are not quirks of Tamil which may call for a language-specific explanation but a more widespread issue that is attested in several languages. We begin in Section 2 with a brief review of standard Case-theoretic assumptions about the licensing of DPs and the basic data that motivated them. Then in Section 3 we present the main Tamil data and explain why they're problematic for Case theory. In Sections 4 and 5 we bring in comparative data to support the conclusions we draw on the basis of Tamil, first from South Asian languages Malayalam and Sinhala, and then from several European languages such as Latin, Irish, Middle English, and Present-Day English (henceforth PDE). We consider and reject three possible ways to accommodate the problematic data within Case theory in Section 6, including discussion of the previous theoretical treatment of some of the Tamil data by Sarma (1999). In Section 7, we propose and motivate an alternative analysis in which the distribution of DPs is based on selectional requirements of lexical and funcional heads rather than licensing needs of the DPs themselves. Finally, Section 8 presents a summary of our data and analysis and their relevance for syntactic theory.

2 Background: standard Case theory

To set the stage, it will be helpful to consider the main ideas and motivation behind accounts of overt DP distribution in terms of abstract Case.[3] The fundamental assumption is that overt DPs are somehow defective and need help in order to be licensed. Specifically, they can only appear in places where some element can assign or check their Case. In all other

[3]Case theory has of course undergone significant revisions since it was first proposed early in the Government and Binding era. In this section and elsewhere, we will try as much as possible to focus on the foundational ideas that are common to all vintages of Case theory and abstract away from points of detail where they differ from each other. Where it is necessary to focus on one particular version or non-universal detail, we will be as explicit as possible.

contexts, overt DPs are disallowed. Object DPs are assumed to get Case from the verb and the functional heads related to voice and aspect found immediately above, so their licensing depends on the identity and properties of the lexical verb and the voice and aspect of the clause. Subjects, on the other hand, are assumed to get Case from the functional heads in the Infl complex or further up in the left periphery. Subject licensing and distribution is thus directly related to the finiteness of the clause. Specifically, finite inflection (in T, Agr for instance) is assumed to assign nominative Case to the subject position, so overt subjects are licensed in finite clauses, whether matrix or embedded, as in (2):

(2) Mitch believes [that Lazlo lives in the steam tunnels].

Infinitives, on the other hand, lack this inflection and thus don't assign nominative Case. This means that, by default, overt subjects are impossible in infinitives, as the following examples show:

(3) a. * [Lazlo to live in the steam tunnels] would be strange.
b. * Mitch tried [Lazlo to live in the steam tunnels].

However, there are infinitives with overt subjects. In English these include those introduced by the prepositional complementizer *for*, as in (4a), and those that follow so-called ECM (exceptional Case-marking) verbs like *believe*, as in (4b).

(4) a. [**For** Lazlo to live in the steam tunnels] would be strange.
b. Mitch **believes** [Lazlo to live in the steam tunnels].

This is where Case theory gets interesting. The claim is that elements like *for* and *believe* assign Case to the following subjects, thereby allowing them to be overt even though the clause is nonfinite.[4] This idea has some empirical plausibility, since prepositions and transitive verbs do determine the morphological case on following DPs in languages with rich case systems. In German, for example, the object of the preposition *mit* 'with' is marked dative, while that of *ohne* 'without' is accusative. Similarly, among verbs *helfen* 'help' takes a dative object while *unterstützten* 'support' takes an accusative. So what we see on the surface in German is supposed to happen abstractly in English infinitives.

Crucially, analogous case-assigners are conspicuously lacking in the sentences in (3) above where an overt subject was impossible. If the subject is instead left non-overt in such sentences, the result is grammatical:

(5) a. [PRO to live in the steam tunnels] would be strange.
b. Mitch tried [PRO to live in the steam tunnels].

[4]The term ECM refers to the fact that the structural configuration for Case-assignment here is a bit different from that normally found with DP objects of verbs and prepositions. While those are generally assumed to be the complements of their Case-assigners, the embedded subjects in sentences like (4a) and (4b) are in the specifier position of the phrase that is the complement of *for* and *believes* respectively. This situation is less awkward in more recent versions of Case theory within Minimalism: these assume that Case assignment or checking operates via Agree, which in turn depends not on a specific structural relationship but on mininmal c-command, which would be equally satisfied in all relevant constellations.

So it appears that an overt subject is possible in nonfinite clauses just where a Case-assigner is available, and where one isn't available, the subject must be non-overt PRO. If the Case requirement has something to do with (overt) morphology, it is perhaps not so surprising that it should treat a silent element like PRO differently.[5]

3 Tamil nonfinite clauses and the licitness of subjects

In this section, we present a detailed description of nonfinite clausal structures attested in Tamil, specifically: obligatory control complements (such as those of 'try'-class verbs), control complements allowing both controlled PRO and overt embedded subjects (such as those of 'want'-class verbs), purposive and temporal adjunct infinitives as well as nominalizations showing the same alternation. But before we present this data, we first present evidence to show that the null coreferent element in the subject position of the embedded clauses here is controlled PRO and not *pro* or anything else.

3.1 Brief excursus: evidence for obligatory control PRO

In the Tamil data we are about to present, we treat all the covert embedded subjects as subject-controlled PRO. For heavily *pro*-drop languages such as Tamil, however, such an assumption is definitely not obvious. That is, the covert nonfinite subject could well be a coreferent *pro*. However, there is good evidence that this is in fact not the case. In this section, we briefly present evidence for the assumption of obligatorily controlled PRO before proceeding to look at the problematic data in detail.

Strong evidence supporting the presence of PRO is that of obligatory coreference with the matrix subject. We show this with all four types of constructions in Tamil to be discussed in this paper which involve a silent embedded subject:

(6) **Nonfinite controlled clausal complement (*paar-* 'try'-class):**

raman$_i$ [PRO$_{i/*j}$ kaapi-ai kuɖikk-a] paattaan
raman.NOM PRO coffee-ACC drink-INF tried.3m.sg

'Raman tried to drink coffee.'

(7) **Nonfinite purposive clausal adjunct:**

raman$_i$ [PRO$_{i/*j}$ pariccai-ai erud-a] school-ukku poo-n-aan
raman.NOM PRO exam-ACC write-INF school-DAT go-PST-M.3SG

'Raman went to school to write the exam'

(8) **Nonfinite clausal complement (*veɳɖ-* 'want'-class):**

champa-vukku$_i$ [PRO$_{i/*j}$ kaapi-ai kuɖikk-a] veɳɖ-um
champa-DAT PRO coffee-ACC drink-INF want-N.3SG

[5] In later versions of Case theory, it has been commonly assumed that PRO does in fact get a special kind of Case called null Case, which licenses PRO and nothing else (see e.g., Chomsky and Lasnik, 1993; Martin, 2001). For our purposes this still means that PRO and overt subjects are distinguished in terms of Case.

'Champa wants to drink coffee'

(9) **Past-nominalization:**

sudha$_i$ [PRO$_{i/*j}$ kaapi-yai kuḍi-tt-ad-ukku] parisu vangi-n-aaḷ
sudha.NOM PRO coffee-ACC drink-PST-NMLZ-DAT prize-ACC get-PST-F.3SG

'Sudha got a prize for having drunk the coffee'

As the indexation shows, in all the structures attested in (6) - (9), the covert subject has to be coreferent with the matrix subject and not with any other entity. Since such obligatory coreference would be unexpected for *pro*, we conclude that the covert element in nonfinite clauses and nominalizations represents controlled PRO.

3.2 Obligatory control complement infinitives

The first type of Tamil infinitive we'll look at appears as the complement of verbs like *paar-* 'try'.[6] Such infinitives require a non-overt subject, which is obligatorily coreferent with the matrix subject, as in (10a). Adding an overt subject, as in (10b) yields ungrammaticality:

(10) a. raman$_i$ [PRO$_{i/*j}$ saadatt-ai saappiḍ-a] paa-tt-aan
raman.NOM PRO rice-ACC eat-INF try-PST-3m.sg
'Raman tried to eat rice.'

b. * raman [anand saadatt-ai saappiḍ-a] paa-tt-aan
raman.NOM anand.NOM rice-ACC eat-INF try-PST-3m.sg
'Raman tried Anand to eat the rice.'

This pattern taken on its own fits in very nicely with standard Case theory. The complement clause is nonfinite, so by default an overt subject should be impossible. Furthermore, there is no special Case licensor like a potential ECM verb or prepositional complementizer like English *for* to override this default and exceptionally license an overt subject. As Case theory predicts, we get instead obligatorily controlled non-overt subject PRO.

Indeed, what we see here is entirely parallel to the behavior of infinitives embedded below obligatory subject control verbs in English, often called the *try*-class. Sentences (3b) and (5b) discussed in Section (2) above are examples of this type, as are those in (11):

(11) a. John$_i$ tried [PRO$_{i/*j}$ to eat turkey]
b. * John tried [Bill to eat turkey]

(11a) shows that the infinitival complement of *try* can have a covert subject which is coreferent with the matrix subject, while (11b) shows that an overt subject in such a clause is ruled out. Tamil obligatory control complement infinitives thus behave just like one of the classes of English infinitives that is central to the motivation for abstract Case. So far, then, Tamil presents no problem for Case theory.

[6] We use the primary stem as the citation form for Tamil verbs, which essentially has all stem-forming and inflectional material stripped off. The data are essentially from Spoken Tamil although Written Tamil forms have been used where necessary to make the morphological structure more clear.

3.3 Alternating complement infinitives

A second type of infinitive clause in Tamil appears as the complement of verbs like *veɳɖ-* 'want'. Verbs like *veɳɖ-* take a dative subject which co-occurs either with a nominative object, as in (12a), or with an infinitival complement, as in (12b):

(12) a. **Nominative object:**
champa-vukku oru samosa veɳɖ-um
champa-DAT a samosa.NOM want-N.3SG
'Champa wants a samosa'

b. **Infinitival complement with PRO:**
champa-vukku$_i$ [PRO$_i$ oru samosa-vai saappiɖ-a] veɳɖ-um
champa-DAT PRO a samosa-ACC eat-INF want-N.3SG
'Champa wants to eat a samosa'

In (12b), the embedded subject is non-overt and is again obligatorily coreferent with the matrix subject. However, an overt (noncoreferent) nominative DP subject is also licit, as in (13):

(13) **Infinitival complement with overt nominative DP:**
champa-vukku [sudha oru samosa-vai saappiɖ-a] veɳɖ-um
champa-DAT sudha.NOM a samosa-ACC eat-INF want-N.3SG
'Champa wants Sudha to eat a samosa'

This pattern is again very similar to something we find in English, namely infinitives appearing as the complements of so-called *want*-class verbs, as in (14):

(14) a. Sue$_i$ wanted [PRO$_{i/*j}$ to drink beer]
b. Sue$_i$ wanted [Jill/her$_{*i/j}$ to drink beer]

The presence of PRO as a nonfinite subject in (14a) is quite unproblematic within standard Case theory given the assumption that nonfinite clauses normally cannot take overt subjects because they lack adequate Case-assigners. But under this assumption, the presence of the overt DP in (14b) is entirely unexpected. The English pattern has traditionally been analyzed in two different ways within Case theory. Either verbs like *want* can license an embedded overt subject via ECM, or there is a null variant of the prepositional complementizer *for* which can do the same thing (see e.g., Bošković, 1997; Martin, 2001, for discussion of these possibilities). In either case, some sort of optionality is required, since the conditions for overt DP licensing must obtain in (14b) but not in (14a), where the distinct requirements for PRO licensing must hold instead.

The data in Tamil are similar to those in English, with the following important differences. First, the embedded overt DP in Tamil is marked nominative and not accusative. Second, Tamil also allows dative subjects in the infinitive if the embedded verb is a "quirky"-dative assigning verb (like *puriy-* 'understand'):

(15) **Infinitival complement with overt dative DP:**

champa-vukku [sudha-vukku viʃiyatt-ai puriy-a] veɳḍ-um
champa-DAT sudha-DAT the.matter-ACC understand-INF want-N.3SG

'Champa wants Sudha to understand the matter'

The structure below shows that *puriy-* 'understand' takes a dative subject in a finite clause:

(16) **Finite clause with dative DP subject:**

champa-vukku viʃiyatt-ai puri-nd-adu
champa-DAT the.matter.ACC understand-PST-N.3SG

'Champa understood the matter.'

The possibility of structures like in (15) above suggest that the morphological case on the embedded subject has something to do with the embedded predicate and is, as such, being supplied internal to the embedded clause. A unified analysis of overt DP subjects in nonfinite complement clauses should therefore extend this analysis to structures like in (13) where a nominative subject shows up in the same position. This in fact, as we discuss later, is the kind of analysis that Gair (2005) makes for corresponding clausal structures in Sinhala.

Sarma (1999) instead proposes a Case-theoretic account for the kind of Tamil data shown in (13) which is analogous to the ECM analysis for English. Thus at first glance these data might not seem to present a challenge for Case theory. However, as we will argue below, neither treatment of English *want*-class complements is convincing, nor is Sarma's story for Tamil. The main issue will turn out to be that Case theory is not designed to accommodate an alternation between overt subjects and PRO in a single context as we find here. Rather, complementary distribution of the two is expected, thus alternating complement infinitives will present a problem.

3.4 Adjunct infinitives

A third type of Tamil infinitive clause, which we briefly introduced at the beginning of the article, appears as an adjunct in the matrix clause, with either a temporal or a purposive interpretation. These too allow both obligatorily controlled PRO and overt DPs in the embedded subject position. Consider the examples in (17):

(17) a. PRO:

[PRO$_{i/*j}$ saadatt-ai saappiḍ-a], naan$_i$ veḷiya poo-n-een
PRO rice-ACC eat-INF, I.NOM outside go-PST-1SG

'I went out to eat rice.' PURPOSE INTERPRETATION[7]

[7] An interpretation of temporal simultaneity is not available in this example, because of the pragmatic infelicitousness of a single entity eating food and simultaneously going out. However, such a reading becomes available when the context permits a single entity participating in two events simultaneously, as in the following example:

b. OVERT SUBJECT:

[avan saadatt-ai saappiḍ-a], naan veḷiya poo-n-een
he.NOM rice-ACC eat-INF, I.NOM outside go-PST-1SG

'As he ate rice, I went out': TEMPORAL INTERPRETATION
'I went out so that he could eat rice': PURPOSE INTERPRETATION

From the perspective of Case theory, (17a) is as expected. The embedded clause is nonfinite, so by default a PRO subject is predicted. The fact that we get an overt subject *avan* 'he' in (17b), on the other hand is, however, quite surprising, as it is not at all clear what could be licensing it. Just as with the PRO example in (17a), special Case-licensors seem to be absent. First, there is no evidence for a prepositional complementizer like *for* to license the overt subject.[8] Second, the matrix verb *pooneen ("went.1sg")* is clearly not an ECM verb: standard ECM verbs are transitive, whereas this verb is intransitive. Third, the matrix verb does not c-command the embedded subjects in (17a) and (17b), since the infinitival clauses are adjuncts. So the structural conditions for ECM are not met. It appears then, that Tamil adjunct nonfinite clauses with overt subjects pose a serious problem for standard theories of Case. Furthermore, we have the same problem here as with the alternating complements: we don't just get unexpected overt subjects, but an alternation between overt subjects and PRO. This again will prove to be a challenge for Case theory.

3.5 Tensed nominalizations

Tamil also has a very interesting nominalization construction, which is similar in important respects to the adjunct infinitival clauses. Instead of the infinitive form of the verb, these are built around a nominalized verb form which shows both active case-marking and active tense marking:

(18) raman veelai-yai **sey-v-ad-ukku** college-ukku poo-n-aan
raman.NOM work-ACC do-FUT-NMLZ-DAT college-DAT go-PST-M.3SG
'Raman went to college in order to do work'

The nominalized element, boldfaced in the example above, is overtly marked for future tense as well as for dative case. Semantically both tense and case markings seem active: the dative marking contributes the meaning of purpose whereas the future tense marking expresses an unmarked temporal interpretation. The nominalization marker *ad(u)* is ho-

i. [PRO$_{i/*j}$ saadatt-ai samaikk-a], naan$_i$ ṭiivii paa-tt-een
PRO rice-ACC eat-INF, I.NOM TV.ACC cook-PST-1SG
'I watched TV as I cooked food.' TEMPORAL INTERPRETATION
'I watched TV to cook food ' PURPOSE INTERPRETATION (available for e.g., in a context where the agent is watching the Food Network.)

[8]Postpositions and prepositions in Tamil typically take oblique DP complements whereas in the types of structures under consideration here, the DP is marked nominative.

mophonous with the standard agreement marker for a 3rd singular neuter subject.[9] But crucially, this doesn't actually agree with the masculine 3rd singular subject *Raman* in nominalized constructions as in (18) - so appears to signify default agreement[10].

Although the future tense marker shown in (18) is the most standard form used in this type of construction (quite possibly because the purposive construction most often refers to an event that still needs to be completed relative to the time-frame of the main event in the clause), it can be readily replaced by either present or past forms. The past-nominalization is shown here along with clausal boundaries:

(19) **Past-nominalization**

raman$_i$ [PRO$_{i/*j}$ veelai-yai **sey-d-ad-ukku**] parisu vangi-n-aan
raman.NOM PRO work-ACC do-PST-NMLZ-DAT prize-ACC get-PST-F.3SG

'Raman got a prize for having done the work'

The meaning of the past nominalization in (19) is as indicated. The subject of the nominalized structure is a null element that is obligatorily coreferent with the matrix subject *Raman* - i.e. obligatorily controlled PRO. The purposive interpretation is still conveyed by the dative marker in each nominalized element but the tense meanings vary according to the tense marker used. Note that the tense conveyed by the main event (going to college or getting a prize) can be varied separately from the tense marked within the nominalized structure, so what we have is semantically real tense, not just a formal tense marker which is somehow dependent on matrix tense. Nevertheless, there is still a difference between the T head in such constructions and those in standard finite clauses: the T head within the nominalized structure is deficient because it does not express overt subject agreement.

The reason such nominalizations are interesting for our purposes is that they allow not only a PRO subject coreferent with the matrix subject, but an overt non-coreferent subject, as in (20):

(20) **Past-nominalization with overt subject:**

[raman veelai-yai sey-d-ad-ukku] sudha paris-ai vangi-n-aa
raman.NOM work-ACC do-PST-NMLZ-DAT sudha.NOM prize-ACC get-PST-F.3SG

'Sudha got a prize for Raman's having done the work'

Note here that in contrast to the null subject structure in (19), the matrix verb in (20) above does not agree with *Raman* but with the feminine subject *Sudha*. *Raman* is the agent in the

[9] We are hesitant to claim that the nominalization marker *-adu* is in fact the 3rd person singular neuter agreement marker, since this agreement marker takes a different form (namely *-um*) in certain relevant contexts. e.g., the finite future 3sgn of *sey-* 'do' is *sey-yum*, whereas the future nominalization is *sey-v-adu*.

[10] This same marker *adu* is also used to signify default agreement in dative subject constructions in Tamil, like the following:

(1) raman-ukku koovam va-nd-adu
raman-DAT anger.NOM come-PST-N.3SG
'Raman got angry' (lit: 'anger came to Raman')

event described by the nominalization, namely the event of doing the work and, thus, a part of this nominalized structure. What makes it potentially problematic for Case theory is that the DP *Raman* shows up with nominative case, not genitive, the case we would expect if it were introduced outside the nominalization and which could be accounted for in standard Case theories (see e.g Chomsky, 1981). What could be assigning nominative case to *Raman*? It couldn't be the finite T of the main clause, because this should already be checking off its nominative case feature against the main nominative subject *Sudha*, which the main verb agrees with. Instead, it looks like what is being nominalized is an entire clause including the subject *Raman*, which means that *Raman* must be getting its nominative internal to this nominalized clause. But how is this licensed? We could argue that the tense within the nominalization (indicating overt past-tense) is responsible for structural nominative Case, licensing *Raman*. But there are a couple of problems with this. One is that the nominalized structure does not appear to be a fully finite clause. Although tense is overtly marked, there is, as we've noted, no overt subject agreement. It is not clear that we should expect a thus deficient T to be able to check Case on *Raman* in the standard way. The other problem is that this type of nominalization structure again does not have to show up with an overt DP but can alternate with obligatorily controlled PRO in the same position as the overt DP. This is an issue because, while either of the structures in (20) or (19) can be individually explained within the premises of Standard Case theory, a unified analysis of both structures would be unfeasible.[11]

3.6 Interim summary

To summarize, then, the apparent free variation between overt subject and obligatory subject-controlled PRO in infinitive complements, infinitive adjuncts as well as in clausal nominalizations are seriously problematic for standard Case theory. Any proposal that might account for one type of alternant (PRO or the overt DP alternant) appears incompatible with the other alternant, so that a unified analysis of both alternants taken together seems unfeasible. It is also difficult to explain within a Case-theoretic analysis the differing behavior of adjunct nonfinite clauses and complement nonfinite clauses. Specifically, why it is that complement infinitives come in both obligatory control and alternating varieties, while all adjunct clauses are alternating?

In the next two sections, we present similar problematic evidence from other languages, showing that what we have seen so far is not restricted to Tamil. In section (6), we consider three possible ways to account for the problematic data within standard Case theory (including some actual prior proposals made in Sarma (1999)) but show that each of these analyses is flawed. We conclude that a consistent analysis of all the data is not possible within the framework of standard Case theory and propose an alternate analysis of the facts - one due to selection rather than licensing. The rest of the paper is devoted to detailing the aspects of this analysis.

[11]The structure with the overt DP in (20) could be explained in the way we've already described, namely by saying that that the subject of the nominalized clause *Raman* gets Case from the (semi-)finite T within the nominalized structure. For the structure in (19), we could say that the PRO gets special null Case from the deficient T within the nominalized clause. Having both possibilities requires the same T to have two different statuses.

4 Evidence from other South Asian languages

Other South Asian languages show similar properties with respect to DP distribution as Tamil. Here, we present data taken from Malayalam (Mohanan, 1982) and Sinhala (Gair, 2005) and show that these are also similarly problematic for standard theories of Case.

4.1 Malayalam alternating complement infinitives

Malayalam also shows free variation between overt subjects and subject-controlled PRO in the nonfinite complements of certain verbs like *aagɽahiccu* 'want', as discussed by Mohanan (1982). Consider the examples in (21):

(21) a. amma [PRO$_{i/*j}$ wisaːkk-aan] aagɽahiccu
mother.NOM PRO$_{i/*j}$ be.hungry-INF wanted
'Mother wanted to be hungry.'
b. amma [kuʈʈi-kkə wisaːkk-aan] aagɽahiccu
mother.NOM child-DAT be.hungry-INF wanted
'Mother wanted the child to be hungry.'

These Malayalam data, while similar enough to the English examples above, show one significant difference, namely that the embedded overt subject in (21b) is marked with a 'quirky' dative. This is the dative normally assigned by the verb root wisaː- 'be hungry' to its subject, as can be seen from the following example:

(22) kuʈʈi-kkə wisaɳɳu
child-DAT was.hungry
'The child was hungry'.

This suggests that the case on the embedded subjects in such clauses comes not from the matrix clause, but is established internal to the infinitive.

However, this in itself doesn't necessarily pose a problem for Case theory, as the presence of a dative subject does not entirely rule out an ECM-type analysis. One could still propose, along the lines of what has often been claimed for Icelandic quirky subjects (see e.g., Sigurðsson, 1992, for discussion of the 'double-case' approach) that *kuʈʈi.kkə* first gets quirky dative case in the embedded clause, which determines its morphological form. On top of this, it then gets structural accusative Case by ECM, which is what licenses it to be overt, but does not surface in the morphology because the dative takes precedence. This would predict that, if we have a *want*-class verb with an embedded infinitive and an overt subject but no quirky dative-assigning embedded verb, then the structural accusative should surface on the embedded subject. However, this prediction is not borne out, as the following data in 23 show:[12]

[12]The verb ʈa*ɭ*ar in Malayalam shows up with a default nominative subject, as the following example shows:

(1) kuʈʈi ʈaɭarɳɳu
child.NOM tired

(23) amma [kuʈʈi ʈaɭaɾaan] aagɾahiccu
mother.NOM child.NOM be.tired.INF wanted
'Mother wanted the child to be tired.'

What we get on the embedded subject in (23) is nominative. This is strong evidence against the idea that it should be licensed by ECM from the matrix verb.

Now we have a problem for Case theory, because it is not clear where else the licensing for these overt subjects could be coming from. On top of this, note that here again we have the alternation between PRO and overt DPs within a single environment. On the basis of such data, Mohanan (1982) came to the conclusion that the Case-theoretic treatment of PRO could not handle the facts of Malayalam.

4.2 Nonfinite clauses in Sinhala

Gair (2005) presents data on overt and non-overt subjects in a wide array of clause-types, both finite and nonfinite, in Sinhala. These too are problematic for Case theory, because overt DPs show up in positions where they would not be expected to receive abstract Case and, as Gair himself points out, the subject-taking abilities of different clause-types seem to correlate more with the properties of the embedding environment than with the finiteness of the clauses themselves.

We'll concentrate here on clauses with the verb form that Gair calls the infinitive, which bears no marking for tense.[13] When the infinitive occurs in the complement of certain verbs like *kəməti* 'like', we get obligatory control, i.e. overt subjects are ruled out, and there is obligatory coreference between the understood subject of the infinitive and the matrix subject:

(24) gunəpaalə$_i$ [*taman/*eyaa(mə)/$\emptyset_{i/*j}$ həmədaamə yannə] kəməti.
Gunapala.NOM$_i$ *self/*he/$\emptyset_{i/*j}$ every.day go.INF like.ASSM
'Gunapala likes to go there every day.'

This on its own looks like the sort of behavior we find in the complements of verbs like *try* in English. It seems that nonfinite T in the embedded clause does not assign nominative case, and the matrix verb does not license accusative by ECM, so an overt subject is not allowed, so all is as predicted by Case theory.

Other classes of infinitives in Sinhala cast some doubt on this, however. For example, infinitives also appear in clauses introduced by elements like *issella* 'before'. As the examples in (25) show, overt subjects are possible in such clauses:

'The child was tired.'

[13] It also bears no agreement marking, but this is true of all verb forms in spoken Sinhala, thus does not really show much. As Gair (2005) discusses in detail, it is difficult to decide which Sinhala forms should count as finite and which should not, and it is questionable whether the distinction is a useful one for the analysis of the language. In any case, the 'infinitive' which we discuss here comes pretty close to a prototypical nonfinite form, lacking tense specification and mostly being restricted to embedded environments, including those with obligatory control.

(25) a. [mamə ennə issella] miniha kaarekə wikka
I.NOM come.INF before man.NOM car sell.PST
'The fellow sold the car before I came.'
b. [maʈə teerennə issella] ləkcərekə iwərə unaa
I.DAT understand.INF before lecture finish become.PST
'The lecture ended before I understood.'

In a Case-theoretic approach, one might be tempted to see these as parallel to English *for-to* infinitives, with *issella* as a prepositional complementizer which assigns Case to the embedded subject. However, the morphology argues against such an analysis. In (25a), the embedded subject is not marked with an oblique case – which is what one would expect on the complement of a preposition – but with the nominative associated with subjects of finite clauses. In (25b), the embedded subject is marked dative, as is usual for subjects of *teerenəwa* 'understand'. In other words, the case on the embedded subject is fully determined internal to the infinitive clause and is independent of both the matrix clause and the embedded P or C element *issella*.

Sinhala also has a construction similar to what we saw with Tamil *veɳɖ-* 'want'. Infinitival clauses can be embedded under the verb *oonə* 'want', and can either have a covert subject coreferent with the matrix subject as in (26a), or an overt non-coreferent subject as in (26b):

(26) a. maʈə$_i$ [∅$_i$ heʈə koləmbə yannə] oonə
I.DAT ∅$_i$ tomorrow Colombo go.INF want
'I want to go to Colombo tomorrow.'
b. ammaʈə [laməya wibaage paas-wennə] oonə
mother.DAT child.NOM examination pass.INF want
'Mother wants the child to pass the examination.'
c. guruwərəyaʈə [laməyaʈə paaɖəmə teerennə] oonə
teacher.DAT child.DAT lesson understand-INF want
'The teacher wants the child to understand the lesson.'

Again, the subject of the embedded clause is in the nominative here. We might suppose that this comes from the finite matrix T, as the matrix subject is dative and thus does not use up the matrix nominative. In (26c), however, we again find the subject of an infinitive clearly getting dative case from the embedded verb. It thus again seems that the case needs of the nonfinite subject can be handled internal to the infinitival clause. This raises the possiblity the nominative in (26b), like that in (25a) above, is actually supplied within the infinitive as well, as Gair (2005) in fact concludes.

Finally, like Tamil, Sinhala allows infinitivals as purpose adjuncts, again at least optionally with overt subjects, as in (27):

(27) kaaʈəhari kaapu gamaŋ, [kaurawat nohoyanɖə] sarpəyə
someone bite.PST.REL when anyone.NOM NEG.find.INF serpent.NOM.PL
koheehari həngenəwa, nee?
somewhere hide.PRES, no?

'When serpents have bitten someone, they hide so that no one can find them, don't they?'

The subject of the embedded infinitive, *kaurawat* 'anyone' is again in the nominative case. This cannot be coming from the matrix finite clause for two reasons. First, since the infinitive is an adjunct, it is not in the right structural configuration for ECM-like assignment of a matrix case to its subject position. Second, the nominative of matrix T is already assigned to the matrix subject *sarpəyə* 'serpents'. There is also no hint of a prepositional complementizer heading the embedded clause like English *for* or even the *issella* we saw in (25) above. It is thus a mystery under standard Case theory how an overt subject should be licensed in examples like this, just as it was with the parallel Tamil adjunct infinitives. Note that, however licensing works, the source of the nominative morphological case on *kaurawat* 'anyone' must be internal to the infinitival clause, again since the structural configuration is not right for something to come from the matrix clause. This supports the suspicion noted above that the embedded nominative case in (26b) is supplied internal to the embedded clause, further undercutting support for an ECM-like analysis of complements of *oonə* 'want'.

The conclusion that Gair (2005) draws from these Sinhala data is very similar to what we have said for Tamil. He points out that the occurrence of non-overt subjects in infinitives embedded under *kəməti* cannot be attributed to the nonfinite verbal inflection, precisely because other infinitives do allow overt subjects. Instead, he argues, whether we get overt or non-overt subjects in an infinitive depends on the matrix clause and the relationship between it and the embedded clause. This in fact is the line we ourselves pursue and develop in our analysis of DP distribution in such data in terms of selectional properties of the matrix predicate: this is explicated in detail in Section 7.

5 Problematic data from other languages

Problematic data for standard Case theory are of course not only found in South Asian languages. In this section, we describe the AcI construction attested in a number of languages, Middle English infinitive clauses which cast doubt on Case-theoretic analyses of the *for-to* construction in Present-Day English and, finally, a problematic structure in Present-Day English itself, namely the gerundival. These data show that DP distribution is universally problematic for Case-theoretic analyses.

5.1 AcI constructions in Irish and Latin

A number of languages including Latin, Ancient Greek and Modern Irish have a type of nonfinite construction usually called AcI or accusative-with-infinitive. What gives them their name is that they involve an overt subject DP in the accusative case. At first glance this makes them look like English ECM infinitives, and indeed some AcI examples could be given an ECM analysis. However, they have a radically different distribution from the relevant English clauses, which are restricted to the complement of verbs like *believe*. AcI clauses instead appear in a wide range of syntactic environments, as clausal subjects, as arguments of matrix nouns and adjectives, as adjuncts and sometimes even in special root

contexts. We give here as examples a subject clause in (28a) and a clausal argument of a noun in (28b) from Modern Irish (from McCloskey, 1985), as well as a clausal argument of an adjective in (29a) and a root infinitive in (29b) from Latin (from Gildersleeve, 1895).[14]

(28) **Modern Irish**

a. Ghoillfeadh se orm [**tu** me a ionsai].
would.bother it on.me you.ACC me INF attack
'It would bother me for you to attack me.'

b. Níl iontas [**é** mac mí-nádúrtha a thógáil].
is-not wonder him.ACC son un-natural INF raise
'It is no wonder that he should raise an unnatural son.'

(29) **Latin**

a. Est inūsitāt-um [**rēg-em** re-um capit-is esse].
is extraordinary-N.sg king-ACC answerable-ACC head-GEN be.inf
'It is an extraordinary thing for a king to be tried for his life. (C., *Dei.*, 1. 1)

b. **Homin-em**-ne Rōmānum tam Graecē loqu-ī?
man-ACC-Q Roman-ACC.M.sg such Greek-ABL speak-INF
'A Roman speak such good Greek? (To think that a Roman should speak such good Greek.)' (PLIN., *Ep.*, IV. 3, 5)

Clearly, in the examples above and most of the contexts where AcI infinitives show up, there is no governing transitive verb. So ECM is simply ruled out as a possible source of licensing for the overt subject, morphological accusative aside.[15] There is also no evidence for anything like PDE *for*. Thus, as in the Tamil adjunct infinitive examples, it is not clear how the overt subjects could be Case-licensed. Note furthermore that in both languages, PRO is found in infinitival clauses in these positions as well, so here again we find the PRO/overt subject alternation.

5.2 Middle English infinitives

Problematic data for Case theory are found in Middle English as well, as has been reported by McFadden (2008). E.g., throughout the Middle English period, the vast majority of *for-to* infinitives don't have an overt subject:

(30) a. I ne come not in-til erþe [**for to** do mi wille]
'I didn't come to the earth to do my will.' (BENRUL,10.333)

b. . . . and wente wythout the wal [**for to** walke]
'. . . and went outside the wall in order to walk.' (REYNAR,11.179)

The few that do, place the subject **before** *for*, not between it and *to*:

[14] See also vanden Wyngaerd (1994) for examples from Ancient Greek and further discussion.

[15] See Pillinger (1980); Cann (1983) for additional arguments against a general ECM analysis of Latin AcI.

(31) For it es a velany, [**a man for to** be curyously arrayed apon his heuede with perré and precyous stanes]
'For it is a disgrace for a man to be strangely adorned on his head with jewels and precious stones.' (ROLLTR,29.609, from Pak, 2006)

So we don't see the familiar correlation between overt subjects and *for* in infinitive clauses that is familiar from Present-Day English. On the one hand, this casts some suspicion on the Case-based analysis of Present-Day English *for-to* infinitives. On the other, this constitutes another instance of the PRO/overt subject alternation.

The really interesting data from Middle English, however, are the infinitives which are not complements of transitive verbs, have no *for*, and yet still have an overt subject (see Garrett, in press; Pak, 2006; McFadden, 2008, for discussion). Much like the AcI infinitives just discussed, they occur as surface clausal subjects, extraposed subjects of predicate adjectives and nouns as well as adjuncts:

(32) 'That were shame unto the,' seyde sir Launcelot, '[**thou** an armed knyght to sle a nakyd man by treson].'
'"That would be a disgrace on you," said sir Lancelot, "for you.NOM, an armed knight, to slay a naked man by treason".' (MALORY,206.3373)

As (32) shows, the subject of the infinitive is often in the nominative form when it is a pronoun. Other examples, however, have non-nominative forms:

(33) ȝiff itt like to thy most gracious lordshipp [**me** to do þis message]
'If it would please your most gracious lordship for me.OBL to do this message...'
(ROYAL,258.322)

Again, it is unclear how the overt subjects are licensed in these clauses. The parallel Present-Day English examples have an overt *for* and are assumed to be grammatical precisely because *for* is there to handle Case.

5.3 Gerundival clauses in PDE

Tamil nominalizations are not the only ones that are problematic for Case theory. Present-Day English also has a nonfinite clause type built on a kind of nominalization which poses difficulties for Case-theoretic approaches to overt DP licensing – the gerundival. Gerundival clauses appear in various positions with no governing transitive verb, have nothing like overt *for*, and no tense or agreement marking. Yet they allow overt subjects, with no apparent source for Case, and they show the alternation with PRO that we have seen in several clause types:[16]

[16] Gerundival constructions in PDE that show an alternation between overt DPs and arbitrary PRO as in the following example, are also problematic for Case theory:

i. [Barry/PRO having no hot sauce] was an embarrassment. [clausal subject]

But since this paper is primarily about obligatory-controlled PRO and not arbitary PRO, we don't pursue this topic further here.

(34) [Barry/PRO$_{i/*j}$ having no hot sauce], we$_i$ went to the store. [adjunct]

These are problematic for the same reason that the Tamil ones are. It is not obvious how the overt subjects could be getting Case, and if we come up with a reason why Case should be available here, we lose our explanation for the versions with PRO. Although a Case theoretic analysis of *either* the structure with PRO or that with the overt subject might be possible, a unified analysis of both types of structures is not viable.[17]

6 Can Case theory be salvaged?

Before turning to an alternative account for the data above, it is perhaps both prudent and logical to exhaust the possibilities for explaining them within the assumptions of standard Case theory. In this spirit, we consider three options that might make sense within Case theory but show that each of these options is independently untenable. Along the way, we give critical discussion of a previous attempt by Sarma (1999) to account for some of the Tamil data in Case theory.

A first option is to say that the unexpected overt subjects get their Case features checked by some element in the matrix clause. On the one hand, this could be the matrix T head. This T is fully finite so it should have full Case-checking abilities, which it could use on the embedded subject if it doesn't need them for an argument in its own clause. A second option is to posit the presence of a null P that essentially the work that a preposition like *for* is supposed to do in *for-to* constructions in English and other languages. A third option is to assume that the nonfinite T is able to exceptionally license Case on the subject DP. The functional T head within nonfinite clauses is normally supposed to lack the features required to license Case on the overt subject (see again Chomsky, 2001; Martin, 2001). One could, however, suggest that the nonfinite T of the adjunct infinitive clauses, *want*-class nonfinite complements, and nominalizations is somehow special and has Case-licensing properties.

We will argue that none of these options can work as a general solution. In addition to specific difficulties that each runs into, our fundamental opposition to all three options will be that a unified account of *both* constructions with PRO and those with overt DPs is not possible through them. Instead each analysis is forced to assume that alternants with PRO and those with overt DPs are fundamentally different in some way relevant to DP licensing - an assumption that appears independently unjustified. We now present each option in detail and our arguments for why each of them is problematic and unfeasible.

6.1 Option 1: Case licensing from the matrix clause

One obvious possibility to consider for the licensing of overt subjects in embedded nonfinite clauses is some version of ECM. I.e. a structural accusative could be assigned by the matrix verb to the DP subject of its complement clause. However, as we have pointed out in our discussion above, this is a non-starter for most of the clause-types we have been considering. For some, like the Tamil adjunct infinitives and Latin and Irish AcI, this is

[17] See Pires (2007) for recent discussion of the properties of gerundival clauses and the problems they pose for standard Case theory.

for structural reasons – the infinitives are not (always) complements of the matrix verb, so the configuration for ECM does not obtain. For others, like the Malayalam and Sinhala complements of verbs with meanings like 'want', this is because the morphological nominative case-marking on the embedded subjects is not the accusative predicted by ECM. Thus ECM can be rejected as an explanation for the licensing of overt subjects in the clauses we have considered.

However, something akin to ECM could still remain an option for some of the clause types. Specifically, licensing for some of the nominative overt subjects could come not form the matrix verb, but from matrix T. Sarma (1999) proposes an analysis along these lines for the licensing of the overt DPs in nonfinite complements of verbs like *veɳɖ-* 'want' in Tamil which we discussed in Section 3.3. We repeat here two examples from above:

(35) **Nonfinite complement with PRO:**

champa-vukku$_i$ [PRO$_i$ oru samosa-vai saappiɖ-a] veɳɖ-um
champa-DAT PRO a samosa-ACC eat-INF want-N.3SG

'Champa wants to eat a samosa'

(36) **Nonfinite complement with overt DP:**

champa-vukku [sudha oru samosa-vai saappiɖ-a] veɳɖ-um
champa-DAT sudha.NOM a samosa-ACC eat-INF want-N.3SG

'Champa wants Sudha to eat a samosa'

According to Sarma, in both constructions, the matrix subject gets dative from the matrix verb. For nonfinite complements with PRO, as in (35), Sarma claims that PRO is licensed by null Case from the embedded nonfinite T. When there is an overt subject in the nonfinite complement as in (36), however, licensing comes from matrix T, which still has its nominative Case feature unchecked because the matrix subject already gets dative from the verb. Note that the matrix T should also have an unchecked nominative Case feature in (35), for the same reason. We might expect this to be a problem for these constructions, since there is no overt embedded subject to check this Case on the matrix T in this instance. But Sarma points out that this situation is parallel to dative-accusative constructions in Tamil where the nominative case on matrix T also remains unchecked:

(37) raman-ukku sudha-vai puɖikkum
raman.NOM sudha-ACC like-N.3SG
'Raman likes Sudha.'

It remains unclear, however, why this should be an acceptable scenario in either type of construction.

A related issue for Sarma's analysis is that it doesn't explain what happens to the null Case feature on the nonfinite embedded T in constructions with overt embedded subjects, as in (36). If the T in complements with PRO subjects like in (35) has a null Case feature that is checked by PRO, then why does this feature not need to be checked in the overt

subject cases as well? This would seem to imply that Case features are not uninterpretable on T. To summarize, Sarma's analysis of alternating complement infinitives in Tamil is that it could work nicely for each alternant individually, but fails to consistently explain the data when taken together. No insight is offered as to why clauses of this type should show such an alternation. We therefore reject Sarma's analysis for *want*-class complements in Tamil. It's important to note, furthermore, that any similar analysis for such constructions crosslinguistically will face similar problems. Short of actually motivating distinct structures for the complements with overt subjects and those with PRO, a consistent Case-based analysis of both these types of structures seems unviable.

6.2 Option 2: special licensing due to a null P

The second option is to propose the presence of a null P head within the nonfinite clause which licenses Case on the overt subject (see Bošković, 1997; Martin, 2001, for recent versions of this idea). This is similar to what standard Case theories propose to account for the presence of an overt subject in English *for-to* constructions, where the preposition *for* is supposed to have exceptional Case licensing capabilities. However, such a proposal also has serious flaws. Most importantly, with the possible exception of the Sinhala infinitives introduced by *issella* 'before', there is no independent evidence for such a P head (overt or covert) within the nonfinite clause in the constructions we have discussed. Furthermore, we have again the problem that many of the overt subjects we have discussed bear nominative morphological case, which in the languages involved is not normally assigned by prepositions. Finally, such a proposal is fraught with the same problems as the first option: the free variation between PRO and the overt DP finds no insightful explanation. Positing optional presence of a null P is nothing more than bald stipulation.

6.3 Option 3: Case-licensing by nonfinite T

The last option involves proposing that the nonfinite T in those nonfinite complement and adjunct clauses with overt subjects has exceptional Case licensing properties. This approach would certainly account for the presence of overt DP within nonfinite clauses, but this would come at the cost of unmotivated stipulation. Furthermore, exceptional Case-licensing nonfinite T would, like the other approaches, not be able to account for the alternation with subject-controlled PRO in the same positions. Again, aside from the alternation between PRO and overt subjects itself, there is no evidence for any independent structural, morphological and interpretional differences that could be made responsible for a licensing distinction. Apart from this serious empirical problem, it is also theoretically problematic because it would essentially lose the ability to distinguish between PRO vs. overt DPs in terms of differing licensing conditions due to the finiteness of T. I.e. if both nonfinite and finite Ts can license overt DPs then how do we predict when we get PRO vs. overt DPs within a Case-theoretic approach?

Nonetheless, this is the kind of approach that Sarma (1999) takes to handle the unexpected possibility of q overt DPs in purposive and temporal adjunct nonfinite clauses in Tamil. This involves constructions such as the following, repeated below from (17a) and (17b) above:

(38) PRO:

[PRO saadatt-ai saappiḍ-a], naan veḷiya poo-n-een
PRO rice-ACC eat-INF, I.NOM outside go-PST-1SG

'I went out to eat rice.' PURPOSE INTERPRETATION

(39) OVERT SUBJECT:

[avan saadatt-ai saappiḍ-a], naan veḷiya poo-n-een
he.NOM rice-ACC eat-INF, I.NOM outside go-PST-1SG

'As he ate rice, I went out': TEMPORAL INTERPRETATION
'I went out so that he could eat rice': PURPOSE INTERPRETATION

Just as with the *want*-class examples we get what looks like a free variation between overt DPs and PRO in the subject position of the nonfinite clause. Unlike with the *want*-class examples, however, Sarma's ECM-type analysis with, for instance, the matrix T assigning nominative case to the embedded subject is not viable for a couple of reasons. First, the structural conditions for case checking of an embedded subject from a higher clausal head don't hold here because the infinitival clause is not a complement but an optional adjunct. Second, unlike in the *want*-class construction in (36) above, the matrix subject in (39) doesn't show up with a dative case but has nominative case marking. This means that under a standard case theoretic treatment, the matrix T in (39) should already have its nominative case feature checked by the matrix subject and should, therefore, not have this feature available for checking of nominative case on the embedded subject. Finally, as Sarma herself points out, an ECM-type analysis of these adjunct constructions should be independently unavailable because the nonfinite adjunct clauses seem to be CPs, which should make them opaque to feature checking operations from the matrix clause.

Sarma acknowledges that the overt DP subjects in constructions like (39) are surprising for Case theory, but simply posits that they are somehow exceptionally licensed internal to the embedded clause. She does not elaborate on how this might work, beyond suggesting that they might at some level be parallel to the tensed nominalization constructions. However, since this licensing in the nominalizations rests on a similar stipulation of Case-assigning capabilities for a nonfinite functional head, this offers no real insight.

Therefore we conclude that a consistent, non-stipulative Case-based analysis of DP distribution in nonfinite clauses is unavailable.

7 Analysis

In this section we will present an alternative analysis of DP distribution which can handle the data from Tamil and other languages which are problematic for Case theory. We will first describe and motivate the basic idea, which is based on the selectional needs of lexical and functional heads rather than on the licensing needs of the DPs themselves. Then we will lay out one possible formal implemenation of the idea within the Minimalist framework in terms of Agree and the [±R] feature of Reinhart and Reuland (1993) and Landau (2004), and finally we demonstrate it with sample structures for the most important clause types.

7.1 The selection alternative

Recall that the idea behind Case theory is that DPs are inherently defective and require external licensing. Under this view, (overt) DPs are ruled out by default, and what we must explain are the places where they are licit. The approach we would like to propose is essentially the opposite. We propose that DPs have no special needs, but simply have to be integrated into the structure and interpretation like any other syntactic elements. Thus they can show up anywhere this is possible – as long as independently motivated principles of grammar are satisfied. Under this view, DPs are fine by default in all θ-positions, and what we must explain are the places where they are illicit.

The facts about overt DP distribution that have been handled in terms of Case thus need a different kind of explanation. Following Marantz (1991) and others, it is now standardly assumed that one set of these facts – having to do with required movement operations to derived subject positions in passives, unaccusatives, raising and other contexts – should be handled in terms of the EPP or something similar (see e.g., Chomsky, 2001). The other main set of facts has to do with what we have been concerned with here – the choice between overt DPs and PRO. What we would like to propose is that instances where overt DPs are impossible – as well as those where they are required – should be explained in terms of selection by c-commanding functional and lexical heads. The basic idea is that, by default, both overt DPs and PRO are licit in all A-positions (as long as the EPP is satisfied), and are in fact in alternation with each other. This is of course precisely the situation of alternation that we find in a number of the clause-types we have discussed here, including the Tamil alternating complement infinitives, adjunct infinitives and tensed nominalizations. In contexts where overt DPs are impossible (e.g., Tamil and English obligatory control complement infinitives), this is because something is explicitly selecting PRO. In contexts where PRO is typically impossible (e.g., finite clauses), this is because something is explicitly selecting an overt DP/*pro* (we'll discuss below how to unify these).

A good way to understand the difference between the licensing-based approach of Case theory and our selection-based approach is in terms of the probes and goals of Minimalist Agree relations. Under both approaches, the distribution of DPs in particular syntactic positions is regulated by relationships between those DPs – the goals – and the verbs and functional heads that c-command them – the probes. In Case theory, it is the needs of the goal – relating to the Case features on the DP – which must be met for a configuration to be allowed. In our selection-based theory, on the other hand, it is the needs of potential probes – relating to the selectional features on verbs and functional heads – which must be satisfied.

Specifically, we propose that verbs like Tamil *paar-* 'try', English *try* and Sinhala *kəməti* 'like', which take obligatory control infinitives, select for PRO. The ungrammaticality of examples where we have an overt subject in the infinitival complement of such verbs thus has nothing to do with a lack of licensing for the overt subjects themselves – they need no licensing. The problem is rather that the selectional requirement imposed by the matrix verb is not satisfied, causing the derivation to crash. On the other hand, typical finite clauses in all of these languages normally do not allow PRO subjects.[18] This, we claim,

[18] But see Landau (2004) for mention of languages, including Kannada, Hebrew, and Spanish, for which

is due to selection for an overt DP/little *pro*. Again, the problem with PRO is not that it itself is not licensed, but that it does not satisfy the selectional requirements of the relevant functional head. In Tamil adjunct infinitives, nominalizations and complements of verbs like *veɳḍ-* 'want', Latin and Irish AcI infinitives, English gerundivals, ME adjunct infinitivals and other such clauses, where either a subject-controlled PRO or an overt DP is licit, we propose that there is no specific selection for either type of DP. The functional material of the clause places no selectional requirements, and neither do the matrix verbs – often because they are not in the right local configuration to do so. In such clauses, both types of DP can potentially appear, as demanded by the intended interpretation. That is, if coreference with a matrix argument in the syntax (or the special kind of reference associated with arbitrary PRO) is intended, then PRO appears.[19] If not, then an overt DP/little *pro* is used.

An important point to clarify at this juncture is: what independent factors determine the selectional properties of specific heads. For example, what underlies the different selectional behavior of English *try* and *want* and Tamil *paar-* and *veɳḍ-*? It is reasonable to think that this distinction ultimately has a semantic basis – an idea that is reinforced by the observation that predicates meaning roughly 'try' across languages tend to take obligatory control complements and that verbs meaning 'want' tend to be more flexible in the types of complements they take. To be more precise, the meaning 'try' seems to imply the involvement of its subject in the embedded proposition, whereas 'want' does not. I.e. while 'want' expresses a relation between an individual and a proposition, 'try' expresses a relation between an individual and a proposition that that individual takes an active part in.[20] Similar points are made by Culicover and Jackendoff (2006), who argue for a semantic theory of control. For us, on the other hand, while this selectional behavior may have such a semantic basis, we crucially implement it syntactically. That is, the semantics of a predicate may help to determine what sorts of structures it can appear in, but it is these syntactic structures that determine the distribution of PRO and overt DPs.

The key advantage of our approach over more traditional Case-theoretic ones is that it

control into finite clauses is attested. These have different selectional requirements, and are distinct in other ways from the finite clauses we are discussing here. As Landau (2004), Gair (2005) and many others have pointed out, and as our discussion of various nonfinites with overt subjects confirms, a binary notion of finiteness is not sufficient to understand the DP distribution of different DP types.

[19] We leave aside arbitrary PRO for the time being, which has appeared in the data we've examined in this paper, with the exception of one of the Present-Day English gerundival examples. We believe that it can be unified satisfactorily with obligatory control PRO, but the discussion would take us too far afield.

[20] We can think of this in terms of the following rough semantic denotations (Note that we do not claim that these are the actual precise denotations for English *try* and *want*. They are simply intended to show the abstract form that those denontations take with respect to complementation and coreference requirements between matrix and embedded arguments):

$[\![try]\!]_{<<e,t>,<e,t>>} = \lambda P_{<e,t>} \lambda x_e .\textsc{try}(x, P(x))$
$[\![want]\!]_{<t,<e,t>>} = \lambda Q_t \lambda x_e .\textsc{want}(x, Q)$

The denotations above show that both predicates take two arguments, namely the matrix subject and the embedded clause. Crucially, the denotation for 'try' states furthermore that the highest argument of the embedded clause will be coreferent with the matrix subject. In contrast, the denotation of 'want' places no such restrictions on the arguments of its complement clause.

can elegantly handle the alternation between PRO and overt subjects within a single syntactic context. As discussed above, such alternations are seriously problematic for Case theory, which attempts to account for the distribution of overt DPs and PRO in terms of distinct licensing conditions. The logically possible Case-theoretic responses to such alternations are ad hoc at best, and have essentially no predictive power. Because the possibility for an alternation has to be essentially stipulated, such a theory makes no predictions about where alternations should and should not be expected.

On the other hand, a selection-based approach to the choice between PRO and overt DPs predicts the existence of alternations between the two and allows an explanation of where they are and are not found. Because the two types of DPs do not have distinct special licensing needs, we expect that they will be in alternation with one another whenever neither is explicitly selected; this, in fact, is the default scenario. Furthermore, because selection is a syntactic relationship, we can expect it to be subject to standard structural and locality restrictions. So, for instance, matrix verbs will only be able to select for specific kinds of DPs in clauses which are their direct complements. Adjunct clauses and clauses which contain enough structure to place a locality boundary between their subject and the matrix verb thus cannot have a selectional effect on the type of the embedded subject. This is why Tamil has both obligatory control and alternating complement infinitives, depend on the class of the matrix verb, but only alternating adjunct infinitives.[21] Our empirical investigations reported above have shown that clause-types with alternating subject types are not only attested, but rather common cross-linguistically. Thus the fact that our approach can handle them so much better than Case-theoretic approaches can is a decided advantage.

Note in comparison that both theories are equally well equipped to accommodate clauses which require only one or the other type of DP. Standard Case theory has to assume a formal distinction on overt DPs and PRO – either the overt DPs bear Case features and PRO doesn't, or PRO only bears a special null Case feature – and a series of formal distinction on c-commanding verbal and functional heads – e.g., transitive and ECM verbs assign structural accusative, finite T assigns structural nominative, nonfinite T assigns no Case or null Case, and ECM and raising verbs like *believe* and *seem* select TP complements, while obligatory control and alternating verbs like *try* and *want* select different flavors of nonfinite CP. We also must assume a comparable amount of formal information on both DPs and the heads in their environment. Overt DPs and *pro* must be distinguished formally from PRO, which, we will argue, can be done in terms of a single binary feature. We must also posit a series of distinctions on c-command heads – e.g., we will need similar selectional features on verbal heads like *believe*, *try* and *want* for different categories of embedded clauses. We will not need to assume Case features on verbs or functional heads, but we will need to posit selectional features on some of them for either PRO or overt DPs/*pro*. Thus in terms of the number and complexity of formal devices needed to account for the standard DP distribution facts, our account fares no worse than Case theory.[22] The fact that it can also

[21] This of course does not mean that all adjunct clauses should allow alternations. The adjunct clause itself may have a functional head which selects for one or other type of DP, as we claim is the case in typical finite clauses.

[22] In fact, to the extent that we succeed in motivating the features we use to distinguish PRO from overt DPs/*pro* in our implementation below, our account may be seen as less stipulative. Given recent demon-

handle the less well-known alternation facts discussed here, is then decisive.

7.2 Formal implementation

In this section we will explore one way in which a theory of DP distribution based on selection can be formally implemented. What we describe here is the subject of ongoing research, but it should be sufficient to give an idea of how such a theory can work.

We implement selection in terms of the Minimalist operation Agree, following proposals by Adger (2007) and others (see also Chomsky, 2001, for details on Agree). Simply put, the selecting head – the probe – bears an uninterpretable feature, which must Agree with a matching interpretable feature on an appropriate goal, obeying standard locality and minimality restrictions. We follow Landau (2004) in identifying the relevant feature for the distribution of DP types as [±R] (initially proposed by Reinhart and Reuland (1993), to handle restrictions on anaphors). Now, [±R] does not simply distinguish PRO from overt DPs, but rather cross-classifies with overtness, as Table 1 makes explicit. Overt DPs and

	[+R]	**[-R]**
Overt	OVERT DPs	ANAPHORS
Covert	*pro*	PRO

Table 1: DP types

little *pro* are specified [+R] while big PRO and anaphors are specified as [-R]. The [±R] status of a DP is related to its syntactically relevant referential properties, [-R] meaning roughly 'is not referentially independent'. This is to capture the fact that anaphors and PRO can both be required to be coreferent with another DP on the basis of their syntactic relationship and indeed resist showing up in positions where coreference (or a special interpretation of arbitrary reference) cannot be established.[23] This is in contrast to little *pro*, overt pronouns and DPs, all of which establish coreference on a discourse-pragmatic basis and in fact resist coreference with DPs in syntactically local configurations.

Modelling the distribution of PRO at least partly in terms of its referential status was of course already standard in GB. There PRO was analyzed as both [+anaphoric] and [+pronominal], with the result that it was subject to principles A and B of the binding theory (Chomsky, 1981, and others). This dual status could only be accommodated if PRO had no binding domain – i.e. if PRO were ungoverned. Along with a series of particular assumptions about the governing properties of various flavors of Infl, this was then supposed to capture the distribution of PRO.

Our adoption of Landau (2004)'s analysis of PRO as [-R] roughly corresponds to saying that it is [+anaphoric], since anaphors are again [-R] as well. On the other hand, we

strations that morphological case is dissociated from DP distribution (see e.g., McFadden, 2004; Sigurðsson, 2008), abstract Case features would at present serve only to model the DP distribution facts.

[23] Landau (2004) suggests that what makes PRO referentially dependent is that it lacks any inherent specification for ϕ-features, these having to be valued under agreement with the controller. This applies also to SE-anaphors, which are unspecified for gender and number, though it would not seem to work for English-style *self* anaphors.

reject the claim that PRO is parallel to overt pronouns and *pro* in some other feature like [+pronominal]. This assumption was made in GB to capture the distributional differences between PRO and overt anaphors. However, outside the very particular assumptions of GB theory, there does not seem to be any reason to think that these distributional differences indicate a strict dichotomy between PRO on the one hand and little *pro* and pronouns on the other. We would like to suggest instead that the difference in distribution of those elements that are identically marked for [±R] - namely overt DPs/pronouns and little *pro* on the one hand (both marked [+R]) and PRO and overt anaphors on the other (both marked [-R]) is not a matter of the narrow syntax but an essentially morphological matter handled on the way to PF.

Specifically with reference to the issue of PRO vs. overt anaphors, we propose that the choice between the two is regulated by whether the properties (phi-features, etc.) of the coreferent antecedent are accessible when the referentially dependent DP is spelled out. This in turn depends on the syntactic (specifically phasal) relation between the [-R] DP and its [+R] coreferent antecedent in the following manner. If the antecedent is in a local relationship with (i.e. in the same minimal phase as) the [-R] element, then the [-R] element is spelled out as an overt anaphor with, where applicable, the necessary morphological features showing agreement with the antecedent DP (giving, for instance, *himself* vs. *herself* in English). If the antecedent is in a non-local relationship with the coreferent antecedent (i.e when the antecedent DP is in a higher phase domain), then the relevant phi-features of the antecedent will remain inaccessible to the [-R] element which, furthermore, will be spelled out before the coreferent DP in the higher phase is. In such cases, we argue, the [-R] DP is unable to show agreement, where required, with its antecedent and is simply spelled out as PRO. Such a proposal treats PRO and overt anaphors as being interpretively identical (both are DPs marked [-R]) but correctly yields the cross-linguistically attested surface distribution of PRO vs. overt anaphors: anaphors occur in a local relationship with their antecedents (Binding Condition A) whereas PRO does not. The attractiveness of such an idea is that these distributional differences fall out as a natural result of the interaction between cyclic Spell-Out and locality restrictions on antecedent identity due to intervening phase boundaries. We leave the details and actual implementation of this idea for future research. For now, we simply offer this as a tentative proposal which seems to correctly capture the attested distributional differences between PRO and anaphors while still retaining the intuition that they are both interpretively marked [-R] in the narrow syntax.

Returning to the main discussion, because [±R] is related to the referential properties of DPs, it is reasonable to posit that it is interpretable on them. On lexical verbs and functional heads, on the other hand, such a feature would be uninterpretable, so we can use it there to encode the selectional restrictions that these heads carry. I.e. a head specified [u+R] will require an overt DP (or little *pro*) in its local c-command domain, while a head specified [u-R] will require PRO (or an anaphor)[24]. The Tamil and other data presented in Sections 3 – 5 can now be acounted for as follows.

[24]It is worth mentioning, once again, that the independent factors that determine whether a particular selecting head is specified [u+R] or [u-R] or is unspecified for either depends on the semantic properties of that head though it is syntactically checked off through Agree.

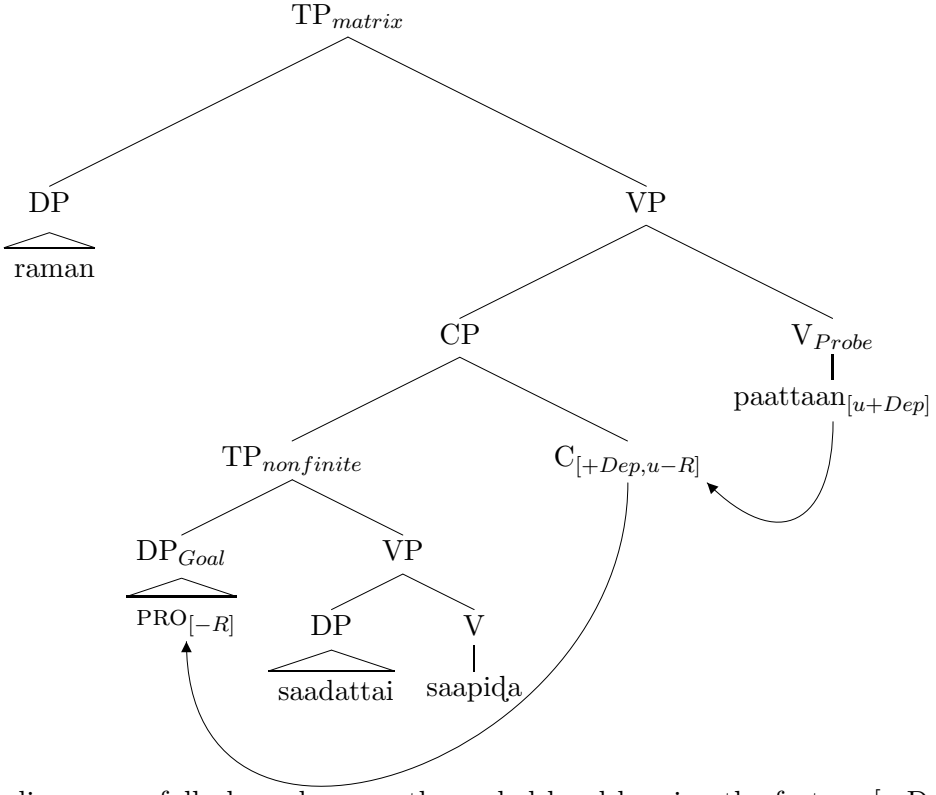
7.3 Sample structures

Verbs that take obligatory control complement infinitives, like Tamil *paar-* 'try' and English *try* require a PRO in their complement clause. One might think these verbs could bear the feature [u-R] and directly select PRO, but since the complement clauses in this class are generally assumed to be CPs (Chomsky, 2001), this would be non-local. Instead, we assume that they select for PRO in two steps via the intervening C head. That is, they select directly for a special dependent C, which in turn selects directly for PRO. The assumption of a special kind of embedded clause here is motivated by the fact that, cross-linguistically, complements of verbs like *try* are actually dependent on the matrix clause in several ways – e.g., they cannot receive a distinct temporal interpretation – and by the fact that these verbs tend not to allow finite complements, underscoring the fact that they set the properties of the clausal complement, not directly those of its subject.

The tree below shows a simplified version of this kind of selection for sentence (40), repeated from above. Here and below, trees are abbreviated to reduce functional structure (such as between TP and VP) that is irrelevant to the selection process; arrows in the trees represent selection relationships under Agree, not movement. Dotted line arrows, on the other hand, represent failed selection resulting in ungrammaticality.

(40) raman [PRO saadatt-ai saappiḍ-a] paa-tt-aan
raman.NOM PRO rice-ACC eat-INF try-PST-3m.sg

(41) **Obligatory control complements: selection for** PRO



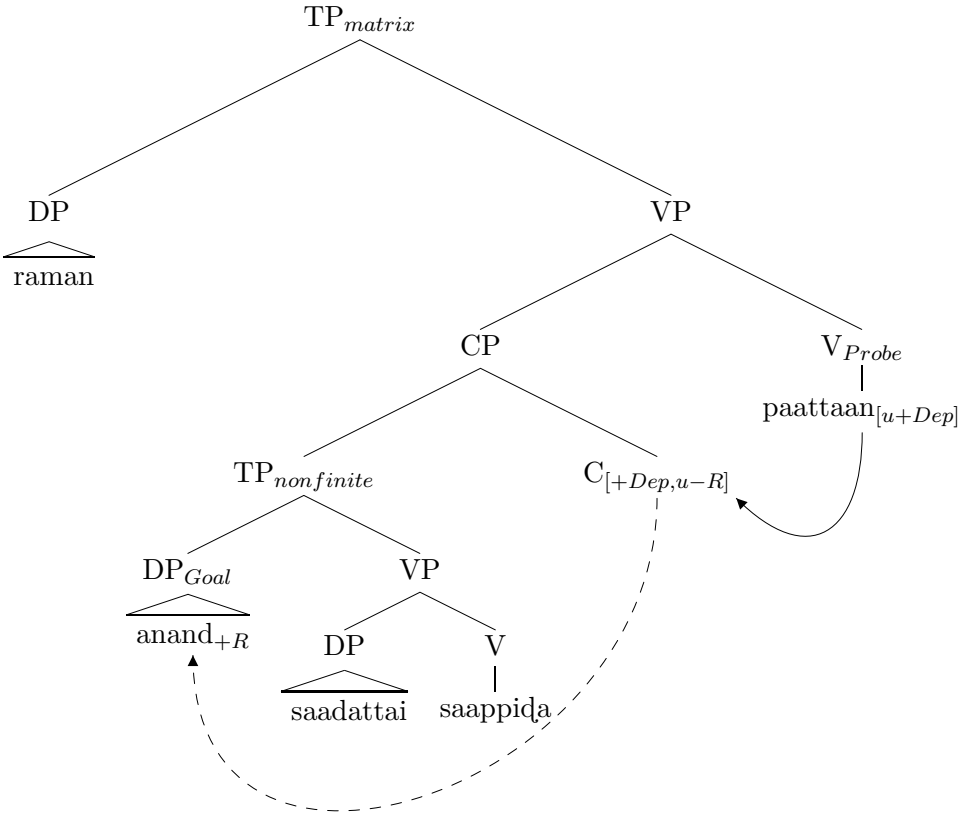
Selection applies successfully here, because the verbal head bearing the feature [u-Dep] c-commands C bearing [-Dep, u-R], which in turn c-commands PRO bearing [-R]. In neither instance does a (phasal) locality boundary intervene[25], nor are there potential interveners which would create minimality problems. I.e. all of the syntactic requirements for the two instances of Agree are fulfilled, and the uninterpretable features can be checked off by matching with their interpretable counterparts.

Sentences which have an overt subject instead, such as the example below (reproduced from (10b) are bad not because the subject DP isn't licensed, but because the selectional needs of the relevant heads are not satisfied, as in tree (43):

[25]The embedded CP does constitute a phasal domain, but doesn't intervene in Agree between the matrix V$_{Probe}$ and dependent C head because C is at the edge of the phase and, thus, accessible.

(42) * raman [anand saadatt-ai saappiḍ-a] paa-tt-aan
raman.NOM anand.NOM rice-ACC eat-INF try-PST-3m.sg
'Raman tried Anand to eat the rice.'

(43) **Crash due to [-R] selection failure**
*



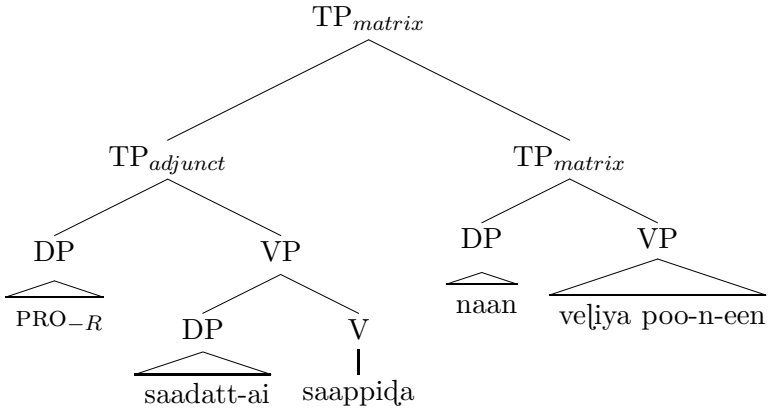
The specific problem here is a mismatch of [±R] features between probe and goal. The probe C is marked with an uninterpretable [u-R] feature, which means that in order for Agree to take place, it needs to check this feature off of a DP that is marked [-R] – in other words, a PRO (or an overt anaphor). The closest goal, namely the embedded subject DP *anand* is, however, marked [+R] since it is referentially independent. As such, it is not able to Agree with the probe and the derivation crashes.[26]

The next two structures show the default scenario which is one where both PRO and overt subject DPs alternate in free variation. This is the situation that is found in alternating nonfinite complements such as those of *want*-class predicates in Tamil, English, Malayalam and other languages, in Tamil and Sinhala adjunct infinitives, and in tensed nominalizations in Tamil and gerundivals in English.

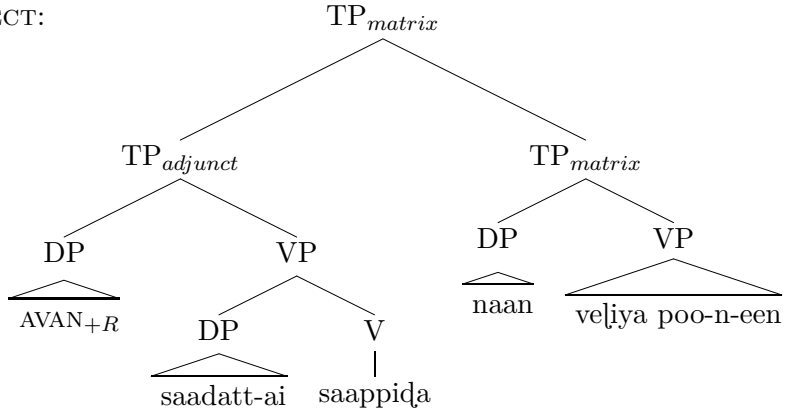
[26] An alternative structure which would be equally ungrammatical would involve the version of nonfinite C found in complements of verbs like *veṇḍ-* 'want', i.e. the non-dependent C. The problem there would be with failure of the selection of C by the matrix verb.

Default scenario: free variation between PRO and overt DP

(44) PRO:



(45) OVERT SUBJECT:



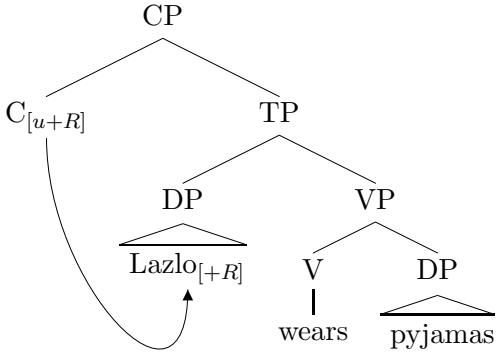
What allows this alternation is simply that there is no selection due to Agree in such constructions. The lack of selection due to Agree is easy to understand in adjunct or nominalized constructions such as those depicted above - the locality conditions necessary for an Agree relation between probe and goal are simply not satisfied in adjunct and nominalized clauses. But what about non-alternating nonfinite complements such as those of *want*-class predicates? In such constructions, the structural conditions for Agree between a matrix functional head and the embedded DP subject obtain, but such Agree does not occur because the matrix predicate simply does not bear a selectional feature for [±R].

Finite clauses show the opposite kind of selection from *try*-class infinitives. Finite C is specified [u+R], and hence requires overt subjects or *pro*.[27] The locality and minimality conditions are of course the same as we saw for selection of [-R] by dependent C in the obligatory control complements above. We demonstrate this for English rather than Tamil, because the latter has *pro*, which is difficult to distinguish on the surface from PRO:

[27]We assume that all finite clauses are CPs. Alternatively, if we say that (some) finite clauses are TPs, [u+R] would be located in finite T.

(46) **Lazlo** wears pyjamas.

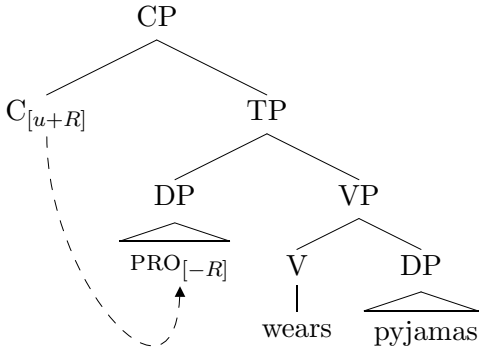
(47) **Finite clauses: selection for overt DP**



In contrast, constructions with PRO in the subject position of finite clauses are predicted to be impossible because PRO, being inherently [-R], cannot satisfy the selection requirements of finite C. This is shown below:

(48) * PRO wears pyjamas.

(49) CRASH DUE TO [+R] SELECTION FAILURE



Again, we have a mismatch between the [u+R] feature of the selecting C and the [-R] feature of the closest potential goal PRO. Agree is thus blocked, the uninterpretable feature cannot be checked off, and ungrammaticality results.

8 Summary

We have presented extensive data from Tamil, Malayalam, Sinhala, Latin, Irish, Middle English and Present-Day English and shown that they are highly problematic to standard Case-theoretic approaches to the distribution of overt DPs and PRO. For one thing, we find that overt DPs are licensed in a number of these languages in contexts where Case theory predicts that only PRO should be licensed. For another, we find overt DPs and PRO in alternation in a number of contexts, with no independently observable factors differentiating the variants with the two types of DP. We have argued that this state of affairs is inconsistent with the Case-theoretic premise that overt DPs and PRO have distinct and complementary licensing requirements.

We have considered a number of options for handling the problematic data in such a way as to salvage Case theory, including a previous account of some of the main Tamil facts by Sarma (1999). We have concluded, however, that none of these possibilities yields a satisfactory analysis of the range of data considered. In particular, none of the Case-theoretic strategies can accommodate the alternations between PRO and overt DPs without unattractive stipulations.

We have thus proposed an alternative analysis, which is in a sense the reverse of the standard Case-theoretic approach. Where Case theory accounts for the distribution of DPs in terms of their own need for licensing, we have argued that it is the selectional requirements of c-commanding verbs and lexical heads which are responsible. Specifically, certain heads like the Tamil verb *paar-* 'try' select for a DP bearing the interpretable feature [-R] in their local c-command domain – i.e. the require PRO. If a [+R]-bearing overt DP occurs in the relevant position instead, the result is ungrammatical – not because the DP is not licensed, but because the selectional requirement of the verb is not met. A similar selectional requirement for [+R] on finite C ensures that finite clauses will have overt DP or little *pro* subjects rather than PRO. In many clauses, however, no such selectional pressures are at work – either because the embedding verb is not lexically specified with a [u±R] feature or because the clause is embedded in such a way that selection into it is ruled out for syntactic reasons. In such clauses, the default scenario emerges, which is free variation between PRO and overt DPs controlled by the intended interpretation.

Our proposal provides a consistent account of the data that were problematic for Case theory. Not only can it accommodate the attested alternations between PRO and overt DPs, it also makes testable (and thus far confirmed) predictions about where such alternations should and should not be found. Thus it achieves a level of explanation where Case theory allowed only stipulation. Crucially, it can still handle the data that were not problematic for Case theory. Finally, while we have motivated our selection-based approach on the basis of data from Tamil and a handful of other languages, we do not intend it as an account of those languages alone. Rather, we believe that it can serve as the basis for a more general theory of DP distribution, and intend to expand it to a broader selection of languages in future research.

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