INVERSION IN COPULAR CLAUSES AND ITS CONSEQUENCES

by

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ABSTRACT OF THE DISSERTATION

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In this dissertation, I investigate specificational copular clauses (Higgins 1973). My aim is to not only propose an analysis for how such specificational copular clauses are derived but also to use such constructions as a testing ground for evaluating and/ or revising different aspects of linguistic theory. The language I primarily use towards these ends is Tamil (Dravidian) although English (among others) plays a significant role.

With respect to the analysis of specificational copular clauses, I use subject-verb agreement data from Tamil specificational copular clauses in order to support the claim that specificational copular clauses are inverted predications (Moro 1997, Mikkelsen 2004, den Dikken 2006). However, this is not to negate the claim that specificational copular clauses are equations (Jacobson 1994, Heycock & Kroch 1999, Sharvit 1999, Heller 2004). I propose that syntactic predication can be unified with semantic equation using somewhat standard notions of type-shifting (Partee 1987). I also exploit the fact that specificational copular clauses have a fixed Topic-Focus order (Heycock & Kroch 2002). In this respect, the general idea is similar to Mikkelsen (2004) but differs from her as I propose a semantic account of the facts that is compatible with her syntactic approach. I also investigate the behavior of (relatively neglected) specificational copular

clauses with indefinite subjects and propose an analysis which is uniform with the analysis proposed for specificational copular clauses with definite and possessive subjects.

In this dissertation, I also investigate what inverted constructions such as specificational copular clauses tell us about the way languages syntactically combine nodes. A recent theoretical advance with respect to this question is the Labeling Algorithm (Chomsky 2013, 2014) and I argue that inversion structures such as specificational copular clauses, and OVS reversals (like that found in Kirundi and Russian). In order to support this, I reanalyze Kirundi OVS reversal (Ura 1996, Ndayiragije 1999) where the richest evidence is found.

Perhaps one of the most famous/ important properties of specificational copular clauses is that they exhibit connectivity. Here, I illustrate two different types of Tamil specificational copular clauses. Interestingly, one specificational copular clause exhibits only a proper subset of the connectivity effects exhibited by the other. I propose that this can be attributed to their different syntactic derivations which is independently motivated. I use these facts to investigate reflexive binding and propose that a comparison of English and Tamil reflexive connectivity suggests that the types of interpretations that reflexive pronouns have in English and Tamil differs.

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Lynette, my wife, is my pillar. Throughout the ups and downs of graduate school, she has always been there for me even if she had a long day herself. I only hope I allow her to lean on me half as much as I have leaned on her. Finally, we come to Norah. Having a bossy two year old around while trying to write a dissertation is not something I would recommend to anyone. But I can't imagine having done it any other way.

DEDICATION

To my parents who saw me through the early part of this journey,

and to my wife who has seen me through the rest.

TABLE OF CONTENTS

Chapter 1   Introduction

1.1   Specificational copular clauses, inversion and connectivity

Higgins (1973, 1979) outlines distinct classes of copular clauses on the basis of their meaning and properties.

1) a.   John is the doctor.   Predicational
    b.   The doctor is John.   Specificational
    c.   Cicero is Tully.   Equative

The focus of this dissertation is on copular clauses like those in (1b), the specificational copular clauses. Intuitively, the meanings of the copular clauses in (1a) and (1c) are quite clear. In (1a), even though the post-copular phrase is a definite expression, there is a distinct sense in which *the doctor* is construed as a predicate similar to definites in sentences like *I consider John the best doctor.* The equative in (1c), on the other hand, does not need either of its phrases to be a predicate. Here, it appears as if two names are equated on the presumption that these names refer to the same individual. However, the meaning of specificational copular clauses, such as those in (1b), is difficult to pin down. There have been three different approaches to such copular clauses. The first is to say that specificational copular clauses are a variant of predicational copular clauses. This is the predicate inversion analysis made prominent by Moro (1997). In this analysis, the predicational and specificational copular clauses are underlying the same but subject to a different ordering principle. The second is to say that specificational copular clauses are a type of equative. Jacobson (1994) is one of the original proponents of this idea. The third is to argue that specificational copular clauses are a distinct type of copular clause, an

angle pursued by Higgins himself. Each theory has relatively modern adherents and thus what a specificational copular clause is is still up to much debate.

In this dissertation, I introduce novel Tamil (Dravidian) data into the debate. I argue that Tamil specificational copular clauses support the view that these are inverted predications. This comes in the form of agreement data which is shown to be difficult to reconcile with any other current theory of specificational copular clauses [Chapter 2].

2) a. Balan   en   nanba-naa   iru-**ndaan**   **Pred**
        Balan   my   friend-AA   be.PST-**3sm**
        'Balan was my friend.'

   b.   en   nanban   Bala-naa   iru-**ndicci**   **Speci**
        my   friend   Balan-AA   be.PST-**3sneut**
        'My friend was Balan.'

(2a) shows a Tamil predicational copular clause while (2b) shows a Tamil specificational copular clause. Apart from the context of psych verbs, Tamil typically shows subject-verb agreement. Thus, the predicational copular clause in (2a) shows masculine agreement. Notably, the specificational copular clause in (2b) shows neuter agreement. The bulk of this chapter deals with uncovering the source of this neuter agreement. I adopt a line of argument from Mikkelsen (2004) for English and claim that this neuter agreement indicates that the phrase that is in the subject position is indeed a predicate which has moved to Spec, TP from within a small clause complement position. I go one step further in eliminating possible alternative explanations for this neuter agreement. I consider the following alternatives: that neuter agreement is due to default agreement, that neuter agreement is due to semantic agreement, and that neuter agreement is due to agreement with a concealed question.

In this dissertation, I also take the novel step of reconciling predicate inversion with a semantics of equation [Chapter 3]. Among other reasons, this is done in order to

account for facts such as the following which have been used to argue forcefully that specificational copular clauses are equations (Heycock & Kroch 1999).

3) a.   John is the one thing I want a man to be.
   b.   *The one thing I want a man to be is John.
   c.   The one thing I want a man to be is honest.

(3a) shows a predicational copular clause where the precopular phrase is of type e and the post-copular phrase is of type <e, t>. (3b) shows a specificational copular clause which should be grammatical if specificational copular clauses are just reversed predicational copular clauses. However, an equative analysis of specificational copular clauses accounts for this ungrammaticality as (2b) shows an illicit equation of a phrase of type <e,t> with type e. (2c) confirms that an equative analysis is on the right track as changing the pivot to a type <e, t> element makes the sentence grammatical. Such data has to be taken seriously. However, I show that predicate inversion can be reconciled with a semantics of equation with more-or-less standard assumptions regarding the nature of type-shifting (Partee 1987). I propose that the type <e,t> meanings of definites are derived from type-shifting the type e and type <<e,t>,t> meanings. This gives us two different type <e,t> meanings. The following <e,t> meanings for a nominal like *the doctor* is shown below.

4) a. $[[\text{the doctor}]] = \lambda x\,[\iota y[\text{doctor}(y)] = x]$
   b. $[[\text{the doctor}]] = \lambda z[\exists x[\text{doctor}(x) \wedge \forall y[\text{doctor}(y) \rightarrow y = x] \wedge x = z]]$

Both these meanings are argued to be possible in a predicational copular clause but I claim that only (4a) can be used to form a specificational copular clause wherein the predicate inverts. This is argued to arise from two independently motivated assumptions: 1) the subject of a specificational copular clause is necessarily a topic (Heycock & Kroch 2002, Mikkelsen 2004) and 2) a topic must have an existential presupposition (adapted

from Reinhart 1981). This account is also argued to account for the asymmetries in presuppositions that a post-copular definite and a pre-copular definite have (Donnellan 1966). I extend this analysis to specificational copular clauses which do not have definite predicates such as the following.

5) a.   Susan's friend is John.
   b.   A doctor *(that Susan knows) is John.

Of these, indefinite subjects of specificational copular clauses in (5b) are especially peculiar as only modified indefinites can serve as specificational copular clause subjects. I propose that modification of an indefinite serves to introduce an existential implicature that allows the indefinite to serve as a topic. I show that the existential implicature that arises with modified indefinites and existential presupposition that arises with definites and possessives have one common characteristic, they both project even when embedded under entailment canceling operators. Following Robert, Simons, Beaver and Tonhauser (2009), I claim that meanings that project are not-at-issue. This is taken as evidence that topics must be not-at-issue with respect to existence.

Specificational copular clauses are interesting not only because they have a derivation and meaning that is peculiar (as I hope to show), but because they are good foil for investigating other phenomenon that have been the focus of linguistic theorizing. In this dissertation, I deal with two such phenomena. The first has to do with the syntactic nature of inversion in general. The second has to do with the types of reflexives that are possible in natural languages.

With respect to the first phenomenon, while most proponents of predicate inversion focus on the position of the fronted predicate, there is usually little to no discussion on the position of the phrase that occurs as the pivot. I propose that this can be

investigated within the general realm of inversion [Chapter 4]. In this chapter, I look at a relatively new version of the labeling algorithm (Chomsky 2013, 2015, Epstein, Kitahara & Seely 2014) and argue that this theory makes a clear prediction about the position of the pivot in an inversion structure. I illustrate strong evidence from Kirundi inversion structures (Ura 1996, Ndayiragije 1999) which fulfill these predictions. Specifically, I show that the post-verbal logical subject in such inversion structures is not in Spec, vP where they are base-generated but rather in a low Spec, FocP position. This is shown to be what is expected given the Labeling algorithm. A sample of such structures is shown below.

6) a.   Abana   ba-a-*ra*-nyoye   amata.   SVO
            children   3P-PST-F-drink:PERF   milk
            'Children drank milk' (Ndayiragije 1999: 400)

     b.   Amata   y-a-(*ra)-nyoye   abana.   OVS
            milk   3S-PST-F-drink:PERF   children
            'Children (not parents) drank milk.' (Ndayiragije 1999: 400)

(6a) shows the neutral SVO order and (6b) shows the inverted OVS order. Note that in the OVS order, it is the object that agrees with T. Ndayiragije (1999) also provides a number of other compelling reasons why the logical Theme argument is in Spec, TP. This gives us the following descriptive statements about (6a) and (6b). In (6a), the external argument is moved from Spec, vP to Spec, TP. In (6b), however, the direct object is moved to Spec, TP. Interestingly, in (6b), the external argument cannot remain in Spec, vP. This is something predicted by the Labeling algorithm. I also illustrate evidence from Tamil which shows that a position like a low FocP is instrumental in licensing inversion to form a specificational copular clause.

One of the most puzzling properties of specificational copular clauses is that these show a significant variety of so-called connectivity effects, more than any other type of copular clause. Consider the following sample.

7) BT (Binding Theory) Connectivity
    a.   What John$_i$ is ___ is **a nuisance to himself$_{i/*j}$**   Principle A
    b.   What John$_i$ is ___ is **a nuisance to him$_{*i/j}$**   Principle B
    c.   What he$_{*i/j}$ is ___ is **a nuisance to John$_i$**   Principle C

All of the copular clauses in (7) with the indicated coindexing are only possible when the copular clause itself is interpreted as a specificational copular clause. Consider (4b). In principle, the pronoun in the pivot need not have an interpretation that is distinct from *John*. However, if *John* and *him* are coindexed, then the sentence can only have a predicational copular clause reading. If *John* and *him* are distinct, then the sentence can only be interpreted as a specificational copular clause. These types of connectivity effects have been illustrated cross-linguistically and I add Tamil data into the mix [Chapter 5]. In this chapter, I show that there are two ways to form specificational copular clauses which exhibit connectivity effects in Tamil.

8) a.   [Mala-ve   paatt-**adu**]   Balan   IC
           Mala-acc   saw-**ADU**   Balan
           'The one that saw Mala is Balan.'

    b.   [Mala-ve   paatt-**avan**]   Balan   AC
           Mala-acc   saw-**AVAN** Balan
           'The one (masc.) that saw Mala is Balan.'

(8) shows the two types of specificational copular clauses in Tamil. The primary surface difference between the two lies in the verbal morphology. In (8a), the verbal morphology is homophonous with the neuter pronoun while in (8b), the verbal morphology is homophonous with the masculine pronoun. I will call the specificational copular clause in (8a) the Invariant Construction (IC) and the one in (8b) the Agreeing Construction (AC).

I show that these constructions have very different derivations despite them having only an apparently simple morphological difference.

9) a. [<Balan> Mala-ve paatt-**adu**] Balan IC
     Mala-acc saw-**ADU** Balan
   'The one that saw Mala is Balan.'

  b. [Mala-ve paatt-**avan**] Balan AC
    Mala-acc saw-**AVAN** Balan
   'The one (masc.) that saw Mala is Balan.'

I show based on a myriad of other data that there is a copy of the pivot, *Balan*, in the subject phrase in the IC as shown in (9a). There is no such copy in the AC in (9b). In the next chapter, I use these independently motivated derivations to investigate reflexive connectivity.

 In Chapter 6, I show that the IC and AC differ with respect to bound variable and reflexive connectivity.

10) a. [ellarum$_i$ adic-**adu**] avenode$_i$ tambi-ye **IC**
    everone beat-ADU 3rd.sg.m.POSS brother-acc
   'The one that everyone beat is his brother.'

  c. [ellarum$_i$ adic-**avan**] avenode$_i$ tambi **AC**
    everone beat-AVAN 3rd.sg.m.POSS brother
   'The one that everyone beat is his brother.'

(10) shows that both the IC and AC show bound variable connectivity. However, (11) shows that only the IC shows reflexive connectivity.

11) a. [Balan$_i$ adicikit-**adu**] tan-ne taane$_i$ IC
    Balan beat.koL-ADU self-acc self
   'The one thing Balan beat was himself.'

  b. *[Balan adicikit-**avan**] taan taane$_i$ AC
    Balan beat.koL-ADU self self
   'The one thing Balan beat was himself.'

This asymmetry is argued to surprising for two reasons; first, bound variables and reflexives are often assumed to employ the same mechanism but the asymmetry in the IC

and AC show that this may not be correct. Second, English allows reflexive connectivity despite not having an IC-type specificational copular clause. I argue that these facts can be reconciled with the following idea. English reflexives can be either morphemic realizations of phase-based antecedence (Kratzer 2009, Safir 2014) or identity functions (Jacobson 1994, Sharvit 1999). However, Tamil reflexives can only be what Safir (2014) calls D-bound variables which require an A-binder. This is shown to provide an answer to both puzzling aspects of the data in (10) and (11).

1.2   Outline of Dissertation

This dissertation is split into two parts. The first part deals with what I call simple specificational copular clauses. This contains chapters 2, 3 and 4. The second part deals with complex specificational copular clauses. This contains chapters 5 and 6. The difference between simple and complex specificational copular clauses is that the latter has a clause embedded within the pre-copular phrase. A representative example is shown below.

12) a.   <u>The doctor</u> is John.
   b.   {<u>What Paul saw</u> / <u>The person that Paul saw</u>} was John.

(12a) shows a simple specificational copular clause whereas (12b) shows two different types of complex specificational copular clause in English characterized by a free relative and a full relative clause.

In Chapter 2, I introduce the simple specificational copular clauses in Tamil and discuss the agreement paradigm which is used to argue that Tamil specificational copular clauses are inverted predications. In Chapter 3, I deal with the semantics of specificational copular clauses. Here, I show how syntactic inversion is unified with semantic equation. I also propose an analysis for specificational copular clauses with

indefinite subjects. In Chapter 4, I discuss one implication of the inversion analysis. I argue that inversion structures provide evidence for the Labeling algorithm (Chomsky 2013, 2014). In Chapter 5, I introduce the two complex specificational copular clauses in Tamil. I motivate distinct derivations for these based on independent evidence. Finally, in Chapter 6, I use these derivations to argue that reflexive binding and bound variable phenomenon have different underlying mechanisms. I also argue that English reflexives, unlike the Tamil ones, have an identity function meaning. This is shown to capture the main patterns of reflexive connectivity in Tamil and English specificational copular clauses.

Chapter 2 Specificational Copular Clauses as Inverted Predications

2.1   Introduction

In this chapter, I investigate the derivation of Tamil copular clauses, paying closer attention to what are known as specificational copular clauses (Higgins 1973) and their agreement patterns. The following show a predicational copular clause and a specificational copular clause and their Tamil counterparts.

1) a.   John is my friend   Predicational copular clause

   b.   My friend is John.   Specificational copular clause

2) a.   Balan   en   nanban   Predicational copular clause
          Balan   my   friend
          'Balan is my friend.'

   b.   en   nanban   Balan   Specificational copular clause
          my   friend   Balan
          'My friend is Balan.'

The (a) sentences show predicational copular clauses in the two languages and the (b) sentences show the specificational copular clauses which show an inverted order. Tamil does have a copula *iru* 'be' that can be overt in copular clauses, but we will see these later. The derivation (and meaning) of specificational copular clauses in particular has been the source of much debate and in this chapter, I am primarily concerned with what Tamil can tell us about the *syntactic* derivation of copular clauses based on the agreement patterns. [1]

By the end of this chapter, I hope to have shown support for the following claims:

A)   The subject phrase in a Tamil specificational copular clause is a predicate.

B)   This predicate, like its analogs in English, has neuter features.

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[1] The semantic aspects of specificational copular clauses will be dealt with in chapter 3.

C)   The source of this neuter feature is a functional head, F, that takes the DP as its complement. It is this FP (the phrase headed by the to-be introduced functional head) that is the sister of the Pred head.

D)   Languages can differ in whether this functional head has neuter features. This explains why some languages show NP1 agreement and some show NP2 agreement in specificational copular clauses.

By establishing (A), I aim to provide further support for the claim that specificational copular clauses are inverted predications. Similar claims are found in Heggie (1988), Moro (1997, 2000), , Mikkelsen (2004), and den Dikken (2006). This argues against Jacobson (1994), Sharvit (1997, 1999), Heycock & Kroch (1999, 2002), Cecchetto (2000), Partee (2000), Romero (2005), Heycock (2012), and Barros (2014) who claim that specificational copular clauses are equatives. As components leading to this, I first show that the predicate head of a small clause is realized in Tamil as -*aa* and propose a unified analysis for all the occurences of this -aa which includes adverbial contexts.

While Mikkelsen (2004) has previously argued that predicates have neuter features, it is not quite addressed how this claim can be reconciled with the fact that the non-neuter features of the predicate are available for interpretation (eg. #*The chairwoman is John*). (B) and (C) deal with this aspect of the inverted predicate. I produce arguments for why this neuter agreement is neither default nor semantic agreement in Tamil. In addition, I also argue against the claim that the specificational copular clause subject is a concealed question (Romero 2005, Heycock 2012). Based on these results, I conclude that the subject of a specificational copular clause is an inverted predicate with neuter features. In order to explain why predicates have syntactically sensitive neuter features, I

propose nominal predicates are actually complements of a null head that takes the DP as its complement. I propose that it is this F head that can be specified for neuter features. I illustrate independent evidence for this claim from the dependent case marking framework of Baker (2015).

Using the Labeling algorithm of Chomsky (2013, 2015), I aim to establish (D). The specificational copular clause in languages like English show subject agreement with the pre-verbal nominal while languages like Italian show subject agreement with the post-verbal nominal. An explanation for this fact has proved elusive. I propose that this difference arises depending on whether the FP that embeds a nominal predicate in the language has phi features. I argue that in languages like Tamil and English, the FP does have phi features whereas the FP in Italian does not. Following the premises of the Labeling algorithm, this is shown to mean that only English and Tamil allow their nominal predicates to be in Spec, TP, the position in which an agreeing subject is usually found.

The outline of the chapter is as follows. In the next section, I illustrate the basic data concerning specificational copular clause. Here, I show the distribution of an -aa suffix that obligatorily appears when the copula verb is overt and propose that this is a Pred head. Here, I will also show that specificational copular clauses unlike predicational copular clauses show neuter agreement. In section 3, I pin down the source of this neuter agreement and conclude that this agreement comes from the fact that the specificational copular clause subject is a predicate that has neuter features. Here, I will rule out default and semantic agreement. I also show that Romero (2005)'s claim that specificational copular clause subjects are concealed questions is not general enough and makes wrong predictions regarding what is allowed as a specificational copular clause subject. In

section 4, I argue that the source of neuter features is an F head that takes a nominal predicate as its complement. Whether this head has phi features is a matter of parametric variation. In section 5, I illustrate the agreement patterns in specificational copular clauses cross-linguistically. While some languages are NP1 agreeing languages, there are some which are NP2 agreeing languages. I propose that NP2 agreement languages are necessarily the ones which do not allow the inverted nominal predicate to be in Spec, TP. In section 6, I use the Labeling algorithm to account for these cross-linguistic differences in agreement. I, then, conclude the chapter.

2.2   Specificational copular clauses in Tamil[2]

In this section, the Tamil specificational copular clause data is introduced. Here, I will first motivate a small clause analysis of copular clauses based on additional morphology that accompanies overt copula. We will then see agreement data that suggests that the subject in a Tamil specificational copular clause is an inverted predicate because of the neuter agreement. This will be shown to be similar to claims made for English (Mikkelsen 2004). First, consider the following copular clauses which do not have any overt copula morphology.

3) a.   Balan   en   nanban   Predicational copular clause
          Balan   my   friend
          'Balan is my friend.'

   b.   en   nanban   Balan   Specificational copular clause
          my   friend   Balan
          'My friend is Balan.'

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[2] In this chapter, we deal with copular clauses which are simple, i.e. the subject phrases are simple nominals without any relative or free relative clause structure.

(3) shows the bare forms of the copular clauses again. I will clarify some terminology first. In English, which has an SVO order, it is convenient to refer to these nominal phrases as the pre-copular and post-copular phrases. This option is not available in a head-final language like Tamil. For the sake of consistency, I will always refer to the second phrase in a copular clause the pivot. Thus, in (3a), the pivot is *en nanban* 'my friend'. In (3b), it is *Balan*. I will refer to the first phrase in a copular clause as the subject of the copular clause. While this may appear like an analytical term, the reason for this will become clear soon enough. Note the versions of (3) with overt copula morphology.

4) a. Balan   en   nanba-naa   iru-ndaan
        Balan   my   friend-AA   be.PST-3sm
        'Balan was my friend.'

    b. en   nanban   Bala-naa   iru-ndicci
        my   friend   Balan-AA   be.PST-3sneut
        'My friend was Balan.'

There are two things of note in these copular clauses. The first is the verbal agreement, something we will deal with in more detail shortly. The second is the obligatory *-aa* suffix that occurs with the pivot. We need to clarify the status of this suffix and I turn to this next.

2.2.1   The -aa suffix as a Pred head

The first piece of evidence that we can see for the claim that this suffix is a Pred head comes from phonological evidence that indicates that this *-aa* is suffixed to the pivot rather than prefixed to the verb. What this evidence is used to show is that this *-aa* is distinct from a homophonous prefix that is the equivalent of the English word 'become'. Now, lets consider the phonological evidence. In Tamil, consonant epenthesis prevents vowel sequences at morphemic boundaries. For example, accusative case, which is

underlyingly /e/, is always mediated by consonant epenthesis when the root ends with a vowel as seen in (5).

    5) /Maala e/   →   [Maala**v**e] 'Mala+Accusative'
                                        *[Malae]

Given this, when the pivot ends in a vowel, the fact that a [v] is epenthesized between the pivot and *aa* but not between *-aa* and the following copular verb indicates that the pivot and *-aa* is a unit as seen in (6).

    6) /…Maala aa   irukum/   →   [Maala**v**aa irukum]   '…is Mala'.
                                            *[Maala**v**aa**y**irukum]
                                            *[Mala aa**y**irukum]

In (6), there can only be one consonant epenthesized and it occurs between the pivot and *-aa* and not between this morpheme and the copula verb. In addition, there does seem to be a different use of a morpheme *-aa* which combines with *iru* to form a complex word meaning 'become' which can co-occur with the *-aa* we see in copular clauses. This *-aa* clearly prefixes to the verb as seen in (7).

    7) Balan panekaare-naa (*v)   aa**y**iru-pp-aan
       Balan rich.man-AA   become- PST-3sm
       'Balan has become a rich man.'

As can be seen in (7), the *-aa* that translates as 'become' not only triggers consonant epenthesis with the copula verb *iru* and co-occur with what we are analyzing as the small clause *-aa*, it also changes the meaning of the sentence. It should also be noted that an epenthetic consonant is not allowed between the two uses of *-aa*. I take this phonological evidence to be indication that there the *-aa* suffix that we are interested in is not part of the verbal stem.

When we look at the distribution of this suffix under the hypothesis that this is a Pred head, we find it in the places where small clauses are expected to be such as those in (8).

8) a.   naa   Balan-e   en   nanba-**naa**   karudugir-een
         I   Balan-acc   my   friend-AA   consider-1sg
         'I consider Balan my friend.'

    b.   Mala   Somu-ve   kettava-**naa**   nene-caal
         Mala   Somu-acc   bad.guy-AA   thought-3sf
         Lit: 'Mala thought Somu a villain.

Seeing that copular clauses are commonly given a small clause analysis, the fact that -*aa* occurs in both structures in Tamil suggests strongly that this is a pred head. I will assume that -aa in these contexts (including the copular clauses in (4)) is the head of a predicate phrase (PredP) similar to that argued for by Bowers (1993), Baker (2004), and den Dikken (2006). This provides a straightforward analysis for (4) and (8).

There is another use of this -aa suffix which is at first glance surprising. In the Dravidian literature, this -*aa* suffix is for the most part considered an adverbializer of some sort (eg. Asher 1981) as it occurs in what can be considered adverbs.

9) a.   Balan   veegam-**aa**   odu-naan
         Balan   quick-AA   ran-3sm
         'Balan ran quickly.'

    b.   Mala   ameidi-**yaa**   pecu-naal
         Balan   quiet-AA   spoke-3sf
         'Mala spoke quietly.'

The use of -*aa* in what is an adverb as in (9) requires a little more to be said as it cannot be taken for granted that there is a PredP in these structures as well. One could possibly argue that there is no reason to treat all these instances of -*aa* as the same structural element but a unification is more desirable and that is what I suggest here. den Dikken (2006) argues that the -*ly* suffix is a Pred head (a RELATOR, in his terms) which attaches

to an adjectival predicate and takes a proposition as its argument. Thus, (9) would be analyzed as the following (den Dikken 2006: 30).

10) a.   [$_{PredP}$ [Balan ran] [$_{Pred'}$ -ly quick]]

    b.   [$_{PredP}$ [Mala spoke] [$_{Pred'}$ -ly quiet]]

If true and *-aa* is just the Tamil version of English *-ly*, then we have a unified analysis of *-aa*. However, this analysis does not quite work for Tamil (and English) as there is a non-trivial problem of getting the word order right.

11) a.   [$_{PredP}$ [Balan ran] [$_{Pred'}$ quick **-aa**]]

    b.   [$_{PredP}$ [Mala spoke] [$_{Pred'}$ quiet **-aa**]]

Given that Tamil is head final, (11) represents the underlying form. To get the canonical order seen in (9) in which the adjective+*aa* occurs between the subject and the object these, we need a number of unusual movements. The simplest one is one in which Pred' moves into its specifier but this can be ruled out as a highly unusual type of movement.. However, it is difficult to think of a plausible set of other permutations of movements that could lead to the order in (9). What we want is for the adverb to occur in between the subject and the verb as in the surface order. This means that we need to allow the subject and verb to first move out of the spec, PredP position individually (which would be a violation of the subject island) and then the correct word order is somehow derived higher up in the tree. Even if such movements were possible, we will then need to explain why the canonical order is Subj-Adv-Verb rather than Verb-Adv-Subj. One might expect the latter order to be possible if the verb could move independently of the subject. In addition, it is also not obvious that the correct interpretation can be derived in this structure.

Thus, we can see that den Dikken's proposal leads to a highly intractable word-order problem. To overcome this, I propose a modification of den Dikken's claim. I assume that -aa is a Pred head that takes the adjective as its complement but also a null pro as its argument. In such a structure, the PredP would essentially be an adjunct.

12) a.　　[$_{TP}$ Balan$_i$　　[$_{vP}$ [$_{PredP}$ [pro$_i$] [$_{Pred'}$ quick **-aa**]] [$_{vP}$ ran]]]

　　b.　　[$_{TP}$ Mala$_i$　　[$_{vP}$ [$_{PredP}$ [pro$_i$] [$_{Pred'}$ quiet **-aa**]] [$_{vP}$ spoke]]]

The crucial structure is shown in between bolded square parenthesis. Here, PredP is adjoined to vP.[3] The head of the PredP is *-aa* which takes the adjective as its complement. The specifier has a pro that is interpreted as the surface subject. Thus, the adverb is not only correctly interpreted but also occurs in the right word order with respect to the rest of the sentence. This would also explain instances where adverbs do not necessarily modify the event (Katz 2000) as in the following.

13) a.　　The lion devoured the meat hungri**ly**.

　　b.　　Payyen　　　sooge-maa　　nadan-daan
　　　　　Boy　　　　sad-AA　　　walked-3sm
　　　　　'The boy walked sadly.'

(13a) from (Katz 2000: 149) shows an example where the adverb is modifying the lion. Thus, it was the lion that was hungry. In (13b), it is the boy that is sad. These adverbs would have the same structure as the ones above.

14) a.　　[$_{TP}$ The lion$_i$　　[$_{vP}$[$_{PredP}$ [pro$_i$] [$_{Pred'}$ -ly hungry]][$_{vP}$ devour the meat]]]

　　b.　　[$_{TP}$ Payyen$_i$　　[$_{vP}$ [$_{PredP}$ [pro$_i$] [$_{Pred'}$ sad **-aa**]] [$_{vP}$ walk]]]

---

[3] I assume that this -aa adjunct is left-adjoined for simplicity. One can in principal assume that this adjunct is right adjoined to vP but will then need an additional ordering rule to get the right word order.

That said, there are a class of adverbs that cannot be given the same exact analysis. These seem to be the class of what Jackendoff (1972) calls S-adverbs (sentential-adverbs) like *probably, certainly* etc.

15) a.   John certainly showed up late for the meeting.
    b.   The girl probably has feelings for him.
    c.   Mala   niceye-maa   varuvaal
             Mala   definite-AA   come-3sf
             'Mala definitely will come.'

These adverbs differ from the adverbs we have looked at so far in the fact that, at least in English, these do not occur at the end of the sentence. In addition, it does not seem likely that these adverbs are modifying the subjects. For example, in (15a), it is not the individual *John* that is certain. I propose that these class of adverbs do modify the proposition (as in den Dikken's original proposal). Evidence that these adverbs modify the propositions come from the following paraphrases.

16) a.   That John showed up late for the meeting is certain.
    b.   That the girl has feelings for him is probable.
    c.   Mala   varuv-adu   niceyam
             Mala   come-NOM   definite
             'That Mala will come is definite.'

In (16), the propositions can occur as arguments where the adverb shows up as an adjectival predicate. These sentences are close to synonymous with the sentences in (15). In contrast, this type of paraphrase is not possible with the other types of adverbs we have seen.

17) a.   *That John ran is quick.
    b.   *That the lion devoured the meat was hungry.
    c   *Balan   nadand-adu   soogem[4]
             Balan   walked-NOM   sad
             'That Balan walked is sad.'

---

[4] For this argument, I gloss the *-adu* suffix in these propositions as a nominalizer. We will say more about this is the second half of this dissertation.

If this characterization is correct, then the adverbs in (15) do modify the proposition but if we implement this proposal in the way den Dikken proposes (see 10), we once again run into the problematic word order issue in Tamil (and in English too). To circumvent this and to provide a uniform analysis of the 'adjunct-ness' of a PredP headed by -*ly*, I propose that pro can be propositional as well.

18) a.   [$_{TP}$[$_{PredP}$ [pro$_i$] [$_{Pred'}$ -ly   probably]] [$_{TP}$ The girl [$_{vP}$ has feelings for him]]$_i$]

b.   [$_{TP}$[$_{PredP}$ [pro$_i$] [$_{Pred'}$ definite -aa]] [$_{TP}$ Mala   [$_{vP}$ come]]$_i$]

(18) shows the structure of the adverbial PredP as an adjunct of TP. Here, Spec, PredP has a *pro* that is construed with the lower TP. I assume that the PredP with a propositional *pro* is necessarily first-merged as an adjunct to the TP as otherwise this will lead to an *i-within-i* problem where *pro* is co-construed with the TP in which it is embedded.[5]

What our preceding discussion has aimed to do is 1) unify all the instances of suffixal -*aa* in Tamil as a Pred head, 2) derive the correct word order of the adverbs with -*aa*, and 3) derive the right interpretation of the sentences which contain these adverbs. The (tentative) proposal above does all three by positing null arguments for a PredP when it occurs in an adverbial context. There is certainly more to be said about the adverbial use of -*aa* (and also how it applies to Cinque (1999)'s hierarchy of adverbs). But I conclude on the basis of the discussion above that a uniform analysis of -*aa* as a Pred head is possible which I will take to mean that -*aa* is a Pred head.

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[5] This proposal can also possibly explain positional differences between different types of adverbs in English. This is an avenue of inquiry that is not pursued here.

2.2.2   Inverting the Predicate

What we have seen so far is evidence for positing a small clause analysis for Tamil copular clauses as many have done before for copular clauses. However, this does not automatically justify a predicate inversion analysis for specificational copular clauses because of the preponderance of arguments claiming that predicates may not after all invert (Jacobson (1994), Sharvit (1997, 1999), Heycock & Kroch (1999, 2002), Cecchetto (2000), Partee (2000), Romero (2005) and Barros (2014)). The opponents to the predicate inversion hypothesis propose that specificational copular clauses are no different from equatives like *Cicero is Tully*. Some of the strongest evidence against predicate inversion are contexts where inversion of a predicate is suspiciously not allowed.

19) a.   *<u>A doctor</u> is Mary.
           (cf. I consider [Mary <u>a doctor</u>])

    b.   *<u>Tall</u> is Paul.
           (cf. *I consider* [*Paul <u>tall</u>*])

    c.   *<u>The one thing you have always wanted a man to be</u> is John.
           (cf. I consider [John the one thing you have always wanted a man to be])

All the sentences in (19) are ungrammatical. However, under a predicate inversion analysis, these are expected to be grammatical. This is because the underlined phrases can form predicational copular clauses as these can occur as the second constituent in a small clause without any inflectional material (shown in parantheses) (Partee 1987, Rothstein 1995, Heycock & Kroch 1999, den Dikken 2006 etc). On the other hand, in an equative analysis, the data in (19) are easily explained with the assumption that equatives only allow type-matched constituents. Thus, in all the sentences in (19), a phrase of type $<e, t>$ is equated with an element of type e and as such are ruled out. As far as I can tell,

proponents of predicate inversion have not really addressed this objection sufficiently.

Mikkelsen (2004), who argues for predicate inversion, suggests that indefinites without additional modifiers and adjectival phrases do not make good topics but this will still not explain why (19c) is bad as the would-be predicate here is a definite phrase.

In chapter 3, I propose an analysis for specificational copular clauses that unifies syntactic inversion with semantic equation. Part of the motivation for unification comes from Tamil which also like English shows the same kind of restrictions to predicate inversion.

20) a.   Balan oru daakter
          Balan a   doctor
          For: 'Balan is a doctor'.
    b.   *oru daakter   Balan

21) a.   Balan nette
          Balan tall
          'Balan is tall.'
    b.   *Nette Balan

The (a) sentences show an indefinite and adjectival predicate in its uninverted position and the (b) sentences show that predicate inversion fails. Nonetheless, there is also good evidence for predicate inversion. This comes from the agreement facts.

22) a.   en nanban   netteyaa   iru-{ndaan/ kaan/ paan}
          my.friend   tall-AA   be-PST.3sm/PRES.3sm/FUT.3sm
          'My friend was/ is/ will be tall.'

    b.   en   nanban   Balanaa   iru-{ndicci/ kudu/ kum}
          my   friend   Balan-AA be-3PST.3sneut/ PRES.3sneut/
                                                 FUT.3sneut
          'My friend was/ is/ will be Balan.'

(22a) shows a predicational copular clause and (22b) shows a specificational copular clause. Both have the same phrase *en nanban* 'my friend' that serves as the clause subject but while the predicational copular clause shows masculine agreement the specificational

copular clause shows neuter agreement. The data shows that the tense/ aspect properties of the sentence do not affect its interpretation as a specificational copular clause. In addition, the predicational copular clause cannot show any other type of agreement as seen below.

23) a.   *en nanban   netteyaa   iru-{ndicci/ kudu/ kum}
            my.friend   tall-AA   3PST.3sneut/ PRES.3sneut/
                                            FUT.3sneut
            'My friend was/ is/ will be tall.'

     b.   en   nanban   Balanaa   iru-{ndaan/ kaan/ paan}
            my   friend   Balan-AA   be-PST.3sm/PRES.3sm/FUT.3sm
            'My friend was/ is/ will be Balan.'

(23a) shows that neuter agreement is impossible in a predicational copular clause when the subject is clearly a 3rd person, singular and masculine. However, in the inverted order in (23b), masculine agreement is possible.

This pattern of a ban on neuter agreement in copular clauses that are unambiguously predicational is similar to the patterns shown in English by Mikkelsen (2004). Mikkelsen shows that the subject phrase in an English predicational copular clause cannot show neuter agreement using dislocation, tag questions, and wh-questions. The following is an illustration of the various tests taken from Mikkelsen (2004: section 5.2):

24) a.   The famous actress, she/ it is Susan.   Dislocation
     b.   The famous actress, she/ *it is Swedish.

     c.   The tallest girl in the class is Susan, isn't she/ it?   Tag questions
     d.   The tallest girl in the class is here, isn't she/ *it?

     e.   Who is the tallest girl in the class?   Wh-questions
            {She/ it} is Susan.
     f.   What nationality is the tallest girl in the class?
            {She/ *it} is Swedish.

(24a/ c/ d) shows a specificational copular clause and (24b/ d/ f) shows a predicational copular clause. In each instance of the specificational copular clause, the neuter pronoun, referring to the dislocated phrase, is allowed in the specificational copular clause but not in the predicational copular clause. Mikkelsen argues that this is because a predicate has neuter features and that this shows that the subject of a specificational copular clause is a predicate. On the face of it, this looks to be the reason Tamil why predicational copular clauses in (23a) fail with neuter subject agreement as well. In such copular clauses, the subject must be an argument, as otherwise this copular clause will end up with two predicates and fail to satisfy the subcategorization of predicational copula *be* and as such the agreement morphology on the verb must also be indicative of this. On the other hand, the morphological ambiguity of (22b) and (23b) indicates that the subjects in these copular clauses can either be an argument or a predicate. I propose that (22b) with neuter agreement is a specificational copular clause while (23b) with masculine agreement is an equative (similar to how Mikkelsen 2004 explains the contrast in (24)) . The following structures thus show the proposed copular clause structures.

25) a.　　Predicational copular clause　　b.　Specificational copular clause
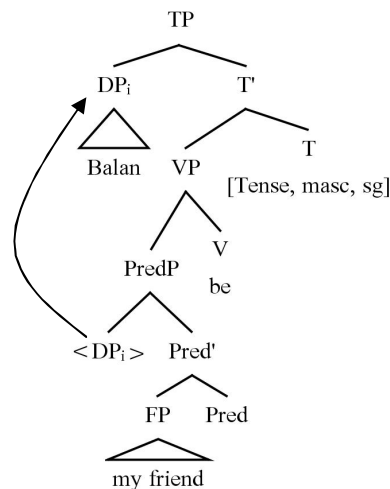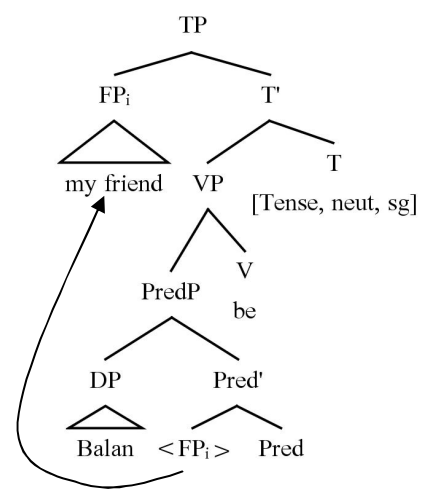
These structures show the derivation of a predicational copular clause like *Balan is my friend* and a specificational copular clause like *My friend is Balan*. I show indices for ease of presentation only. In the predicational copular clause, it is the PredP subject that is moved to Spec, TP. Here agreement is masculine as the subject is a male name *Balan*. In the specificational copular clause, it is the PredP complement that is moved to Spec, TP. Here, the moving phrase is labeled as FP, instead of a DP or NP. In the upcoming section, it will be argued that the PredP complement is headed by a null F head that takes the nominal predicate DP as its complement, hence FP. The source of neuter features will be argued to be this F head, which is used to explain why the surface subject in a specificational copular clause triggers neuter agreement. Note that the PredP complement is still an FP in a predicational copular clause. However, here the FP does not move.

Before moving to the next section, the following structure for the equative clause in (23b) is proposed.
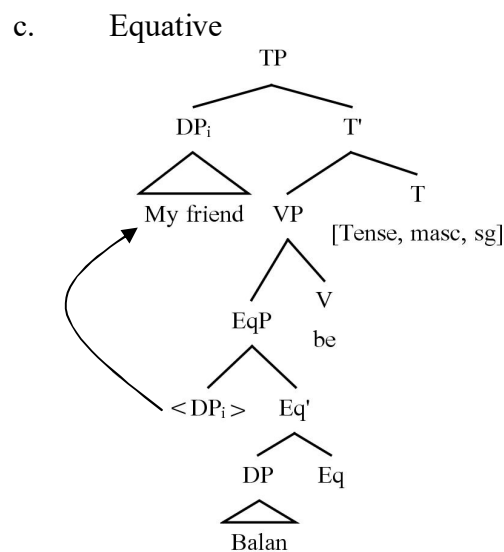
c.   Equative

In the equative, I assume an Equative Phrase and that *my friend* is moved to Spec, TP from Spec, EqP.[6] Following Baker (2004), I will assume that copular clauses, unlike other clauses, do not have a vP.

2.3   Where does neuter agreement come from?

It this section, my main aim is to show that the agreement that occurs in specificational copular clauses is syntactic agreement between T and the surface subject which is a predicate that has neuter phi features. I do this by ruling out possible alternatives. These alternatives are that 1) neuter agreement is default agreement because the predicate lacks phi features, 2) neuter agreement is semantic agreement, and 3) the specificational copular clause subject is not a predicate but an intensional phrase (Romero 2005, Heycock 2012).

2.3.1   Neuter Agreement in specificational copular clauses is not default agreement

Crosslinguistically, in languages in which neuter is the default agreement, one straightforward way to determine whether a particular instantiation of neuter is actual agreement or default agreement is to see what happens with a neuter gendered plural subject. Icelandic datives illustrate this neatly.

26)   Strákunum   leiddist/*leiddust
         the.boys.DAT.PL   bored.3SG/*3.PL
         'The boys were bored.'   (Sigurðsson 1996: 1)

---

[6] Proposing a separate EqP appears to be an unmotivated move especially since the same kind of *-aa* head occurs in equatives as well as the other two types of copular clauses. What the morphological evidence could be indicating is that the EqP is derived from a regular PredP. This would then be support for Geist (2007)'s proposal that the meaning of equation is derived through functionally composing the predicational copula *be* with the IDENT function of Partee (1987). I will remain agnostic about this as my key concerns in this dissertation are the specificational copular clause and the predicational copular clause.

(26) shows that agreement that shows up on the verb in Icelandic dative subjects remains singular even when the subject is plural. This type of agreement then is better analyzed as default agreement rather than actual agreement. However, this test which is simple and quite straightforward is not available to us to apply to Tamil because number marking in neuter gender is absent or eroding from the language (Schiffman 1999: 57). Schiffman also notes that this effect is more pronounced with inanimates. The variety of Tamil that is illustrated in this dissertation shares this aspect with the variety Schiffman studies.

27) a.   naay-ge   ella   korec-icci-(??nge)
            dog-s   all   barked-3neut-pl
            'The dogs all barked.'

      b.   bukku-ge   ella   kaanaame   poo-cci-(*nge)
            book-s   all   lost   gone-3sneut/ *pl
            'The books have all gone missing.'

(27a) shows an animate neuter gendered nominal, *naay* 'dog'. Here, the noun phrase itself can have plural marking *-ge*. Verbal agreement is strongly preferred to be singular rather than neuter. The effect when the subject is an inanimate as in (27b) is even stronger. When plural marking on the nominal itself is absent, plural verbal agreement is absolutely ungrammatical. What this indicates is that the presence/ absence of neuter plural cannot be used as a reliable diagnostic for default agreement in Tamil especially since predicates are more likely to behave like inanimate subjects. However, for what it's worth, Literary Tamil (usually learnt in classrooms) which is preserved through writing and prestige has preserved plural marking for all neuter subjects, including inanimates. The evidence from this register of Tamil indicates that plural marking is required with a plural subject even if it's a predicate.

28) a.   Payyenge   Somu-vum   Balanu-maa   irun-dicci-(*nge)
            Boys   Somu-coord Balan-coord-AA   be-3sneut/*pl

'The boys were Somu and Balan.'

b.	Payyengel	Somu-vum	Balanu-maagə	irun-dənə/ ??-dadu
	Boys	Somu-coord	Balan-coord-AA	be-3.pl.neut/ 3sneut

'The boys were Somu and Balan.'

(28a) and (28b) show the corresponding spoken and Literary Tamil versions of the same specificational copular clause. Here the specificational copular clause has a plural subject (i.e *The boys*) and in spoken Tamil, in (28a), plural agreement on the verb is bad. In Literary Tamil, in (28b) however, the plural neuter form, *-dənə*, is preferred over the singular form. The lack of plural agreement with inanimate subjects in (28a) could probably be due to the lack of plural neuter agreement with inanimate subjects in general (as seen in (27b)). (28b), however, indicates that there is actual agreement with the subject as seen in plural agreement. In so far as the Literary Tamil evidence can be generalized to spoken Tamil, this indicates that the neuter agreement in specificational copular clauses is not default agreement.

However, there is another way to determine when default agreement occurs in Tamil which as far as I know is a new observation about Tamil. This has to do with the availability of non-future readings for the verb ending *-um*. The ensuing discussion will be aided with the following table which shows the verb endings for 3rd person singular agreement for masculine, feminine and neuter.[7]

29)

	Past	Present	Future
3rd person masculine sg	-aan	-(ki)raan	-{p/v}aan
3rd person feminine sg	-aal	-(ki)raal	-{p/v}aal
3rd person neuter sg	-cicci	-kidu	-um

---

[7] Honorifics and plurals (human) are not shown as they are not relevant for the discussion at hand. See Schiffman (1999) for a more comprehensive table.

These endings occur quite predictably and allophonic variation determines whether the future tense for masculine and feminine is realized as -*{p/v}aan* or -{p/v}*aal*. As suggested by the table, the occurrence of any one of this endings indicates PNG and tense. Our discussion will revolve around the 3rd person neuter + future suffix, -*um*. When this ending occurs on verbs with non-controversial subject agreement, only the future reading is possible. Some contexts are shown below.

30) a.   naay   un-ne   kadi-kum
          dog   you-acc   bite-UM
          'The dog will bite you.'

   b.   kattadam   nette-yaa   iru-kum
          building   tall-AA   be-UM
          The building will be tall.'

   c.   [Mala Bala-ne   kaadalic-adu] Somu-ve   aaciriyapadut-um
          Mala   Balan-acc   love-NOM   Somu-acc   surprise-UM
          'That Mala loved Balan will surprise Somu.'

(30a) shows a run of the mill transitive clause. (30b) shows a predicational copular clause with overt copula. (30c) shows a clause with a sentential subject which can be assumed to have neuter phi features. In all of these sentences, the subject shows agreement on T and the tense reading must be future. This is to be contrasted with contexts in which the verb agreement is clearly not with any nominal in the clause.

31) Mala-vikki   Bala-ne   pidi-kum
    Mala-dat   Balan-acc   like-UM
    'Mala likes Balan.'

32) Mala-vaale   Bala-ne   adika-mudi-yum
    Mala-AALE   Balan-acc   beat-can-UM
    'Mala can beat Balan.'

(31) shows a dative subject construction and (32) shows a modal construction. In both these constructions, the verb does not agree with any nominal in the phrase. While the

nominals are feminine and masculine respectively, the verb agreement is the -UM suffix. Interestingly, such sentences have a meaning that is not associated with future tense but rather a meaning that indicates a present, stative-like meaning. That such meanings are present can be seen in the following sentence frames which aims to detect redundancy.

33) Mala-vikki   Bala-ne   pidi-kum.
    Mala-dat   Balan-acc   like-UM

    Nelekkum   Mala-vikki   Bala-ne   pidi-kum
    Tomorrow   Mala-dat   Balan-acc   like-UM
    'Mala likes Balan. Even tomorrow, Mala will like Balan.'

34) Mala-vaale   Balan-e   adika-mudi-yum
    Mala-AALE   Balan-acc   beat-can-UM
    'Mala can beat Balan.'

    Nelekkum   Mala-vaale   Balan-e   adika-mudi-yum
    Tomorrow   Mala-AALE   Balan-acc   beat-can-UM
    'Mala can beat Mala. Even tomorrow, Mala could beat Balan.'

These sentences are basically repetitions of the base clause. The difference is that the use of the adverbial *tomorrow* is meant to force the future reading. These sentences are perfectly acceptable. This is unexpected if -UM only had the future meaning. Consider the following.

35) a.   #John will hate Balan. Tomorrow John will hate Balan (too).
    b.   John hates Balan. Even tomorrow, John will hate Balan.

(35a) is infelicitous because these two clauses are basically repetitions of each other as 'Will' in this context can only mean a future reading. (35b), however, is acceptable because the information in the two sentences is not redundant. Thus, it should be clear that (35b) patterns with (33) and (34). This test applied to the sentences in (30) show that the non-future reading of *-um* is not available. I omit the bulk of the second clause in (36b/c).

36) a.   #naay un-ne   kadi-kum.
         dog   you-acc   bite-UM

         nalekkum   naay   un-ne   kadi-kum.
         tomorrow   dog   you-acc   bite-UM
         'The dog will bite you. Even tomorrow, the dog will bite you.'

   b.   #kattadam   nette-yaa   iru-kum
         building   tall-AA   be-UM
         The building will be tall.'

         nalekkum   .....
         Tomorrow   .....
         'The building will be tall. Even tomorrow, the building will be tall.'

   c.   #[Mala Bala-ne   kaadalic-adu] Somu-ve   aaciriyapadut-um
          Mala Balan-acc   love-NOM   Somu-acc   surprise-UM
         'That Mala loved Balan will surprise Somu.'

         nalekkum   ......
         Tomorrow
         'That Mala loved Balan will surprise Somu. Even tomorrow, that Mala
         loved Balan will surprise Somu '

(36a-c), on the other hand, are all infelicitous. Based on these, I claim that the -*um* suffix

on the non-future reading is an unambiguous indicator of default agreement in Tamil. In

other words, the -*um* suffix without a future meaning indicates default agreement on the

verb. Thus, all the examples in (36) have a future reading as there is actual agreement

with a neuter subject. On the other hand, in (33) and (34), there is default agreement and -

um on the non-future reading is possible. It is important to emphasize that -*um* on the

non-future reading is **not** an indicator of stativity or of an individual level predicate

(Kratzer 1995). If it was, the following sentences are expected to be grammatical.

37) a.   *kattadam   nette-yaa   iru-kum
         building   tall-AA   be-UM
         The building is tall.'

   b.   *Balan   nette-yaa   iru-kum
         Balan   tall-AA   be-UM
         Balan is tall.'

(37) shows the stative reading of the predicate *tall* is not allowed. In (37a), there is an obligatory future reading (see 36b), not a stative meaning. In (37b), -um is not allowed on any reading as the subject is a masculine name. If -um is indeed a marker of an individual level predicate, then both the sentences should be fine. Since these sentences are ungrammatical, -*um* cannot be an indicator of stativity. In addition, there is a class of psych verbs which unlike other verbs in its class have a variant with a nominative agreeing subject. These, despite being individual level predicates as well, do not allow the -*um* agreement marker with a masculine or feminine subject.

38) a. Mala Somu-ve   virumbu-vaal/ *um
         Mala Somu-acc   like-FUT.3sf/ *UM
         'Mala will love Somu.'
    b. Balan Mala-ve   verup-paan/ *kum
         Balan Mala-acc   hate-FUT.3sm/ *UM
         'Balan will hate Mala.'

In (38a), the feminine subject must trigger feminine agreement while in (38b), the masculine subject must trigger masculine agreement. These again indicate that -*um* is not a marker of stativity. On the other hand, (37) and (38) are neatly explained in the proposal offered here. The reason why neuter agreement is not allowed here is because the subjects show actual agreement with T. It is thus concluded that -*um* on the non-future reading is an unambiguous indicator of default agreement in Tamil.[8]

With this test under our belt, we just need to apply this test to our specificational copular clauses and as expected, the non-future reading of the -*um* suffix is not available.

39)   #en   nanban   Balanaa   iru-kum.
         my   friend   Balan-AA   be-UM

---

[8] There is the question of *when* default agreement is triggered. This is a question for much deeper theoretical analysis but at a descriptive level, default agreement occurs in Tamil when there are no nominative case-marked arguments in the clause.

nalekkum   en   nanban   Balanaa   iru-kum
tomorrow   my   friend   Balan-AA   be-UM
'My friend will be Balan. Even tomorrow, my friend will be Balan.'

The infelicity of (39) indicates that neuter agreement on the copular verb in specificational copular clauses does not have a non-future reading. This test, together with the number agreement facts that we saw in relation to Literary Tamil, thus allows us to conclude that the agreement we see in specificational copular clauses is not default agreement.

2.3.2   Neuter Agreement in specificational copular clauses is not semantic agreement

In this section, I seek to establish that neuter agreement in specificational copular clauses is not semantic agreement either. Semantic agreement is a well-documented phenomenon in which the phi features that are syntactically/ morphologically associated with a phrase are ignored in favor of the 'real-world' features of the individuals denoted by a phrase (Corbett 2003, 2006, Weschler & Zlatic 2003, Johnson 2014). The following examples from British English, and Russian illustrate this.

40) a.   The band have arrived.   (OK in Br.E not Am.E)
    b.   Novyj   vrač   skazala.
          new.MASC   doctor   said.FEM   (Smith ms: 26)

(40a) shows that the collective NP which shows singular agreement on the verb in American English, can show plural agreement in British English just in case there is more than one individual in the band. In Russian, *vrač* 'doctor' that is usually marked as masculine can trigger feminine agreement on the verb just in case the doctor in question is an actual female.

Given that I have argued that neuter agreement in Tamil specificational copular clauses is not default agreement, we may then ask if this could be semantic agreement.

41) en   nanban   Balanaa   iru-kum.
    my   friend   Balan-AA   be-FUT.3sneut
    'My friend will be Balan.'

Under this view, neuter agreement on the copula in a specificational copular clause will be explained as follows. Although *en nanban* appears to be marked as masculine (as *nanban* has the masculine ending *-an*), it triggers neuter agreement because in the real word, only human individuals have masculine and feminine features. Since *en nanban* in (41) does not denote an individual but a predicate, it thus triggers neuter agreement.

The problem for such a view is that the masculine phi features of the predicate do seem to be semantically accessible and as such should still trigger masculine agreement. First, consider the following.

42) a.   en   nanban   Bala-naa/ #Mala-vaa iruk-um
           my   friend.masc   Balan-AA/ Mala-AA   be-FUT.3sneut
           'My friend is Balan/ #Mala.'

    b.   en tooli   Mala-vaa/ #Bala-naa iru-kum
           my friend.fem   Balan-AA/ Mala-AA   be-FUT.3sneut
           'My friend is Mala/ #Balan.'

(42) shows two specificational copular clauses. Note the neuter agreement on the verb. In each, the subject phrase corresponds to the masculine and feminine forms of *friend.* While *nanban* is used to indicate a male friend, *tooli* is used to indicate a female friend. The use of each form restricts the gender of the phrase in the pivot. In (41a), only a masculine individual is possible and in (41b), only a feminine individual is possible. Note that this restriction is not particular to specificational copular clauses since predicational copular clauses have the same restriction.

43) a.   Balan/ #Mala   en   nanba-naa   iru-paan
           Balan/ Mala   my   friend-AA   iru-FUT-3sm
           'Balan/ #Mala is my friend.'

b.	Mala/ #Balan	en	tooli-yaa	iru-paal
	Balan/ Mala	my	friend-AA	iru-FUT-3sf

'Mla/ #Balan is my friend.'

(42) shows two predicational copular clauses and the same gender restriction is observed. A similar restriction is observed in English as well (especially in predicates that are marked as feminine).

44) a.   The famous actress is Susan/ #Paul.
    b.   The well-renowned anchorman is Paul/ ??Susan.

45) a.   Susan/ #Paul is the famous actress.
    b.   Paul/ ??Susan is the well-renowned anchorman.

(43) and (44) show the same kind of anomaly in English specificational and predicational copular clauses (under assumptions about the genders of the individuals usually associated with each name as well as assuming that a Mrs Doubtfire-type situation where a male is disguised as a female does not hold). What is the source of this gender 'agreement'? Following Baker (2008), I claim that this is just semantic gender agreement. The reason for this is adopted from Baker (2008). Nominal predicates in general do not show syntactic agreement with their subjects (Baker 2008: Chapter 2 and references therein). This is argued for with a large amount of cross-linguistic evidence. If this applies to English and Tamil, then the anomaly seen in (42 - 45) cannot be attributed to syntactic agreement between the two. This required gender match will thus have the same explanation as the contrast Baker (2008: 10) discusses.

46) a.   Those women are theoretical linguists.
    b.   *Those women are a theoretical linguist.

Baker claims that there is required number agreement between the two phrases in (45), not due to syntactic agreement between the nominal predicate and its argument but rather because the atoms that make up *woman* and *theoretical linguist* are individual human

beings. This imposes number matching between the two. On the other hand, in cases where the two nominals count different things as atoms, a singular-plural mismatch is possible as seen in the following sentences from Baker (2008: 10).

47) a.　　Those women are a committee.
　　 b.　　The committee on diversity is three women and two men.

Here, the number mismatch between the pre- and post- copular phrases is acceptable. This is because atomic human beings are the members of the set denoted by *woman*, whereas plural individuals are the members of the set denoted by *committee*. This sensitivity to what the individuals of *woman* and *committee* are is mediated in the semantics and as such has to be analyzed as semantic agreement. I will adopt the same explanation for the required gender matching in (42-45). There, the indivudals that form nominals like *actress* and *Susan* are atoms but there is an additional requirement that these atoms are also specified for gender. Thus, only nominals which have members containing atomic individuals of the same gender can be used in specificational and predicational copular clauses.

Given that gender matching is semantic, what we have to conclude is that the masculine (or feminine) gender of the subject in (41) is available for semantic agreement. This means that if the agreement on T in specificational copular clauses is semantic agreement, we would expect this agreement to be masculine or feminine, and not neuter as it is realized. Positing different levels of semantic agreement does not seem to be a simpler solution. Thus, I will conclude that the agreement on the verb in specificational copular clauses is indeed mediated by syntactic processes (eg. like AGREE, Chomsky 2000, 2001). The exact mechanism will be elaborated below.

2.3.3   The subject in specificational copular clause is not a concealed question

So far, it has been argued that agreement in a specificational copular clause is not default agreement and that it is not semantic agreement. But while I have been assuming that the subject in a specificational copular clause is a predicate, there is a competing analysis about the nature of the subject which is compatible with neuter agreement. This is that the subject in a specificational copular clause is actually a concealed question, not a predicate as argued by Romero (2005) and Heycock (2012).

48) a.   They knew/ guessed/ announced <u>the winner</u>.
    b.   <u>The winner</u> is John.

(48a) with the verb *know* is ambiguous. It could either have a meaning in which *they* knew the specific individual who was also the winner, or it could have a concealed question (CQ) interpretation whereby the sentence means that they knew who the winner was. This corresponds to the following paraphrases.

49) a.   They knew Susan, who turned out to be the winner. **Individual**
    b.   They knew who the winner was, i.e Susan.   **CQ**

With the verbs *guess* and *announce*, only the concealed question interpretation is possible (cf. *They guessed/ announced John). According to Romero (2005), the concealed question in (48a) (i.e. *who the winner is*) is argued to be what occurs as the subject of the specificational copular clause in (48b). Some intriguing evidence that the subject in a specificational copular clause could be a concealed question is that concealed questions pronominalize with a neuter pronoun, just as specificational copular clause subjects do (Romero 2005).[9] Compare (50) with (24) above.

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[9] Romero (2005) also points out that certain types of intensional objects give rise to the same type of ambiguity as specificational copular clause subjects. I refer readers to Romero (2005) for an explication of this ambiguity. Here I am only concerned with the possible neuter features of intensional objects.

50)   John knew <u>the winner of the Oscar for best actress</u> before I knew {it/??her}.

(50) shows that the concealed question does pronominalize with *it* and not *her*. This, therefore, supports the claim that specificational copular clause subjects are CQs.

However, there are problems with Romero's proposal. The CQ analysis does not account for the full set of facts concerning possible specificational copular clauses. The first has to do with a well known contrast regarding specificational copular clauses which have indefinite subjects.

51) a.   ??They knew <u>a winner (that Susan knows)</u>.
    b.   <u>A winner *(that Susan knows)</u> is John.

While native speakers appear to be able to accommodate a concealed question reading in (51a) for *announce*, such a reading is not possible for *know*. This is the case whether the indefinite has a relative clause modifier. If the CQ analysis is correct, this predicts that both a modified and unmodified indefinite cannot serve as the subject of a specificational copular clause. However, it is well documented that there is a difference (Mikkelsen 2004). In (51b), we can see that while an unmodified indefinite cannot, a modified indefinite can be the subject of a specificational copular clauses. This contrast is not expected within a concealed question analysis of specificational copular clauses.

As a further example of this under-generation problem, consider a different class of definites. While definites with a common noun *winner* certainly allow a concealed question interpretation, such an interpretation is not available for all definites.

52) a   *They knew <u>the {doctor/ assistant/ teacher}</u>.
    b.   <u>The {doctor/ assistant/ teacher}</u> is John.

(52a) is not possible with the concealed question interpretation. Nonetheless, these phrases can occur as specificational copular clause subjects as seen in (52b). The following tests shows that (52b) does have a neuter subject.

53) a.   <u>The {doctor/ assistant/ teacher}</u>, it is John.   Dislocation
    b.   <u>The {doctor/ assistant/ teacher}</u> is John, isn't it?   Tag Qns
    c.   Who is <u>the {doctor/ assistant/ teacher}</u>?   Wh-questions
        It is John.

What (52) indicates is that the concealed question analysis of Romero wrongly rules out (52b) as a possible specificational copular clause.

Possessives serve to further illustrate the under-generation problem.

54) a.   *They knew <u>your {friend/ brother}</u>. (on the CQ reading)
    b.   <u>Your {friend/ brother}</u> is John.

(54a) shows that a possessive like *your friend* does not allow a concealed question reading. Yet, these are perfectly fine as specificational copular clause subjects as seen in (54b). Again, it can be shown with Mikkelsen's tests that (54b) is possible as a specificational copular clause.

55) a.   <u>Your {friend/ brother}</u>, it is John.
    b.   <u>Your {friend/ brother}</u> is John, isn't it?
    c.   Who is <u>your {friend/ brother}</u>?
        It is John.

The possibility of a neuter pronoun in (55) again indicates that (54b) can be a specificational copular clause and this is unexpected given Romero's analysis. In contrast, note that there is little problem in accounting for why (52b) and (54b) are possible specificational copular clause subjects. Under the proposed analysis here where specificational copular clauses are inverted predications, *the doctor* and *your friend* are

just predicates.[10] I conclude that the reason why specificational copular clause subjects have neuter agreement is not due to the fact that specificational copular clause subjects are CQs.

Similar data is available in Tamil as well.

56) a. Somu-vikki   jeycavan-e   teriy-um   (CQ possible)
        Somu-dat   winner-acc   know-UM
        'Somu knows the winner.'

    b. Somu-vikki   en nanban-e   teriy-um   (CQ not possible)
        Somu-dat   my friend-acc know-UM
        'Somu knows my friend.'

(56a) shows that a *know*-class verb with an internal argument can be interpreted as a definite. Here, the concealed question interpretation is available. Thus, (56a) can have the same interpretation ambiguities that the English translation has. However, in (56b), the internal argument is a possessive phrase. Here too, the concealed question interpretation is not available. Nonetheless, as we saw in (22b) above (reproduced below), this possessive phrase can be a specificational copular clause subject.

57)   en   nanban   Balanaa   iru-{ndicci/ kudu/ kum}
        my   friend   Balan-AA   be-3PST.3sneut/ PRES.3sneut/
                                                        FUT.3sneut
        'My friend was/ is/ will be Balan.'

Here, the possessive phrase can be a subject of a specificational copular clause (as indicated by the neuter agreement) even though they do not appear to have a concealed question interpretation. Based on these arguments, I conclude that the subject in a

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[10] The problem of why *a winner* is not possible as a specificational copular clause subject will be addressed in chapter 3.

specificational copular clause is not a concealed question, contrary to Schlenker (2003) and Romero (2005).[11]

2.3.4   Taking Stock

So far, the following points have been argued for:

A)   The -aa that occurs in copular clauses, small clauses and adverbs is a Pred head.

B)   The agreement we see in a specificational copular clause is neuter agreement.

C)   This agreement is not default agreement, which means that T shows actual agreement with the surface subject.

D)   This agreement is not semantic agreement since semantic agreement would actually match the phi features of the nominal and not show up as invariant neuter agreement.

E)   The specificational copular clause subject is not a concealed question, the only other plausible candidate that could trigger neuter agreement on T.

Given E, I conclude that specificational copular clauses do have predicate subjects. Given the premises A-E and the small clause assumption where the predicate is base-generated as the complement of the small clause, it is concluded that specificational copular clauses have predicate subjects that have inverted past the specifier of PredP. Specificational copular clauses *are* inverted predications.[12]

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[11] Ken Safir (p.c) suggests that perhaps, the CQ that is detectable with the *know* verb is not the right type of CQ that occurs in specificational clauses. This is because although *John knows the doctor* does not have a CQ reading, *John guessed the doctor*, may marginally have a CQ reading in the right context. Thus, it may be the case that it is the CQ reading that is available under *guess* that is present in specificational copular clauses. However, there are problems with this as well. For one, note that *The doctor is John*, does not require any context to be licit. In addition, embedding under *guess* still does not derive the obligatory modification that indefinite subjects of specificational copular clauses require.

[12] There may well turn out to be another reason why an a specificational copular clause subject can trigger neuter agreement. However, given that what we have determined on the basis of Tamil converges with the

2.4 Where does the neuter feature of predicates come from?

In this section, I argue that a predicate nominal is not simply a DP that occurs as the complement of a Pred head but rather that the predicate nominal is a sister of an F head which itself is the complement of Pred. This will be argued to be independently motivated by dependent case marking (Marantz 1991, Baker 2015). I outline the basic idea below.

58)

```
        PredP
        /    \
     DP₁    Pred'
            /    \
          FP₁    Pred
          /  \
       DP₂    F
           [neuter]
```
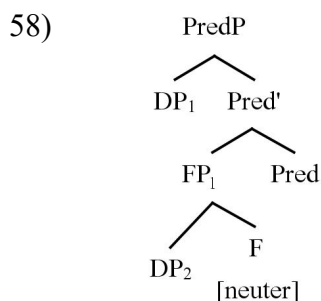
In (58), the PredP portion of the copular clause is shown. Here, the FP is a predicative phrase headed by F. This F takes DP_2 as its complement which allows it to occur as a predicate.[13] Crucially, this F head bears neuter features, which under normal assumptions about feature percolation means that FP has neuter feature (in addition to number feature),[14] regardless of what the feature specification of its complement DP is (Williams

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currently available proposal that the specificational copular clause subject is a predicate, this appears to be the simplest solution to adopt at this point in our understanding of specificational copular clauses.

[13] In Chapters 3 and 5, I assume that the type-shift operators IDENT and BE (Paartee 1987) are hosted on this head.

[14] Marcel den Dikken (p.c) suggests that this could also provide an account for the following facts.

a) John is my best friend, which he will always remain.

In (a), the appositive clause to the predicate nominal is introduced by *which* is indicative of neuter features. This is potentially another argument for my claim although Marcel also points out that even non-nominal predicates are also introduced by *which* as seen in (b)

b) John is smart, which I hope to be someday.

In my analysis, I assume that only nominal predicates have the neuter feature bearing F head. But (b) indicates that the occurrence of the F head might be much more general.

1980, Cole, Hermon & Sung 1993).[15] The following shows the derivations of a predicational copular clause and a specificational copular clause reproduced from above.

59) a.

```
                TP
        ┌───────┴───────┐
      DP_i             T'
     ┌──┴──┐        ┌───┴───┐
   (Balan) VP            T
          ┌─┴─┐      [Tense, masc, sg]
       PredP   V
      ┌──┴──┐  be
   <DP_i>  Pred'
          ┌──┴──┐
         FP    Pred
      ┌───┴───┐
       my friend
```

b.

```
                TP
        ┌───────┴───────┐
      FP_i             T'
     ┌──┴──┐        ┌───┴───┐
   (my friend) VP         T
            ┌──┴──┐  [Tense, neut, sg]
         PredP    V
        ┌──┴──┐   be
       DP    Pred'
      ┌─┴─┐ ┌──┴──┐
   (Balan) <FP_i>  Pred
```
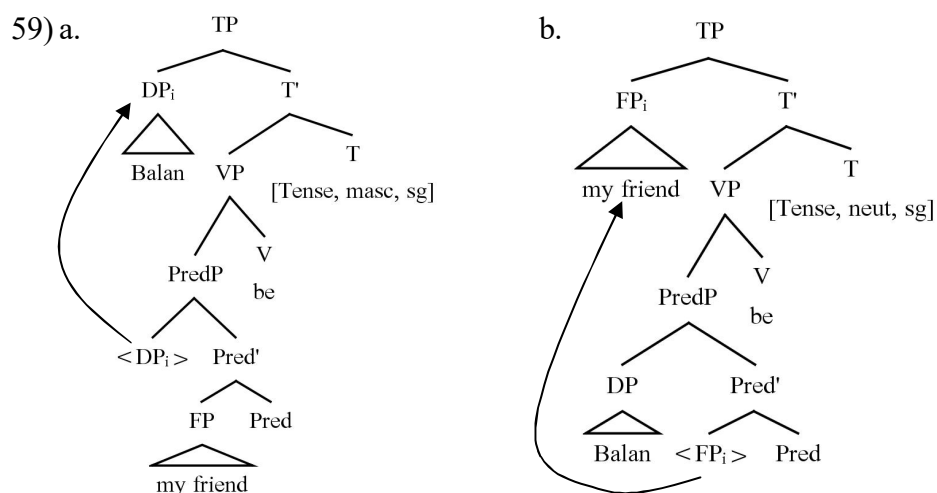
In the predicational copular clause in (59a), DP$_1$ moves to Spec, TP and in the specificational copular clause in (59b), FP moves to Spec, TP. Assuming that T agrees with its specifier, this will result in neuter agreement when the predicate is inverted but regular agreement when the subject of PredP is moved to Spec, TP.

This analysis satisfies the requirement that the specificational copular clause subject triggers neuter agreement on T rather than neuter agreement being default agreement. This analysis also allows us to explain why neuter agreement with predicates is not sensitive to whether the predicate is a definite or a possessive nominal. In both these cases, the nominal is a complement of the same F head and as such only neuter agreement is possible. A similar analysis for English would also explain why specificational copular clause subjects pronominalize with an invariant *it* rather than *he* or *she*. Thus, the analysis in (59) is meant to generalize to all languages where the

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[15] There are many proposals that allow feature percolation from the specifier of a phrase to the maximal phrase, such as wh-features in operator movement (eg. Horvath 1997). But feature percolation from the complement position to the maximal phrase is still ruled out in these approaches.

specificational copular clause subject can be shown to be an inverted predicate. Now, we will turn to independent evidence for the structure for predicate nominals shown in (59).

2.4.1   Dependent Case Marking (Baker 2015)

The proposal above positing a more complex structure for predicate nominals has been suggested before but for different reasons. Baker (2015) argues for a dependent case marking theory (first proposed by Marantz 1991) where languages assign case due to c-command relationships within sufficiently local configurations. In this theory of case, accusative case is argued to be assigned to a DP that is c-commanded by another DP within a certain domain. In Tamil, one place in which it is attested is when a DP is c-commanded by another DP within the vP.

60)

```
        vP
       /  \
     DP₁   v'
          /  \
        VP    v
       /  \
     DP₂   V
```
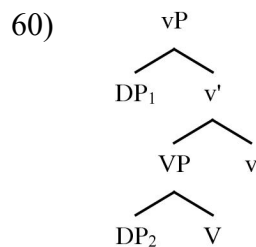
(60) shows the partial configuration of a clause and DP$_2$ is assigned accusative case as it is c-commanded by DP$_1$ at the point of spell-out, which in Tamil is argued to occur at the points where v and C are merged. And indeed in simple transitive clauses, the object is marked accusative as it is c-commanded by the external argument DP$_1$. Baker (2015) provides a comprehensive list of other languages which are also argued to assign accusative case this way. Despite its successes, one particularly problematic area for the dependent case theory as noted by Baker (2015) is copular clauses with predicate nominals. In copular clauses, the DP complement of the predicate head is c-commanded by the DP specifier of PredP. However, almost no language that marks its direct objects

with accusative case marks the predicate nominal in copular clauses with accusative case.[16] This is unexpected for the dependent case theory. In order to account for this, Baker (2015) proposes the following modification.

61) a. PredP
        DP₁ Pred'
            Pred DP₂

b. PredP
   DP₁ Pred'
       Pred FP
            F DP₂

(61a) shows that under normal circumstances, one would expect DP₂ in (61a) to be marked with accusative case. (61b) shows the newly proposed structure. Instead of the predicate nominal being just a DP, the predicate is the complement of a head. In this structure, FP is argued to make DP₂ invisible for dependent case marking[17].

Clearly, Baker's structure for nominal predicates in (61b) and the structure in (59) proposed in this dissertation look the same. I suggest that the F head that Baker (2015) proposes is the head that is proposed here as bearing neuter features in English and Tamil.[18] The modification that is added is that F actually has phi features which is used to explain the source of neuter features for predicates.[19] Thus, it appears that there is independent evidence for the structure in (61b). In so far as the arguments here are on track, what this indicates is that the difference between an argument and a predicate

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[16] One of the exceptions being classical Arabic copular clauses with overt copula morphology (Baker 2015).

[17] In this regard, the F head has properties similar to a prepositional head which serves to insulate its DP complement.

[18] There are differences between Baker (2015) and the proposal here. One clear difference is that Baker (2015) proposes that the -aa morpheme is actually the realization of the F head. Here, this was argued to be the Pred head. One main argument used by Baker (2015) to argue against the idea that the -aa is the Pred head is to appeal to its use as an adverb (see section 1.2.1). However, recall that this has been argued to be not an insurmountable fact for the idea that -aa is always a pred head.

[19] This F head cannot be a nominal head as FP cannot be the type of phrase that requires case marking, otherwise, as Mark Baker notes (p.c), we would need an explanation for why FP does not have accusative case.

nominal is not a DP/ NP difference, as is often assumed, where the predicate nominal

has less structure than an argument DP. Instead, it is the predicate nominal that has more

structure (in terms of an F head).

2.5 A further application of [$_{FP}$ F DP] as the predicate nominal

It is a well-known property of specificational copular clauses that in languages like

English and French, the inverted predicate agrees with T whereas in languages like

Italian, it is the uninverted subject that shows verbal agreement.

62) a.　　the pictures of the wall were/*was the cause of the riot.
　　b.　　the cause of the riot *were/ was the pictures of the wall.

63) a.　　le foto del muro　　　　　　furono/*fu　　la causa della rivolta
　　　　　（the pictures of the wall　　were/was　　the cause of the riot)
　　b.　　la causa della rivolta　furono/*fu　　le foto del muro
　　　　　（the cause of the riot　were/was　　the pictures of the wall)

(62a) and (63a) show predicational copular clauses in English and Italian and the

respective (b) sentences show specificational copular clauses. These data and judgments

in (62) and (63) are from Moro (1997: 28).[20] These show that when there is a number

mismatch between the argument (*the pictures of the wall*) and the predicate (*the cause of*

the riot), English shows agreement with the precopular DP whether it is the subject or

predicate whereas Italian always shows agreement with the subject, whether it is

precopular or postcopular. For ease of exposition, I will follow the literature in referring

to English as an NP1 agreeing language whereas Italian is an NP2 agreeing language with

respect to which nominal agrees with T in specificational copular clause. In this regard,

Tamil would also be an NP1 agreeing language as it is the fronted predicate that shows

subject agreement. This cross-linguistic difference is not often addressed. Moro (1997)'s

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[20] Although this observation can be found as far back as Chomsky (1981).

explanation for this was to claim that in Italian, the fronted predicate in specificational copular clauses is not in Spec, TP but rather base-generated as an adjunction to TP. Given that this overt predicate is not in an argument position (i.e Spec, TP), Moro claims that T cannot agree with it. T instead agrees with a null pro-predicate in Spec, TP that has copied its features from the overt post-copular argument instead. In contrast, in English, the fronted predicate is in Spec, TP and thus agrees with T. Moro characterizes this as a parametric difference between Italian and English. If Moro is right, then Tamil would be an English type language where the fronted predicate is in Spec, TP.

In what follows, it is argued that Moro is right that in NP1 agreeing languages, the fronted predicate is in Spec, TP whereas in NP2 agreeing languages, the fronted predicate is actually in a peripheral position. However, the following is proposed as the underlying reason behind why only NP1 agreement languages allow the fronted predicate to occur in Spec, TP.

64) a.   The predicate nominal in all languages is [F DP], but whether F has phi features is a matter of parametric variation.
   b.   NP1 languages have an F with phi features, NP2 languages have an F without phi features.[21]

(64a) proposes that NP1 and NP2 agreeing languages differ with respect to whether the F of a predicate nominal has phi features or not. If it does, its gender features will be neuter.[22] In addition, it is argued that only an FP with phi features can move to Spec, TP

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[21] Marcel den Dikken (p.c) asks how the Italian *lo* pro-predicate fits in with the general picture above. Note that Italian, being an NP2 agreeing language, is analyzed as having a predicate without phi features in my analysis. As it turns out, this converges with Moro's (1997) account of the *lo* pro-predicate clitic. Crucially, he analyzes this clitic as a entity that "cannot bear features" (Moro 1997: 73). This is expected given that FP in Italian, which is what *lo* replaces, is analyzed as having no phi features.

[22] I do not have an answer as to why the features have to be neuter in English and Tamil. However, this is not meant as a universal. For example, it could be that some languages do not have neuter, but masculine/ feminine features.

and subsequently show subject agreement. An FP without phi features cannot move to Spec, TP and thus cannot show subject agreement.

Evidence that NP2 agreeing languages actually do not locate their nominal predicates in the usual position that agreeing subjects occur in can be seen in English. While English is an NP1 agreeing language, there is evidence to show that this is not always the case. It is possible to construct examples in English with an inverted nominal predicate where it is the post-copular phrase that agrees with T. Such examples are easier in heavy NP-shift contexts (such as (65b)) although such a context does not appear to be necessary (as in (65a)).

65) a.   A major hindrance to your success **is**/ **are** the Smiths.
    b.   An issue that had to be solved **was**/ **were** the recurring problems of the
          newly appointed faculty members.

(65) shows initial nominal predicates which are singular. The agreement, however, can be with the post-copular phrases which are plural in number (although singular agreement is also possible). Similar examples are also offered by Heycock & Kroch (1999, 2002) and Heycock (2012) as instances of predicate fronting constructions. What (65) indicates is that there are clear contexts in which a fronted predicate does not show subject agreement. In this regard, the examples in (65) should probably be analyzed as the same type of predicate inversions that Birner (1996) analyzes where the fronted predicate is non-nominal.

66) a.   VP inversion [Birner 1996: 56]
          Listening to the pilots' excited voices were congressional leaders,
          Cabinet officials and foreign advisors.

    b.   AdjP inversion [Birner 1996: 40–41]
          More impressive to me was Tom Conti in the thankless role of Mr.
          Lawrence, the audience's alter ego.

(66a) shows a fronted verbal predicate and (66b) shows a fronted adjectival predicate. That (65) and (66) are the same type of fronting construction is evident not only in which phrase the T agrees with but in the fact that such constructions do not allow auxiliary inversion. This further indicates that these fronted predicates are not in Spec, TP.

67) a. **Is/ *Are** a major hindrance to your success the Smiths?
   b. **Was/ *Were** an issue that had to be solved the problems of the newly appointed faculty members?

68) a. ***Was/ *Were** listening to the pilots' excited voices congressional leaders, Cabinet officials and foreign advisors?
   b. ***Was** more impressive to you Tom Conti in the thankless role of Mr. Lawrence, the audience's alter ego?

(67) shows that auxiliary inversion with an inverted nominal predicate is not allowed when the auxiliary agrees with the post-copular nominal. However, if the auxiliary actually shows singular agreement with the fronted predicate, then inversion is possible. (68) shows that auxiliary inversion is not possible where the VP and AdjP are fronted, and here, auxiliary agreement with the fronted verb and adjective is never possible. These facts can be compared with specificational copular clauses where the nominal not only agrees with the inverted predicate but also allows auxiliary-inversion in yes-no question.

69) a. **Is** your friend Balan**?**
   b. **Was** the cause of the riot the pictures of the wall?

What these sentences show is that whether the pre- or post-copular phrase in a predicate fronting construction shows subject agreement ultimately relates to whether the fronted predicate can be moved to Spec, TP in the first place. Thus, there are two types of predicate fronting constructions that occur in English. One is characterized by movement to Spec, TP and agreement with the verb (as in specificational copular clauses) and the other is characterized by movement to Spec, TopP with no agreement (as in the Birner-

type fronting construction). [23] While non-nominal predicates only allow the second type of fronting, nominal predicates can undergo either type of fronting. The following structures schematize these options.[24]

70) a.   TP   b.   TopP

Predicate$_{NOM}$ T'   Predicate$_{\{NOM, V, ADJ\}}$ Top'

                T   ...   Top   TP

                                                                |

                                                              ...
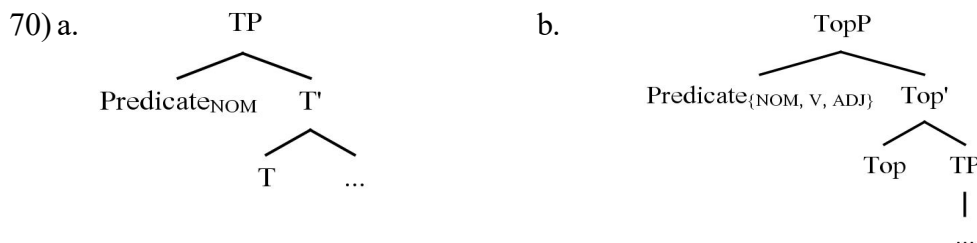
I only show the relevant part of the structure. In the first one, a nominal predicate occurs in Spec, TP and in the second one, a predicate (which can be nominal, verbal or adjectival) occurs in Spec, TopP which is in the left-periphery of the clause.[25]

If (70b) is how NP2 agreement in English shown in (67) is explained, then this suggests that Italian does not have the predicate fronting option of (70a) as Italian only shows NP2 agreement even in specificational copular clauses. This converges with Moro (1997)'s proposal for Italian specificational copular clauses. In his structure, the inverted predicate is adjoined to TP and Spec, TP contains a *predicate pro* that has the same phi

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[23] Locative inversion and adverbial inversion in general fall in the same pattern, at least in English. However, there are some examples of what appears to be locative inversion that does not seem to fit the pattern. The following are judgments from Ken Safir adapted from Joan Bresnan.

a) In these villages are/*is found the finest examples of native cuisine.
b) In this village is/*are found the finest examples of native cuisine.
c) In these villages ?is/*are found the finest specimen of this variety.

Of these, (b) does not fit the expected pattern as here LI occurs with agreement with the fronted PP. What this indicates is that a fronted PP can in certain circumstances agree much like a fronted indefinite predicate as in (65). Further research is needed to determine exactly when a fronted predicate in English shows optionality of agreement of this type.

[24] These clearly have parallels with Culicover & Levine (2001)'s analysis of the two type of locative inversion structures in English. However, I depart from C&L in one regard. Unlike them, I claim that an inverted locative is not in Spec, TP in English.

[25] I leave aside questions of whether the elements in (70b) are moved or base-generated there. I also do not address what is in Spec, TP in (7ob). If Moro (1997) is right, then it would be a *predicate pro*.

features as the post-copular phrase.[26] It is this *pro* that agrees with T, which is why it appears as if it is the post-copular phrase is being agreed with in Italian specificational copular clauses. What is important for us is the fact that the Italian inverted predicate nominal does not occur in Spec, TP even in specificational copular clauses. This seems to be the simplest explanation of the fact that the phrase in Spec, TP always agrees in Italian in other contexts such as transitive and intransitive clauses. If the nominal predicate is also in Spec, TP in a specificational copular clause, then we would expect it to agree.[27]

Where does Tamil fit in this picture? It appears to only allow predicate inversion of the first type. When a nominal predicate is fronted, it is always the inverted predicate that agrees with T.

71)   en precene   un petroorgel-aa   irund-{icci/ -*aange}
         my.problem   your.parents-AA   be-PST.3sneut/ *3pl
         'My problem is your parents.'

(71) shows a simple specificational copular clause and when the number/ person features of the predicate and pivot differ, agreement cannot be with the pivot. Assuming that phrass in Spec, TP agree with T in Tamil, (71) is good evidence that the inverted nominal predicate is in Spec, TP. Thus, the following three-way distinction can be seen with respect to nominal predicates in the three languages we have seen here with the assumption that in NP1 agreeing languages, the inverted predicate is in Spec, TP and in NP2 agreeing languages, the inverted predicate crucially is not.[28]

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[26] Moro proposes IP-adjunction as opposed to movement to Spec, CP because auxiliaries can still be inverted to a position above the specificational copular clause subject (Moro 1997: 67).

[27] One alternative solution is that the nominal predicate is in Spec, TP in Italian specificational copular clauses but does not agree because it does not have phi-features. However, this will not be a good solution because we will expect default agreement in this case, as is possible in Italian *Si* constructions (Cinque 1995), not NP2 agreement.

[28] Technically, NP1 agreeing languages allow the predicate to occur in whatever position it is that subjects have to be in order to agree with T. It just so happens that in the three languages we are looking at, this position is Spec, TP.

72)

	Nominal Predicate in Spec, TP	Nominal Predicate in the Periphery
English	Yes	Yes
Italian	No	Yes
Tamil	Yes	No

(72) shows that English allows a nominal predicate in either Spec, TP or a higher periphery position. Italian only allows the latter and Tamil only allows the former. The main focus of explanation here is in the first column. Why is that nominal predicates in some languages can occur in Spec, TP but in others, it cannot? A solution for this is proposed in the next section, building on the idea that this comes down to whether the F head has phi features.

2.6   Feature Unification and Labeling

Another way of looking at the table in (72) is to say that while English and Tamil have the 'right' type of nominal predicate to occur in Spec, TP, Italian does not. Specifically, the following is proposed.

73) a.   English and Tamil have $F_{N[+phi]}$.
    b.   Italian only has F_N.

I propose that the right type of nominal predicate is one which is an FP headed by an F that has phi features. Thus, it is obvious how the claim in (73) is meant to capture the agreement differences between English, Tamil and Italian specificational copular clauses. The following shows the genera schema.

74)   a.   *TP

            [F_N DP]   T'

                        T   ...

      b.   TP

            [$F_{N[+phi]}$ DP]   T'

                        T   ...

(74a) shows that an F_NP (i.e. a nominal predicate) that is headed by an F_N without phi features cannot occur in Spec, TP. On the other hand, this configuration is possible if the F_NP is headed by an F_N that has phi features. (74) is thus offered as the explanation for why a language is an NP1 or NP2 agreeing language with respect to specificational copular clauses.

A case-based analysis at first appears to be a viable alternative to my proposal. In such a theory, the difference between English/ Tamil and Italian could lie in the presence of case rather than phi features. This would then lead to the desired result in a feature checking theory like Chomsky (2001) where uninterpretable features have to be deleted by checking them off. One way to implement this is the following: Suppose F_N in Tamil and English has uninterpretable case features which are checked when FP moves to the specifier of a finite T. At the same time, the uninterpretable phi features of T are checked off by the interpretable phi features on F_NP. In this theory, F_N in English and Tamil would have uninterpretable case features and interpretable phi features. In contrast, F_N in Italian will not have uninterpretable case features and may or may not have interpretable phi features. However, there is a simple reason for not going this route. It does not appear that case and agreement are as connected as such a theory would suppose. For example, McFadden and Sundaresan (2010) show that even in Tamil, non-finite verbs which do not show agreement still allow nominative case marked subjects.

75) a.   [**Vasu**   poori-ye   **porikka**] Raman   maavu   vaangi-naan
           Vasu.nom   poori-acc   **fry.inf**   Raman   flour   buy-PST.3sm
           'Raman bought flour for Vasu to fry the poori.'

     b.   [**Naan**   poori-ye   **porikka**] Raman   maavu   vaangi-naan
           I.nom   poori-acc   **fry.inf**   Raman   flour   buy-PST.3sm
           'Raman bought flour for me to fry the poori.'

(75) shows two sentences slightly modified from McFadden and Sundaresan (2010: 5). In these, there is an adjunct clause that is non-finite but which still allows a nominative marked subject which is not co-construed with the matrix subject in any way. What (75) shows is that in Tamil, case and agreement do not go hand-in-hand.[29] Given this, it appears that a better theory of the predicate nominal agreement facts in specificational copular clauses would be one which does not depend on a one-to-one relationship between case and agreement.

The Labeling algorithm (LA) approach to agreement (Chomsky 2013, 2015, and Epstein, Kitahara and Seely 2014) does not imply any relationship between case and agreement and I claim provides a simple explanation for (74). In Chapter 4, we will be dealing with the LA in a bit more detail but here, I will just describe the part of the LA that is most relevant to the data here. The LA aims to explain in a principled way how labels for structures that are formed through MERGE are determined without adding them in an ad hoc manner throughout the derivation. In this theory, determining a label before the structure enters the computational interface is necessary for the structure to be interpretable. One instance of label identification that Chomsky (2013, 2015) focuses on explaining is how the label of a structure that is formed through the merger of two phrases determined.

76)

```
        ??
       /\
     XP   YP
```
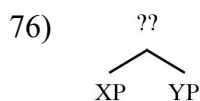
(76) illustrates this scenario. Here, XP and YP (two non-heads) are merged and the LA has to decide what the resulting label should be. From the perspective of MERGE, such

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[29] Also see Baker (2012) for an argument divorcing accusative case assignment from object agreement in Amharic.

structures are problematic because either head X or Y could be the head that determines the label and as such these structures are ambiguous for label identification. Once we realize that for any given head Z, Z' and ZP are identical for the LA (as they are both non-heads), we can see that (76) is simply the scenario that occurs when an external argument is merged as sister of T' to form TP.[30] Chomsky proposes that in such constructions, the shared phi features of the external argument and T' (which gets its features from T through feature percolation) become the label of the newly formed structure. In this theory, T has the capacity to host phi features. As evidence for this type of label resolution through feature unification, Chomksy illustrates successive cyclic wh-movement. In short, a phrase (which has Q features) has to keep moving until it merges with a C with Q features as well. Epstein et al apply the same principle to explain successive A-movement.

Suppose this explanation is correct, how does it help us explain (74), reproduced below?

77) a.   *TP   b.   TP

   [F_N DP]   T'   [$F_{N[+phi]}$ DP]   T'

         T   ...   T   ...
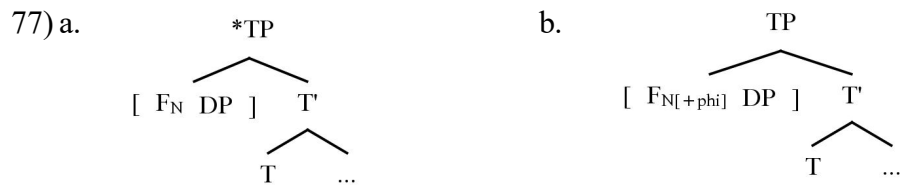
The first thing to realize is that (77) illustrates the same structure as (76) where $F_N P$ and T' are both non-heads. This means that if $F_N P$ is to stay in Spec, TP, it must have the requisite phi-features in order for feature unification to take place. If it does not, as shown in (77a), then labeling of TP cannot take place and the structure will be uninterpretable. Thus, English and Tamil which have a $F_{N[+phi]}$, have a nominal predicate that can be

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[30] Of course, there are other instances of MERGE illustrating (80). Among others, this includes base generation of the external argument in Spec, vP. We will deal with such scenarios in chapter 4.

merged in Spec, TP whereas Italian only has a nominal predicate that has a head F_N.[31] Since F_NP does not have phi features in Italian, it cannot be merged in Spec, TP.[32] I believe that the principles of the labeling algorithm together with some independently motivated assumptions about the positions of fronted predicates allow us to explain why specificational copular clauses in some languages show NP1 agreement whereas others show NP2 agreement.[33]

2.7   Conclusion

In this chapter, I have argued that the subject in a specificational copular clause in Tamil is a predicate which has syntactically sensitive neuter phi features. I have also explained why predicates have invariant neuter features even though they look like regular nominals with normal phi features. This was independently motivated by Baker (2015) and it was shown that nominal predicates are actually an FP that is made of an F head and a DP.[34] Based on this analysis, I have offered a solution to why some languages show NP1 agreement whereas other show NP2 agreement in their specificational copular clause borrowing the principle from the Labeling algorithm that only phrases with phi features can land in Spec, TP.

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[31] There remain questions about how the nominal predicate is able to move past the predicate subject to land in Spec, TP. This looks like a clear violation of minimality. These questions will be addressed in chapter 4 in more detail. The short answer (adopted from Mikkelsen 2004) is as follows: Predicate inversion is only possible if T has additional Topic features on top of phi features. In addition, only the nominal predicate but not the PredP subject must have topic features. Thus, inversion is motivated not by phi features but by topic features. The availability of phi features on the nominal predicate only determines whether it can be merged in Spec, TP or not.

[32] In Italian, F_NP presumably merges with a higher node with which it shares Topic features.

[33] This analysis can also be extended to the non-nominal predicate fronting constructions in English shown in (66). Given that the F head is proposed only for predicate nominals, verbal and adjectival predicates do not have any such head that gives them phi features. As such, these cannot be moved to Spec, TP at all.

[34] The exact identity of F remains to be clarified. On one hand, it has nominal properties as it can bear phi features, and on the other hand, it has prepositional properties in that it selects only a nominal complement. I leave further exploration of the identity of the F head to future research.

In so far as the arguments above have been successful, there are many questions about specificational copular clause that I have not even begun to address. In the next chapter, I take a closer look at the semantics of specificational copular clauses.

Chapter 3   The Semantics of Specificational Copular Clauses[1]

3.1   Introduction

One of the questions surrounding copular clauses that has been subject to much debate is the interpretation of specificational copular clauses. As mentioned in the earlier chapters, one prominent theory of the interpretation of specificational copular clauses claims them to be inverted predications (Heggie (1988), Moro (1997, 2000), Mikkelsen (2004), and den Dikken (2006)), while another prominent claim is that specificational copular clauses are simply equatives (Jacobson (1994), Sharvit (1997, 1999), Heycock & Kroch (1999, 2002), Cecchetto 2000, Partee (2000) and Barros (2014)). Romero (2005, 2006) and Heycock (2012) defend a slight variation in that they argue that specificational copular clauses are equations of a concealed question and an individual. In Chapter 2, it was argued that specificational copular clauses are in fact inverted predications. Therefore I face an obligation here to explain how the claims of the authors arguing that specificational copular clauses are equatives can be reconciled with my claim that they are inverse predications. That is the task that I undertake in this chapter. Specifically, I argue that specificational copular clauses are syntactically inverted predications and semantically equations. I show that there is no real contradiction in this view, as it may at first appear. The contradiction is avoided by refining the conditions under which predicate inversion is licensed. In addition, I propose that equative semantics in a specificational copular clause is introduced through type-shifting with IDENT and not through the small clause head itself.

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[1] This chapter is an updated and much expanded version of Selvanathan (2016).

Mikkelsen (2004) claims that predicate inversion is licensed just when a predicate constitutes a suitable topic. She uses the fact that specificational copular clauses have a fixed Topic-Focus order (eg. Heycock &Kroch 2002) and proposes that only definites and modified indefinites can be topics. Unmodified indefinites as well as adjectival predicates in contrast, are not suitable topics. In this chapter, I provide a semantic/ pragmatic analysis that is compatible with Mikkelsen's syntactic implementation. I propose that there is a restriction on the types of predicates that can be inverted, but that this restriction has to do (partly) with existential import of the inverted predicate. Following Strawson (1964) and Reinhart (1981), I assume that sentence topics must have existential presuppositions.[2] Given this and the discourse properties of specificational copular clauses, this amounts to the claim that only predicates that have existential presuppositions can be inverted. In addition, I claim that specificational copular clauses are indeed equations. However, equative semantics is introduced in the composition of a specificational copular clause not through an equative *be* but rather by type-shifting using IDENT (Partee 1987).[3]

One aspect of specificational copular clauses that has had less attention paid to it is specificational copular clauses with an indefinite subject (Mikkelsen 2004 is a

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[2] Later we will see that it is not just existential presuppositions, but even an implicature of existence that can license predicate inversion. In the final section, I propose that the reason why existence presupposition and existence implicature form a natural class with respect to predicate inversion is because they are both not-at-issue with respect to existence. I adopt the conception of not-at-issue from Roberts et al (2009).

[3] I do not analyze equatives like *Cicero is Tully* in this dissertation. It is possible that an analysis similar to the one I propose for specificational copular clause can be extended to equatives (cf. den Dikken 2006). However, as a working hypothesis, I will assume that specificational copular clauses are distinct from real equatives, the difference being in where the equative meaning is introduced. In specificational copular clause, equative semantics is introduced through type-shifting. In equatives, equative meaning is introduced in the small clause head itself.

significant exception). One of the peculiarities of this type of specificational copular clause is that the indefinite has to be modified.

1) a.   *A doctor is John.
   b.   A doctor that Susan knows is John.

Mikkelsen's account of (1a) is that modification allows the predicate to be construed as a topic. I will review Mikkelsen's feature checking theory and provide an alternative explanation of the facts which is compatible with her analysis. I argue that what modification of an indefinite predicate does is to introduce an implicature that the predicate denotes a non-empty set. Essentially, I argue that using a modified indefinite such as (2) implicates the existence of doctors (an observation made originally in Grice 1975).

2)   John is not <u>a doctor that Susan knows</u>.

It is this implicature that, I argue, licenses predicate inversion. The rise of these types of implicatures through modification is also noted by Partee (1975), and Dayal (2005).

The outline of this chapter is as follows. In section 2, I outline the main properties of specificational copular clauses that I aim to account for here. This includes the fact that certain types of predicates cannot be inverted and the fact that pre-copular and post-copular predicates have different presuppositions. In section 3, I outline and defend the three main assumptions that I employ in order to unify syntactic inversion with semantic equation. These are that specificational copular clause subjects are necessarily topics, that topics must have an existence presupposition, and that a nominal predicate in a post-copular position is ambiguous. In section 4, I show how these assumptions are used to account for the formation of predicational and specificational copular clauses. In section 5, I extend the analysis to specificational copular clauses with indefinite subjects which

require modification. Here I argue that indefinites which do not normally have existence presuppositions nonetheless can acquire an existence implicature when modified. It is the emergence of an existence implicature through modification which is argued to be why only modified indefinites can occur as specificational copular clause subjects. In section 6, I argue that the commonality between an existence presupposition and an existence implicature is that both are not-at-issue content with respect to existence as defined by Robert, Simons, Beaver and Tonhauser (2009). I then conclude.

3.2   Inverted Predication vs. Equation

In the preceding chapter, the agreement paradigm in Tamil copular clauses was used to argue for the claim that specificational copular clauses are inverted predications. The following derivations were motivated.

3) a.   Predicational copular clause   b.   Specificational copular clause

4) a.   Balan   en   nanba-naa   iru-ndaan
              Balan   my   friend-AA   be.PST-3sm
              'Balan was my friend.'

     b.   en   nanban   Bala-naa   iru-ndicci
              my   friend   Balan-AA   be.PST-3sneut
              'My friend was Balan.'

(4) shows the relevant sentences in Tamil. In (3a), it is the small clause argument that is moved to Spec, TP and in (3b), it is the small clause predicate that is moved to Spec, TP. The derivation of (3b) is the predicate inversion analysis of specificational copular clause which was first proposed in Heggie (1988) and hence been modified in Moro (1997, 2000), Mikkelsen (2004) and den Dikken (2006). While syntactically the specificational copular clause is an inverted predication, the aim of this section is to reconcile syntactic predication with semantic equation. In this section of the chapter, I evaluate the objections that have been raised against the predicate inversion analysis of specificational copular clauses and argue that these objections require us to modify our understanding of where predicate inversion is licensed rather than reject the predicate inversion analysis entirely.

Any syntactic/ semantic account of specificational copular clauses has to account for two main sets of facts. 1) Why can only a proper subset of predicates be inverted? and 2) Why do inverted predicates have different presuppositional requirements?

3.2.1 Not all predicates can be inverted

While definite and possessive phrases that can occur as a predicate can be inverted to form specificational copular clauses, there are significant cases where such inversion is not possible (Sharvit 1999, Heycock & Kroch 1999, Partee 2000). In order to see this, consider the following.

5) a. <u>The doctor</u> is John.
(cf. *I consider* [*John <u>the doctor</u>*])

b. <u>Susan's friend</u> is Paul.
(cf. *I consider* [*Paul <u>Susan's friend</u>*])

c. <u>A doctor that Susan knows</u> is Mary.
(cf. I consider [Mary <u>a doctor that Susan knows</u>])

(5) shows some possible specificational copular clauses. Assuming the predicate inversion analysis, these represent structures in which the underlined phrase is base-generated as the complement of Pred and then is inverted to Spec, TP. The fact that these underlined phrases can occur as the second constituent in a small clause embedded by *consider* is taken to be evidence that these phrases can function as a predicate (Rothstein 1995, Heycock & Kroch 1999, Fara 2001, Mikkelsen 2004, Rieppel 2013 etc). If predicate inversion is the correct syntactic analysis for these copular clauses, then the following facts are unexpected.

6) a.   *<u>Tall</u> is Paul.
            (cf. *I consider* [*Paul <u>tall</u>*])

    b.   *<u>A doctor</u> is Mary.
            (cf. I consider [Mary <u>a doctor</u>])

    c.   *<u>The one thing you have always wanted a man to be</u> is John.
            (cf. I consider [John the one thing you have always wanted a man to be])

All of the copular clauses in (6) are ungrammatical. As shown in parentheses, the underlined phrases can occur as predicates. Yet, inversion is not possible here. If a predicate inversion analysis of specificational copular clauses is to be correct, then we need an account for why certain types of predicates cannot be inverted. This includes an account of indefinite predicates which can only be inverted if they are modified.

3.2.2   Presuppositional Asymmetries

Another fact that is often overlooked by proponents of predicate inversion is presuppositional asymmetries that arise between inverted and uninverted predicates. Such asymmetries are part of a larger paradigm that was first made prominent by Donnellan (1966).

7) a.   Is de Gaulle <u>the King of France</u>?   Predicational

b.   Is <u>the king of France</u> de Gaulle?   Specificational

(7a) shows a predicational copular clause and (7b) shows a specificational copular clause. However, it is only in the specificational copular clause order that the definite phrase carries an existential presupposition. Thus (7a) but not (7b) is felicitous in the following discourse. X's utterances in (8) and (9) are yes-no questions and are assumed to involve movement of the copula verb *is* from T to C. However, X's utterance in (8) differs from X's utterance in (9) in the relative ordering of *de Gaulle* and the definite description.

8)   X: Is de Gaulle <u>the King of France</u>?
        Y: No, after all there is no King of France.

9)   X: Is <u>the king of France</u> de Gaulle?
        Y: #No, after all there is no King of France.

The response of Y in (8) which asserts the non-existence of any individual that satisfies *the king of France* is compatible with X's question. In contrast, such an assertion is infelicitous in (9). This is because X's question presupposes that both X and Y accept that there is an individual that satisfies the description *the King of France* and as such Y's response is infelicitous. A different way to illustrate this asymmetry in existence presupposition is by using von Fintel (2004)'s *Wait a minute* test.

10)   X: Is de Gaulle <u>the King of France</u>?
        Y: #Hey, wait a minute. I thought there is no King of France.

11)   X: Is <u>the King of France</u> de Gaulle?
        Y: Hey, wait a minute. I thought there is no King of France.

von Fintel's diagnostic tests for the presence of presuppositions and by responding with *Hey, wait a minute*, one can challenge the presupposition that has been made. The corollary of this is that if there is no presupposition, then responding this way is infelicitous. In other words, challenging something that has not been presupposed is infelicitous. In this light, Y's challenge in (10) is infelicitous as X has not presupposed the

existence of any king of France. However, the challenge is acceptable in (11) as X has presupposed the existence of a French King and Y is not accepting this presupposition. The lack of an existence presupposition for definite phrases in post-copular positions has been illustrated in different ways in the literature and is accepted as a standard characterization of the facts (eg. Fara 2001, Coppock & Beaver 2012, Rieppel 2013 etc).

Unlike the existence presuppositional asymmetry, definite phrases do not differ in terms of uniqueness presuppositions. That is to say, a definite phrase in both pre and post-copular positions carries with it a uniqueness presupposition. This can be illustrated with the following.

12)   X: Alan is <u>the doctor</u>. #Francis is the doctor too.

13)   X: <u>The doctor</u> is Alan. #Francis is the doctor too.

(12) and (13) shows that asserting the presence of any other individual apart from Alan as a doctor is not possible. This indicates that the definite phrase in either position carries a uniqueness presupposition. von Fintel's test gives the same result.

14)   X: Is Alan <u>the doctor</u>?
         Y: Hey, wait a minute. I thought there was more than one doctor.

15)   X: Is <u>the doctor</u> Alan?
         Y: Hey, wait a minute. I thought there was more than one doctor.

In (14) and (15), the *Hey wait a minute* challenge is felicitous with respect to the number of doctors. This indicates that definite phrases always carry a uniqueness presupposition.

Possessives also exhibit existence and uniqueness presuppositional asymmetries when they occur pre- as opposed to post-verbally. Indeed, the distinction is even more clear cut than with definites as discussed in Barker (2011). In post-copular position, possessives exhibit neither uniqueness nor existence presuppositions. In pre-copular

position, possessives exhibit both uniqueness and existence presuppositions. This can

be shown with von Fintel's test.

16)   X: Is John <u>Susan's friend</u>?
          Y: #Hey wait a minute. I didn't know Susan had friends.

17)   X: Is <u>Susan's friend</u> John?
          Y: Hey wait a minute. I didn't know Susan had friends.

Challenging the existence presupposition in (16) is infelicitous while it is acceptable in

(17). An asymmetry can be shown for uniqueness presuppositions as well.

18)   X: Is John <u>Susan's friend</u>?
          Y: #Hey wait a minute. I thought Susan had more than one friend.

19)   X: Is <u>Susan's friend</u> John?
          Y: Hey wait a minute. I thought Susan had more than one friend.

Challenging the uniqueness presupposition is infelicitous in (18) but is acceptable in (19).

Again what these show is that only the possessive in the pre-copular position has

existence and uniqueness presuppositions. The following table summarizes the

presuppositions that definites and possessives have in pre- and post-copular positions.

	Type of Presupposition	Pre-Copular	Post-Copular
Definites	Uniqueness	Yes	Yes
	Existence	Yes	No
Possessives	Uniqueness	Yes	No
	Existence	Yes	No

Table 1 Presuppositional Asymmetries

Table 1 shows the second set of facts that must be accounted for in a predicate inversion

analysis. As far as I know, these asymmetries have not been addressed by most predicate

inversion analyses of specificational copular clauses.

3.3   The Proposed Analysis

      Any predicate inversion analysis of specificational copular clauses has to account

for why only certain types of predicates can invert and why an inverted predicate carries

different presuppositions from its uninverted counterpart. In this section, I outline an analysis that can account for these facts. In the following, I focus on specificational copular clauses that have definite and possessive predicates first. I deal with indefinites (which have a modification requirement) after the main analysis has been established.

The analysis I propose has a significant overlap with the analysis proposed by Mikkelsen (2004). Like that analysis, I propose that the key to understanding when predicate inversion is possible is to take seriously the discourse properties of specificational copular clauses. However, my analysis can be seen as a semantic one whereas her analysis uses formal feature checking and thus is grounded very much in the syntax. Given that the analysis I propose here is perfectly compatible with Mikkelsen's, I will only outline it briefly. The following are the assumptions that I adopt. I claim that the main facts about specificational copular clauses can be derived from these three independently motivated assumptions.

- Specificational copular clauses, like several other inversion structures, have a fixed topic-focus order (Heycock & Kroch 2002).

- A nominal phrase that is a topic must have an existence presupposition (adapted from Strawson 1964, Reinhart 1981)

- All nominal meanings are ambiguous being type e and type $<<e,t>,t>$. The predicative type $<e,t>$ meaning is derived through type-shift. (Partee 1987)

The first point is an independently observable fact about specificational copular clauses. The second point is an adaptation of an old assumption but is a key ingredient in the analysis here. This point will be shown to crucial in accounting for why only indefinites with modification can occur as specificational copular clause subjects. The third point, is another old assumption made in the literature, although it has been challenged in recent

analyses. Unlike what I propose, in recent analyses, the predicate meaning of definites is not derived through type-shift but is argued to be independent of the non-predicative meanings of nominals (eg. Rieppel 2013, Coppock & Beaver 2012). I now discuss each assumption in turn.

3.3.1 The Discourse Properties of Specificational copular clauses

In this section, I argue that specificational copular clauses are a type of inversion structure which always leads to a fixed Topic-Focus order. This discourse profile is not a peculiarity of specificational copular clauses but a general pattern for inversion structures. First, note that specificational copular clauses, unlike predicational copular clauses, do have a fixed topic-focus order for its constituents. The following diagnostic using question-answer pairs (attributed to Halliday 1967 by Mikkelsen 2004) shows this clearly. It should be noted that the claim that specificational copular clauses have a fixed topic-focus order is not a controversial point; indeed Heycock & Kroch (2002), proponents of the equative analysis of specificational copular clauses, make the same claim.

20)   **Predicational copular clause**
    a.   Q: Who is the doctor?
        A1: <u>John</u> is the doctor.

    b.   Q: What is John?
        A1: John is <u>the doctor</u>.

21)   **Specificational copular clause**
    a.   Q: Who is the doctor?
        A1: The doctor is <u>John</u>

    b .   Q: What is John?
        #A2: <u>The doctor</u> is John.

A constituent can be made focused by making it the answer to a question. Thus, we see that in (20), in a predicational copular clause, either constituent can be questioned. (21) shows that in a specificational copular clause, only the post-copular phrase can be questioned. Focusing the precopular phrase in a specificational copular clause as in (21b) is not allowed. The infelicity of (21b) is explained by arguing that this infelicity arises due to an incompatibility of focusing a topic. In contrast, the fact that either constituent in a predicational copular clause can be focused shows that predicational copular clauses do not have a fixed Topic-Focus order.[4] Copular clauses with possessive predicates show the same discourse configuration.

22) **Predicational copular clause**
    a.   Q: Who is Susan's friend?
             A1: <u>John</u> is Susan's friend.
    b.   Q: What is John?
             A1: John is <u>Susan's friend</u>.

23)   **Specificational copular clause**
    a.   Q: Who is Susan's friend?
             A1: Susan's friend is <u>John</u>

    b .   Q: What is John?
             #A2: <u>Susan's friend</u> is John.

(22) and (23) show that specificational copular clauses with possessive predicates also have a fixed Topic-Focus order. While either constituent in a predicational copular clause can be focused, as seen in (22), only the post-copular phrase in a specificational copular clause can be focused, as seen in (23). The pre-copular phrase in a specificational copular

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[4] From a Rooth (1992) perspective, what this means is that for a predicational copular clause like *John is the doctor*, it is possible to form sets of propositions ranging over either constituent. Thus for the question *Who is the doctor*?, the set of propositions with different values for x: x is the doctor is the focus semantic value. For the question *What is John*?, it is also possible to form a set of propositions with different values for P: John is P. On the other hand, for a specificational copular clause, it is only possible to calculate a focus semantic value for the phrase that ranges over the individual: The doctor is x.

clause is infelicitous with focus on it. The infelicity is explained if the pre-copular phrase in a specificational copular clause is inherently a topic.

Mikkelsen (2004) argues that this type of fixed discourse profile is not specific to specificational copular clauses but can be attributed to them being a predicate-inverted structures similar to other inversion types in English analyzed by Birner (1996). Of such inversion structures, Birner (1996: xiii) says "argument reversing constructions require the postposed constituent to represent information that is newer than that represented by the preposed constituent". From this perspective, specificational copular clauses are just one type of a general phenomenon of inversion which creates a specific discourse profile. Mikkelsen's analysis of specificational copular clauses focuses on this particular fact, and uses feature checking (Chomsky 2000, 2001) to drive the analysis. To see how this works, let's look at a derivation of a specificational copular clause under this system. Crucial to this type of analysis are the assumptions that movement is driven by the need to check uninterpretable features on heads and that no uninterpretable feature can remain unchecked.

24)
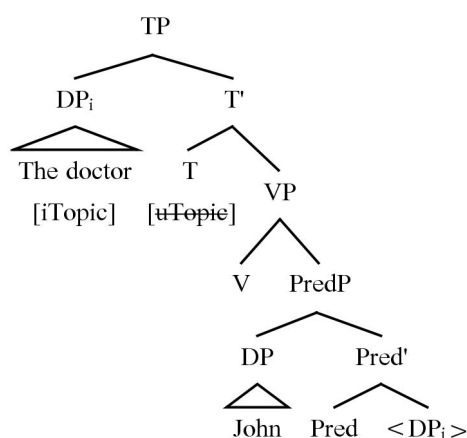
In the derivation of a specificational copular clause like *The doctor is John*, the small clause predicate *the doctor* is analyzed as having an interpretable topic feature which is

used to check the uninterpretable topic feature of the T head. This drives movement of the predicate to Spec, TP over the small clause specifier *John*, which does not have a topic feature[5]. If *the doctor* does not invert, the uninterpretable topic feature remains unchecked and the derivation will fail. I believe that Mikkelsen's analysis captures an important insight, i.e. that the discourse configuration of specificational copular clauses is the key to understanding how specificational copular clauses are formed. My own account relies on this same insight but implements the insight in a semantic/pragmatic perspective. The account I provide is fully compatible with Mikkelsen's.

To further reinforce the point that inversion is often associated with a fixed topic-focus order, I appeal to Kirundi inversion in non-copular clause contexts. For example, consider the following type of inversion which is possible in Kirundi (Bantu) (Ura 1996, Ndayiragije 1999).

25) a. Abana   ba-a-*ra*-nyoye   amata.   SVO
         children   3P-PST-F-drink:PERF   milk
         'Children drank milk' (Ndayiragije 1999: 400)

    b. Amata   y-a-(*ra*)-nyoye   abana.   OVS
         milk   3S-PST-F-drink:PERF   children
         'Children (not parents) drank milk.' (Ndayiragije 1999: 400)

(25a) shows an SVO structure whereas (25b) shows an inverted OVS order where the subject and object reverse positions. Like English (and Tamil) specificational copular clause, it is the fronted object that agrees with T in the inverted order. The main difference is that here the inversion occurs around a lexical verb, *drink*. Notably, such structures are also associated with a fixed discourse profile: The fronted object must be a topic. Most recently, Marten & van der Wal (2014: 331), in their analysis of such

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[5] Mikkelsen requires *John* to not have an interpretable topic feature as otherwise fronting *the doctor* over *John* will lead to a minimality violation.

inversion structures in Bantu, claim that the fronted phrase in reversal constructions 'provides the background of the assertion'. Kimenyi (1980) also argues the same for OVS constructions in Kinyarwanda which is a mutually intelligible language with no significant syntactic differences with Kirundi (Zorc & Nibagwire 2007). The claim that the fronted object in Kirundi OVS constructions is a topic is also made in Morimoto (2000, 2006). My Kirundi consultant (Ernest Nshemezimana, p.c.) also notes that (25a) (an SVO construction) is a possible answer to a question 'What did the children do?' or 'What happened'?. On the other hand, (25b) (an OVS construction) is a possible answer only to the questions: 'Who drank the milk?' or 'Is it you who drank the milk?' In other words, (25b) is only a possible answer to a question where the fronted phrase is familiar in the discourse. The Kirundi facts thus support Birner and Mikkelsen's views that inversion has a function of forming a specific discourse profile and this is what we see in specificational copular clauses as well. Thus, the fact that the fronted phrase in a specificational copular clause is a topic is not particular to specificational copular clauses. It is part of a general phenomenon where fronting leads to topicalization. We will now move on to the next assumption that I will make which is an important aspect of the analysis here of specificational copular clauses.

3.3.2 Existence Presuppositions and Topichood

Reinhart (1981: 70), producing an argument from Strawson (1964) claims that among definite phrases, "only sentence-topics carry existential presuppositions". The following is shown in support of this view.

26) a.   The king of France is bald.

b.   The king of France got married.

In (26a -b), Reinhart reports that there is presupposition failure such that it is not possible to judge these sentences as true or false since the definite phrase *the king of France* here presupposes existence. Since we know that there is no such person fitting the description *the king of France,* these sentences fail to have any truth value. The subject in these out-of-the-blue sentences are assumed to be the default topics of the sentence. However, it is possible to make the subjects into foci by making them the answer to a question as follows.

27) a.   Q: Who is bald?
            A: The king of France is bald.

    b.   Q: Who got married?
            A: The king of France got married.

In these sentences, *the king of France* is focused. Reinhart observes that the responses here can be judged false, which indicates that there is no presupposition failure in these cases. The absence of a presupposition failure in (27) indicates that these definite phrases do not have an existence presupposition in the first place. These facts correlate the presence of a presupposition with topichood. In (27), the definite phrases are not topics and thus do not have an existence presupposition. However, in (26),the definite phrases do have an existence presupposition because they are topics.

However, when we look beyond definite phrases, it is also possible for non-topics to have an existence presupposition.

28)   Q: Well, we know John likes someone but who does he actually like?
        A: John likes Mary.

In (28), the possible response to the indicated question is focused. However, if one assumes that names carry an existence presupposition (van der Sandt 1992), then *Mary* in (28) has an existence presupposition despite being the focus. Thus, (28) shows that even

non-topics can have an existence presupposition. In light of such data, I assume the following modified claim regarding topichood and existence presuppositions: *If a phrase is a topic, then it must have an existential presupposition.* In this view, having an existence presupposition is a necessary (but not sufficient) condition for being a topic. This modified assumption can account for all the data in (26-28). In (26), the default reading takes the definite phrases to be topics and as such they must carry an existence presupposition. Thus, presupposition failure arises if no unique individual satisfies the definite description. In (27) and (28), the definite phrase and *Mary* are not topics and as such there is no expectation of an existence presupposition. Thus, in (27), we find a focused definite without an existence presupposition and in (28), we find a focused proper name with an existence presupposition.

The assumption that topics must have an existence presupposition is an important ingredient of the analysis given here for specificational copular clauses. The interaction of this assumption with the earlier assumption that the fronted phrase in a specificational copular clause is an obligatory topic is what gives us the following restriction on specificational copular clause formation.

29)   **Restriction on Predicate Inversion (Version 1)**
An inverted predicate must have an existential presupposition.

(29) arises from the assumptions that specificational copular clauses have a Topic-Focus order (seen earlier) and that a topic must have an existence presupposition. These two statements together imply that only predicates that have an existence presupposition can be inverted. In order to see the actual meanings of specificational copular clauses, we need to have an idea of what possible meanings of predicates are available. This is what I address in the next sub-section.

3.3.3   Ambiguity of Predicate Meanings

Here, I largely adopt the general type-shifting principles found in Partee's (1987) influential paper on type-shifting. In Partee's system, nominals can have different semantic types and can undergo type-shifting from one type to another. The following shows that definite and possessive nominals can be of all three semantic types and the process that facilitates shift from one type to another (Partee 1987: 364).

30)
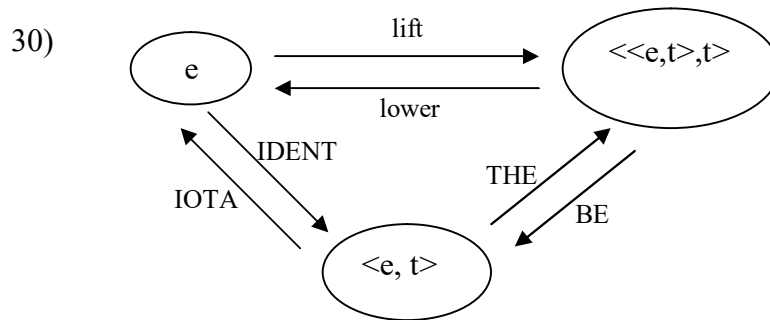
The following shows contexts in which each meaning type is attested for definites.

31) a.   {Susan's doctor/ The doctor} treated the patient.   e
    b.   {Susan's doctor/ The doctor} and every nurse…   <<e, t>, t>
    c.   I consider [John {Susan's doctor/ the doctor}].   <e, t>

Following Partee, I make the following additional assumption: type <e, t> meanings of DPs are derived from the type e and type <<e, t>, t> meanings. This means that, unlike the meanings of the DPs in (31a) and (31b), the meaning of the underlined DPs in (31c) is derived through type-shifting. This gives rise to the question of which meaning of the DP is type-shifted to derive the predicate meaning. I assume the null hypothesis in this regard which is that both e and <<e,t>,t> type meanings of DPs can undergo type-shifting to derive the predicate meaning. This means that the DP meaning in (31c) (i.e. the predicate meaning) is ambiguous. One meaning is derived from type-shifting the type e meaning of the DP and another meaning is derived by type-shifting the type <<e,t>,t> meaning of the DP. This gives us two type <e, t> meanings for DPs. This ambiguity is, I claim, at the

core of why definites and possessives carry different presuppositions when they occur as post-copular predicates as opposed to pre-copular ones. First, let's look at the meanings for definites like *the doctor*.

32) a. $[[\text{the doctor}]] = \iota x[\text{doctor}(x)]$ (Partee 1987)
    b. $[[\text{the doctor}]] = \lambda P \exists x[\text{doctor}(x) \wedge \forall y[\text{doctor}(y) \rightarrow y = x] \wedge P(x)]$
                                                                              (Partee 1987)

(32a) is the type e meaning of *the doctor* and (32b) is the Russellian meaning of *the doctor*. As mentioned above, both are possible meanings of *the doctor*. In the type e meaning in (32a), the iota operator carries the existence and uniqueness presuppositions. This is a partial function that only applies to a set that contains exactly one individual. Thus, *the doctor* under this meaning has both uniqueness and existence presuppositions. The type $<<e,t>,t>$ meaning in (32b), on the other hand, denotes a set which contains all the sets that have the unique doctor as its member. In order to derive the $<e,t>$ meanings, the type e meaning has to be shifted up using IDENT whereas the type $<<e,t>,t>$ meaning has to be shifted down using BE. The meanings of these operators from Partee (1987) are given below and are in line with how they are used in the subsequent literature (for example, Coppock & Beaver 2012 for a recent example).

33) a. $\lambda x \lambda y[x=y]$ IDENT
    b. $\lambda Z_{<<e,t>,t>} \lambda x[Z(\lambda y[y=x])]$ BE

(33a) shows the INDENT operator which forms a set out of any type e element. (33b) shows the BE operator, which takes a set containing sets of individuals and forms a set containing just all the individuals. When these are applied to (32a) and (32b) respectively, they give rise to the following type $<e, t>$ meanings for *the doctor*.

34) a. $[[\text{the doctor}]] = \lambda x \, [\iota y[\text{doctor}(y)] = x]$ after IDENT
    b. $[[\text{the doctor}]] = \lambda z[\exists x[\text{doctor}(x) \wedge \forall y[\text{doctor}(y) \rightarrow y = x] \wedge x = z]]$
                                                                              after BE

(34a) is the set containing the individual that is the one and only doctor. (34b) is the set that contains a doctor such that there is at most one such doctor. These differ with respect to the presuppositions they have. (34a) has uniqueness and existence presuppositions due to the iota operator it contains. (34b), on the other hand, has no existence presupposition. It only requires that there is at most one doctor. In contexts in which there are no doctors or there is more than one doctor, (34a) will be undefined but (34b) will be an empty set. (34), then, represents the two predicative meanings of the definite expression assumed here.

How about possessives? Again, I assume that the type e and type $<<e,t>,t>$ meanings are used to derive the type $<e, t>$ meaning using IDENT and BE respectively. The following are the type e and $<<e,t>,t>$ meanings of possessives.

35) a. $[[\text{Susan's friend}]] = \iota x[\text{friend-of}(x, s)]$ (Partee & Borschev 1998)
    b. $[[\text{Susan's friend}]] = \lambda P \exists x[\text{friend-of}(x, s) \wedge P(x)]$

(35a) is the type e meaning that denotes the unique individual that is Susan's friend. (35b) is the type $<<e,t>,t>$ meaning that denotes a set that contains sets that contain as their member at least one individual that is Susan's friend. Notably, there is no uniqueness requirement built into (35b). After type shifting, these give the following $<e, t>$ meanings.

36) a. $[[\text{Susan's friend}]] = \lambda x [\iota y[\text{friend-of}(y, s)] = x]$ after IDENT
    b. $[[\text{Susan's friend}]] = \lambda x[\text{friend-of}(x, s)]$ after BE

(36a) denotes a set that contains an individual that is the unique friend of Susan's. (36b) denotes the set containing individuals that are friends of Susan's. (36a) carries with it a uniqueness and existence presupposition due to the iota operator. (36b), on the other hand, has neither a uniqueness nor an existence presupposition. With this in hand, we are

now ready to see how these assumptions interact in order to explain predicate inversion in a specificational copular clause and the associated presupposition asymmetries.

3.3.4 Putting the assumptions together

Before we look at the derivations proper, it will be useful to look again at the assumptions we have made.

- Specificational copular clauses have a fixed topic-focus order (Heycock & Kroch 2002).

- A nominal phrase that is a topic must have an implication of existence (Strawson 1964, Reinhart 1981).

- All nominal meanings are ambiguous between type e and type $<<e,t>,t>$. The predicative, type $<e,t>$ meaning, is derived through type-shift (Partee 1987).[6]

Given these three assumptions, we can now see when predicate inversion is impossible. Since any phrase that is fronted in a specificational copular clause has to be a possible topic, it must be a phrase that has an existence presupposition. Let's look at a specific example.

37) a.   John is the doctor.
    b.   The doctor is John.

We have already seen the predicate meanings of *the doctor*. They are reproduced below.

38) a. $[[\text{the doctor}]] = \lambda x\ [\iota y[\text{doctor}(y)] = x]$ after IDENT
    b. $[[\text{the doctor}]] = \lambda z[\exists x[\text{doctor}(x) \wedge \forall y[\text{doctor}(y) \rightarrow y = x] \wedge x = z]]$
                                                                                                    after BE

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[6] Although we have only seen definites and possessives here, we will see that even indefinites can be iven the same ambiguity treatment later in the chapter.

In (37a), either meaning of *the doctor* is possible. However, in (37b), where the predicate has fronted and has to be a topic, only one of these meanings is possible, namely (38a), as it is the only meaning that presupposes the existence of a doctor. (38b) does not; it only has a uniqueness requirement. Since both these meanings are possible in (37a), we get the intuition that *the doctor* has only a uniqueness presupposition.[7] In contrast, in (37b), only the meaning of *the doctor* in (38a) can be fronted. This gives the intuition that the fronted predicate has an existence and a uniqueness presupposition. This is in fact the judgments about presuppositions that we have about definites in pre and post-copular positions as seen in Table 1 reproduced below.

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[7] This may be problematic. The meaning of *the doctor* in (38b) actually has neither a uniqueness nor existence presupposition. This is because uniqueness and existence are *asserted* in the Russellian analysis and not presupposed. Thus, we predict wrongly that the definite in the post-copular position should have neither a uniqueness nor an existence presupposition. However, I believe that it is possible to remedy this by modifying the denotation of the quantificational meaning for the definite as shown below.

a) $[[\text{the doctor}]]_{<<e,t>,t>} = \lambda P \exists x: |\text{doctor}| \leq 1 . \text{doctor}(x) \wedge P(x)$

(a) is adapted from Coppock & Beaver (2012). (a) still represents a type $<<e,t>,t>$ meaning of *the doctor* but one where the uniqueness presupposition is built in using $|\text{doctor}| \leq 1$. This presupposes that there is at most one doctor if there is any at all. Existence, however, is asserted but not presupposed. This gives us a quantificational meaning of *the doctor* that only presupposes uniqueness. Type shifting this meaning with BE gives us the following type $<e,t>$ meaning.

b) $[[\text{the doctor}]]_{<e,t>} = \lambda z \exists x: |\text{doctor}| \leq 1 . \text{doctor}(x) \wedge z = x$

This denotes the set containing the individuals that is a unique doctor. However, there is no existence presupposition. This is identical to Coppock & Beaver's (2012) type $<e,t>$ meaning of *the doctor*. Their representation for the definite is shown in (c) [Coppock & Beaver 2012: 533].

c) $[[\text{the doctor}]]_{<e,t>,} = \lambda x: |\text{doctor}| \leq 1 . \text{doctor}(x)$

The difference between Coppock & Beaver's approach and mine is that I argue that the type $<e,t>$ meaning is derived from the type $<<e,t>,t>$ meaning whereas Coppock and Beaver argue that the type $<e,t>$ meaning is the base form and that the type e and $<<e,t>,t>$ meanings of the definite are derived by type-shifting the $<e,t>$ meaning. I believe that my account provides a clearer explanation for why only certain types of predicates can be inverted to form specificational copular clauses.

	Type of Presupposition	Pre-Copular	Post-Copular
Definites	Uniqueness	Yes	Yes
	Existence	Yes	No
Possessives	Uniqueness	Yes	No
	Existence	Yes	No

Table 2 Presuppositional Asymmetries

A similar line of reasoning also accounts for the presuppositional asymmetries attested with possessives. Consider the following.

39) a.   John is Susan's friend.
    b.   Susan's friend is John.

40) a. $[[\text{Susan's friend}]] = \lambda x\,[\iota y[\text{friend-of}\,(y, s)] = x]$ after IDENT
    b. $[[\text{Susan's friend}]] = \lambda x[\text{friend-of}\,(x, s)]$ after BE

(39) shows the meanings of *Susan's friend*. Both these meaning are possible in (39a) and as such we get the intuition that neither uniqueness nor existence is presupposed here. However, only the meaning of *Susan's friend* in (40a) can be inverted as it is only this meaning that has an existence presupposition. This then gives the intuition that the fronted possessive predicate has both existence and uniqueness presuppositions.

One of the competing claims about specificational copular clauses is that these are equations (Jacobson 1994, Heycock & Kroch 1999, Sharvit 1999 etc). In the next section, we will see that, for the core cases of specificational copular clauses involving definites and possessives, we do not need to stipulate that specificational copular clauses have a semantics of equation. This will be shown to fall out as a necessary consequence of the analysis that I have been building up to.

3.4 Deriving Predicational and Specificational copular clauses

The easiest way to show how predicate inversion can still lead to a semantics of equation is by looking at the derivations themselves. This is what I do now using the assumptions justified so far.

3.4.1 Deriving a Predicational copular clause

Let's take a look at the derivation of a predicational copular clause *John is the doctor*. Syntactically, this is analyzed as having a small clause with the small clause subject moving to Spec, TP, thus leaving a trace in Spec, PredP. *The doctor* is the complement in the PredP, and according to our analysis given in Chapter 2 is actually an FP, in which an F head takes the DP as its complement. I assume that the meanings of the type-shift operators IDENT and BE are borne by F although this assumption is not necessary for the analysis. As mentioned above, the type of *the doctor* that has to occur in a predicational copular clause is $\langle e, t \rangle$, which is derived from the two basic meanings of *the doctor* as reproduced below in (41).

41) a.   [[the doctor]] = λx [ιy[doctor(y)] = x]   after IDENT
    b.   [[the doctor]] = λz[$\exists x$[doctor(x) $\land$ $\forall y$[doctor(y) $\rightarrow$ y = x] $\land$ x =z]]
                                                   after BE

Note that both are of type $\langle e, t \rangle$ and thus both can occur as the complement of Pred. This means that a predicational copular clause is ambiguous. The following shows the meaning of *John is the doctor* that is computed using (41a). e $\rightarrow$ $\langle e, t \rangle$ indicates the type shift that has occurred to derive the $\langle e, t \rangle$ meaning.

42) *John is [the doctor]*$_{e \rightarrow <e, t>}$

$$\text{TP}$$
$$\lambda x_i [x_i = \iota x[\text{doctor}(x)]] (\text{John}) \Rightarrow$$
$$\text{John} = \iota x[\text{doctor}(x)]$$

DP$_i$ VP

John $x_i = \iota x[\text{doctor}(x)]$

V

PREDP

is
$\lambda t.t$ $x_i = \iota x[\text{doctor}(x)]$

t_i PRED'

x_i $\lambda y[y = \iota x[\text{doctor}(x)]]$

PRED   FP

$\lambda P \lambda x[P(x)]$ $\lambda y[y = \iota x[\text{doctor}(x)]]$

F   DP

IDENT   the doctor
$\iota x[\text{doctor}(x)]$
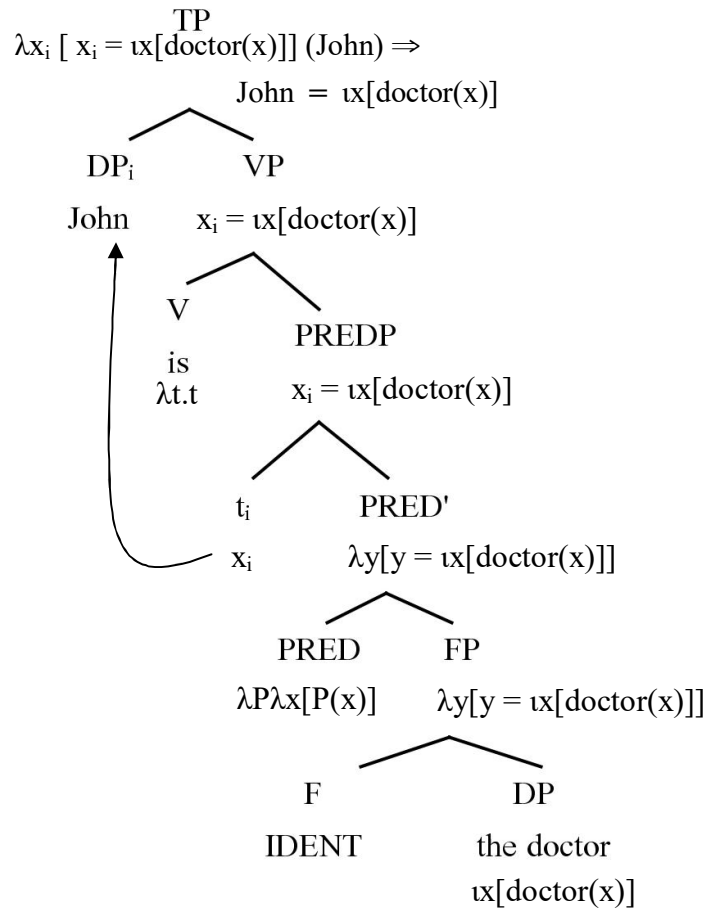
(42) shows one meaning of the predicational copular clause *John is the doctor*. Here, *John* has moved from Spec, PredP to Spec, TP. The meaning of Pred is adopted from Williams (1983) and Partee (1987). I assume that the copula verb *is* is semantically vacuous. The meaning is otherwise composed using standard functional application. In contexts in which there is a unique doctor, this sentence is true if John is the unique doctor and false is John is not the unique doctor. If there are no doctors or if there is more than one doctor, there is a presupposition failure.

This is only one meaning of this predicational copular clause *John is the doctor*. The alternate meaning of this clause is shown below. Much of the derivation is the same with the key difference being in the denotation of FP.

43) *John is [the doctor]*$_{<<e, t>, t> \rightarrow <e, t>}$

TP
$\lambda x_i [\exists x[doctor(x) \wedge \forall y[doctor(y) \rightarrow y = x] \wedge x =x_i]]$ (John) $\Rightarrow$
$\exists x[doctor(x) \wedge \forall y[doctor(y) \rightarrow y = x] \wedge x = John]$

DP$_i$ VP

John $\exists x[doctor(x) \wedge \forall y[doctor(y) \rightarrow y = x] \wedge x =x_i]$

V
is   PREDP
$\lambda t.t$ $\exists x[doctor(x) \wedge \forall y[doctor(y) \rightarrow y = x] \wedge x =x_i]$

t$_i$ PRED'
x$_i$ $\lambda z[\exists x[doctor(x) \wedge \forall y[doctor(y) \rightarrow y = x] \wedge x =z]]$

PRED   FP
$\lambda P \lambda x[P(x)]$ $\lambda z[\exists x[doctor(x) \wedge \forall y[doctor(y) \rightarrow y = x] \wedge x =z]]$

F   DP
BE   the doctor
$\lambda P \exists x[doctor(x) \wedge \forall y[doctor(y) \rightarrow y = x] \wedge P(x)]$
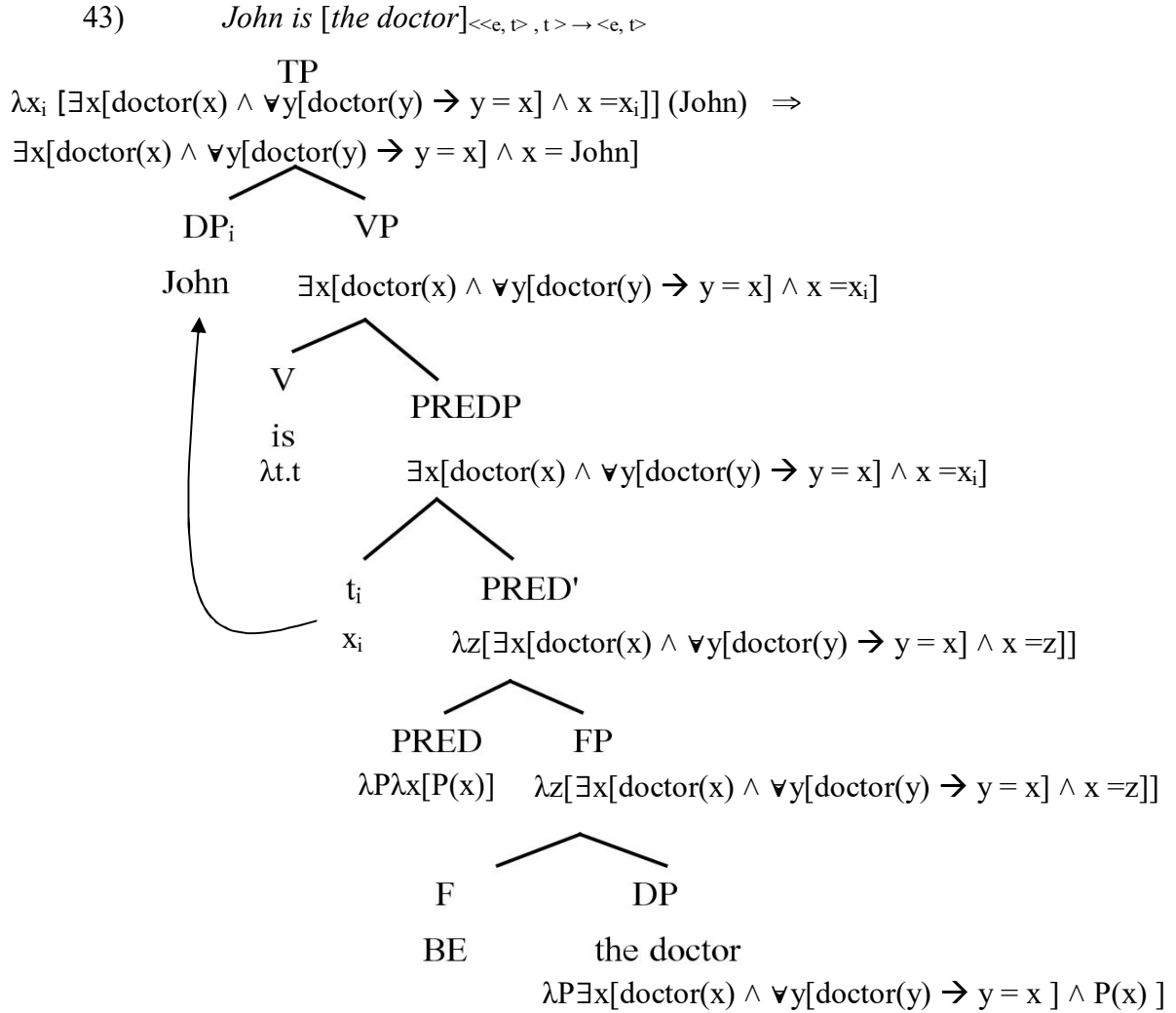
(43) is true in contexts where John is the unique doctor and will be false if John is not a doctor. In addition, in contexts in which there are no doctors or if there is more than one doctor, the sentence will be false. (44) summarizes the two denotations of the predicational copular clause, *The doctor is John,* in this analysis.

44) a. $j = \iota x[doctor(x)]$
    b. $\exists x[doctor(x) \wedge \forall y[doctor(y) \rightarrow y = x] \wedge x = John]$

As mentioned above, this ambiguity of the predicational copular clause is argued to be why the definite phrase in a predicational copular clause does not appear to carry an existence presupposition. The ambiguity in meaning obscures the existence presupposition that is present in only one of its meanings. However, another aspect of

these meanings that is relevant for us is the fact that (44a) is an equation where the individual *John* is equated with the individual *the doctor*. We are able to derive this meaning even though we did not introduce an equative meaning in the small clause head itself. Equative semantics is introduced by IDENT. Given that only $[[$*the doctor*$]]_{e \rightarrow <e, t>}$, is possible in a specificational copular clause, what we end up with is a semantics of equation for specificational copular clauses. We will now turn to this.

3.4.2 Deriving a Specificational copular clause

In this section, we will see how a specificational copular clause like *The doctor is John* is derived. Recall the two predicative meanings of *the doctor* assumed here.

45) a. $[[\text{the doctor}]] = \lambda x \, [\iota y[\text{doctor}(y)] = x]$ after IDENT

    b. $[[\text{the doctor}]] = \lambda z[\exists x[\text{doctor}(x) \wedge \forall y[\text{doctor}(y) \rightarrow y = x] \wedge x = z]]$
                                                          after BE

Also note the following restrictions on predicate inversion.

46)   **Restrictions on Predicate Inversion (Version 1)**
        An inverted predicate must have an existential presupposition.

What (46) means is that while both (45a) and (45b) can occur in a predicational copular clause, only (45a) can be inverted to form a specificational copular clause. This is because only (52a) has an existence presupposition. We can now see that inverting this necessarily leads to a semantics of equation.

47) $[[\text{The doctor}]]_{e\,\to\,<e,\,t>}$ is John.

TP
$\lambda P_i\,[P_i\,(\text{John})]\,(\lambda x\,[\iota y[doctor(y)] = x]) \Rightarrow$
$\iota y[doctor(y)] = \text{John}$

    FP$_i$ VP

The doctor P_i (John)
$\lambda x\,[\iota y[doctor(y)] = x]]$

        V
              PREDP
        is
       $\lambda t.t$ P_i(John)

           John   PRED'
                      $\lambda x[P_i(x)]$

               PRED t_i
             $\lambda P\lambda x[P(x)]$ P_i
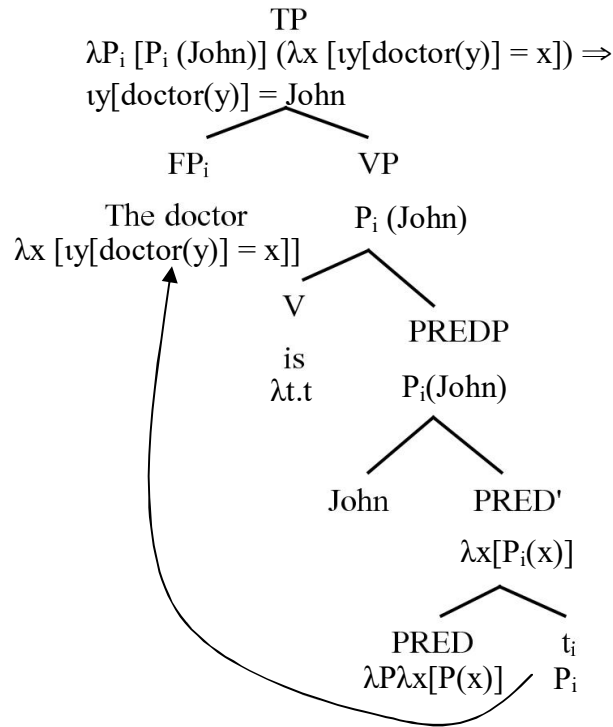
(47) shows how the meaning of the specificational copular clause based on the <e> type meaning of *the doctor* is computed. Here, we have an equative semantics for this specificational copular clause. This is the only meaning possible as the alternate meaning of $[[\text{the doctor}]]_{<<e,t>,t>\,\to\,<e,t>}$ cannot be inverted as it does not have an existence presupposition. Thus, the specificational copular clause *The doctor is John* even under a predicate inversion analysis comes out as an equation. It is important to reiterate that we end up with this result even though we did not build the equative meaning into the small clause head. Also note that under this analysis, we also see why the inverted predicate has an existence and uniqueness requirement. This is because the only meaning of the predicate allowed here is the one that contains the iota operator.

3.4.3   Extension to Possessives

Before going on to discuss specificational copular clauses containing indefinite NPs, I will provide the derivations for a specificational copular clause that has a possessive predicate and show that the same analysis that we saw for the definite provides an account for the presuppositions associated with a fronted and non-fronted possessive predicate.

48) a. $[[$Susan's friend$]] = \lambda x\, [\iota y[\text{friend-of}\,(y, s)] = x]$ after IDENT
    b. $[[$Susan's friend$]] = \lambda x[\text{friend-of}\,(x, s)]$ after BE

(48), reproduced from above indicates the two meanings of the possessive predicate. In a predicational copular clause like John is Susan's friend, both meanings in (48) are possible. However, in a specificational copular clause where *Susan's friend* is fronted, only the meaning in (48a) is possible because only this meaning has an existential presupposition.

49) $[Susan's\ friend]_{e\,\rightarrow\,<e,\,t>}$ is John

$$
\begin{array}{c}
\text{TP} \\
\lambda P_i\, [P_i(\text{John})]\, (\lambda x\, [\iota y[\text{friend-of}\,(y, s)] = x]) \Rightarrow \\
\iota y[\text{friend-of}\,(y, s)] = \text{John}
\end{array}
$$

FP$_i$

Susan's friend   VP

$\lambda x\, [\iota y[\text{friend-of}\,(y, s)] =$

is John t$_i$
P$_i$(John)

In this composition, *Susan's friend is John* is true if the unique individual that is Susan's friend is John. If this individual is not John, the sentence will be false. If Susan has no friends or if she has more than one friend, then this sentence will be undefined. This leads to the intuition that a fronted possessive predicate in a specificational copular clause has

uniqueness and existence presuppositions. In addition, we also see that although we did not introduce an equation meaning through the meaning of the small clause head, type shifting through IDENT gives us an equation nonetheless thus satisfying the requirement that specificational copular clauses are equations.

As far as specificational copular clauses with definites and possessives go, we have seen that (50), which is derived from our assumptions regarding topichood, inversion and the meanings of nominals, can account for the main set of facts.

50)   **Restrictions on Predicate Inversion (Version 1)**
        An inverted predicate must have an existential presupposition.

This accounts for the asymmetries in presuppositions between inverted and non-inverted definites and possessive predicates and gives rise to an equative semantics without having to posit a distinct copula *be*. We have thus reconciled predicate inversion analysis of specificational copular clauses with a semantics of equation for a significant set of data.

However, things do get a little complicated. While the account above indicates that specificational copular clauses *can* be equations, there is data to suggest that specificational copular clauses *must* be equations. Consider the following.

51) a.   John is <u>the one thing you have always wanted a man to be</u>.
    b.   *<u>The one thing you have always wanted a man to be</u> is John.

(51a) shows a predicational copular clause. Unlike a clause like *John is the doctor*, the post-copular definite in (51a) denotes a unique property of type $<e, t>$ and not a unique individual of type e. The truth conditions of (51a) is given below.

52) $[[51a]] = 1$, iff *John* $\in \iota P[$ thing…to-be (P)$]$

(51a) is true in a situation where *John* is a member of the set denoted by the unique property. Note that in this denotation, the post-copular phrase does have an existence presupposition (i.e. there exists a property satisfying the description *thing you have*

always wanted a man to be) and as such one would expect it to invert to form the specificational copular clause in (51b). The fact that such a specificational copular clause is ungrammatical is unexpected (as in (51b)) if the only requirement on predicate fronting in specificational copular clause formation is that the predicate must have an existence presupposition. This indicates that Heycock & Kroch (1999) are correct when they claim that specificational copular clauses must be equations. If specificational copular clauses must be equations, then (51b) is bad as it equates a property with an individual. The analysis that the definite in (52) denotes a unique property is supported by facts such as the following.

53)   <u>The one thing you have always wanted a man to be</u> is honest.

Comparing (51b) with (53) shows that a specificational copular clause has to be an equation. In (53), the precopular and post-copular phrases are both of type $<e, t>$ and as such equation between them is possible. We thus have to conclude that there is a second restriction on specificational copular clause formation: these must be equations.

54)   **Restrictions on Predicate Inversion (Version 2)**
    a.   An inverted predicate must have an existential presupposition.
    b.   A specificational copular clause must be an equation.

This requirement that specificational copular clauses must be equations also explains why the following is bad.[8]

55)   *Tall is John.

___

[8] (55) at first appears to be ungrammatical as *tall* does not presuppose the existence of tall individuals. However, it is not clear if non-nominal topics are subject to the same requirement of having an existence presupposition as nominal topics.

a) Silly though a man may be, he can still have dignity.

b) At his bedside, an experienced pilot will have an alarm clock.

(a-b) are from Ken Safir (p.c.) although examples such as these are readily available in the literature. Here, we have non-nominal topics and it is not clear if these have any existence presupposition. I remain agnostic on the question of whether non-nominal topics require an existence presupposition.

In order for (55) to be possible, we need to allow an equation between *tall*, a property and *John*, an individual, thus such a specificational copular clause could not be formed. Thus (55) is ungrammatical for the same reason that (51b) is. Thus, (54) accounts for specificational copular clauses that have a definite and possessive predicate and also accounts for why adjectival predicates and predicates that denote a unique property cannot be inverted to form a specificational copular clause.

This still leaves one major type of specificational copular clause left unexplained. These are the ones formed from indefinites. Consider the following.

56)   *A doctor is Mary.

It is possible to conceive of a type e meaning for indefinites such as these, namely any of the specific indefinite analyses proposed by Fodor & Sag (1982), Reinhart (1997) and Kratzer (1998).[9] As such we would expect (56) to be a possible specificational copular clause since here two type e phrases are being equated. The fact that (56) still fails indicates that there is more to these indefinites than is apparent at first. I turn to this type of specificational copular clause next.

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[9] One could perhaps think that such data indicates that a type e analysis of specific indefinites is what is problematic. However, even a type $\langle\langle e,t\rangle,t\rangle$ analysis of specific indefinites (eg. Winter 1997, Schwarzschild 2002) cannot account for (10) as names can in normal circumstances be type-shifted to type $\langle\langle e,t\rangle,t\rangle$ as in the following conjunction: *John and every girl…* The question thus arises as to why (10) cannot be an equation of two quantificational phrases like: *Every boy in the room is every boy I know.*

A further problem for any specific indefinite analysis of the indefinite in (56) is the following.

a. *A certain/ particular doctor is John.

Certain and *particular* are assumed to give rise to specific indefinite meanings (Fodor &Sag 1982, Reinhart 1997). Yet, these are still unable to occur as specificational copular clause subjects as seen in (a). These are clear indications that the problem with (56) is independent of whatever the correct analysis of specific indefinites is.

3.5   Indefinite subjects in specificational copular clauses

In this section, my objective is to reconcile (54) with the following contrast.

57) a.　　*A doctor is John.
　　b.　　A doctor that Susan knows is John.

(57) shows that modification allows an indefinite predicate to be inverted to form a specificational copular clause. Prima facie, this poses a problem for (54) because, if we think of the indefinite as a specific indefinite, i.e. of type e, (Fodor & Sag 1982, Reinhart 1997, Kratzer 1998), then it should have an existence presupposition in both (57a) and (57b) and the asymmetry is unexpected. In addition, it is difficult to see how modification can lead to an equation. Thus, the contrast in (57) is problematic for both conditions on specificational copular clause formation that I have proposed.

I first address Mikkelsen's solution to this puzzle and propose a solution that is compatible with hers. Recall from earlier that Mikkelsen's analysis involves feature checking and that only predicates that have an interpretable topic feature can be inverted to check the uninterpretable topic feature of T. This is reproduced below for the specificational copular clause *The doctor is John*.

58)

```
                    TP
                  /    \
               DPᵢ      T'
              /   \    /  \
        The doctor  T    VP
        [iTopic] [u̶T̶o̶p̶i̶c̶]  / \
                        V   PredP
                        is  /   \
                          DP    Pred'
                          /\    /  \
                       John  Pred  <DPᵢ>
```
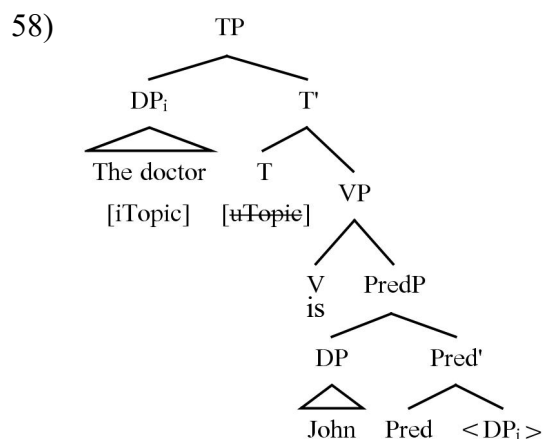
For indefinites, Mikkelsen proposes that an unmodified indefinite cannot have topic features.[10] This means that (57a) cannot be derived as required. However, what modification does is percolate its own topic features to the indefinite, such that the entire indefinite comes to bear the topic features necessary to check the uninterpretable topic feature of T.[11] My solution to the indefinite puzzle is in the same spirit, although the specifics are different. I claim that the modification of an indefinite introduces an implicature that the head noun is not an empty set, in line with Grice (1975), Partee (1975), and Dayal (2005).[12] An unmodified indefinite, on the other hand, does not have any such implicature regarding its head noun. It is this existence implicature, I claim, that allows a modified indefinite (but not an unmodified indefinite) to be inverted in a specificational copular clause.

Ultimately, this requires revision of what types of predicates can be inverted in a specificational copular clause. Earlier I had said that such a predicate must have an existence presupposition, as only such predicates can be topics. However, what indefinites show is that any phrase that implies the existence of some entity, whether

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[10] This claim, which I adopt, is potentially problematic because of sentences like the ones below that Mark Baker (p.c) points out.

a)   As for a doctor (that Susan knows), John saw him in the village.

We can assume that *as for* structures like (a) are topic structures following Reinhart (1981). (a) thus shows a context in which an indefinite can be a topic without needing to be modified. It may be possible to reconcile such data with Mikkelsen's claim by distinguishing between different types of topics. For Reinhart, topics are *aboutness* topics and the as-for test identifies *aboutness* topics. On the other hand, Mikkelsen (2004) adopts a view of topics that is defined as old information. It may be the case that the topic in a specificational copular clause is restricted to being an old information topic which would mean that unmodified indefinite topics in (a) are not problematic to Mikkelsen's claim after all. This claim fits with the Italian cartographic approach (Cinque 2002), where as many as five different topic-types have been identified. Thus, an approach along the lines of identifying the right kind of topic for specificational copular clause has potential. Pursuing this angle, however, has to be left to future work.

[11] In Mikkelsen's data, the modifer itself is discourse-old.

[12] Although as we will see, not all modification functions the same way.

through a presupposition or an implicature, can serve as a topic. The crucial part of the analysis is showing that a modified indefinite introduces an existence implicature of the indefinite and this is what we turn to next.

3.5.1 *X is Det P that Q* has an implicature that *P* is not an empty set

Dayal (2005: 218) discusses the pragmatics of a phrase like *the student who is from Japan*. Such a phrase would be composed as follows. I change the example to be consistent with my earlier examples, but the same point holds.

59)   [$_{DP}$ the [$_{NP}$ [$_{NP}$ doctor] [$_{CP}$ that Susan knows]]]

The inner NP and CP are both predicates (i.e. sets of individuals) that are intersectively combined to from the set of doctors that Susan knows. This set then combines with the determiner. As Dayal (2005) argues, while this is how the phrase is usually assumed to semantically compose, there is some pragmatic information that this simple analysis does not capture. Crucially, such modification is felicitous only in contexts where there are doctors that Susan does not know. This, I claim, is connected to Grice's maxim of quantity according to which adding the modification *that Susan knows* implicates the existence of doctors that Susan does not know. If there were no doctors that Susan does not know, then it is redundant to add the modification *that Susan knows*. Although the example above has *the* as the determiner, this implicature also arises in indefinites.

60) a.   *the* doctor that Susan knows
    b.   *a* doctor that Susan knows

Regardless of the semantic import of the determiner itself, the modifier *that Susan knows* is only felicitous if in fact there is at least one doctor that Susan does not know.

Consider then how the use of such modified phrases in a predicate position give rise to a different type of existence implicature than the unmodified counterpart. This is

based on the observation about the relationship between the following sentences, which are attributed to Paul Grice by Strawson (1952).

61) a.   There is not [a book in his room which is not by an English author].
    b.   There are books in his room.

In a context in which (61a) is uttered, (61b) is implicated to be true. This implicature also arises in copular clauses, as seen in the following examples that rely on our world knowledge.

62) a.   The Sun is not a celestial body.   F
    b.   The Sun is not a celestial body that is in our solar system.   F
    c.   The Sun is a celestial body   ← Implicature of (64b)

63) a.   The Sun is not a planet.   T
    b.   The Sun is not a planet that is in our solar system.   ??
    c.   The Sun is a planet   ← Implicature of (65b)

I will assume that *planet* is defined as a natural body that orbits a star and that *celestial body* is any natural body that can be found outside Earth's atmosphere. Based on these definitions, (62a) and (62b) are judged false. (63a) is clearly judged as true. However, (63b) gives rise to an infelicity, although it is technically true. This infelicity arises because a sentence like (63b) implicates that the Sun is a planet [(63c)], something that we know not to be true.[13] (62b), on the other hand, does not give rise to any such infelicity because the implicature that the Sun is a celestial body is true [(62c)]. Note that the implicature that the Sun is a celestial body entails the existence of celestial bodies. This allows us to conclude that using a modified predicate implicates the existence of

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[13] It is important to note that this implicature only arises with neutral intonation. If we place emphasis on the head common noun *planet*, then the implicature in (64b) does not arise.

a) The Sun is not a *planet* that is from our solar system.

In this case, the implicature that the Sun is a planet does not arise and this sentence can be easily judged as true. The relevant cases for me are those in which neutral intonation is used. Dayal (2005) notes that the infelicity discussed in (61-62) can also be avoided by the same type of emphasis. I will save for future work as to how these types of intonations affect the formation of specificational copular clauses.

individuals in the set denoted by the unmodified predicate. The following shows how this implicature arises.

64) a.   The Sun is not a celestial body that is from our solar system. ← Utterance
    b.   The Sun is a celestial body.   ← Implicature
    c.   There exists a celestial body.   ← Entailment of (64b)

From (64), we can deduce that the utterance in (64a) implicates the existence of celestial bodies. This can be generalized with the following.

65)   'X is *Det P that Q*' carries the implicature that P is not an empty set.

Here, P and Q are predicates that are intersectively modified with P being the head predicate.[14] *Det* represents a determiner. 'X is…' indicates that the modified phrase is used as a predicate.[15] It is this existence implicature that I argue allows a modified but not an unmodified indefinite predicate to be inverted to form a specificational copular clause.

66) a.   John is not a doctor that Susan knows.
    b.   There exists a doctor.   ← Implicature of (66a)

67) a.   John is not a doctor.
    b.   There exists a doctor.   ← Not implicature of (67a)

68) a.   A doctor that Susan knows is John.   Specificational copular clause
    b.   *A doctor is John.   Specificational copular clause

The familiar contrast in (68a) and (68b) thus has an explanation. The reason that *a doctor that Susan knows* can be fronted to form a specificational copular clause is because modification implicates the existence of doctors as seen in (66a) and (66b). However, in

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[14] In a later footnote of this chapter, I discuss adjectival modification which does not appear to license predicate inversion.

[15] The emergence of this implicature is, however, not limited to predicate positions as seen in the following.

a) John did not see a doctor that Susan knows.

Here, the relevant phrase is a direct object and even here (a) has the implicature that John saw a doctor which also entails that a doctor exists. Thus, the same type of implicature arises with modified predicates. Given this, although I limit my discussion to contexts where the phrase is used predicatively, it should not be taken as indication that this existence implicature only arises in predicate positions.

(67a), with an unmodified indefinite, there is no such existence implicature for doctors as seen in (67b). This accounts for the contrast in (68) where only a modified indefinite can be inverted to form a specificational copular clause. This is because only the head noun of such an indefinite has an existence implicature. Given this, unmodified indefinites cannot be fronted to Spec, TP to form a specificational copular clause as in (68b). I now show that this is indeed a conversational implicature and not a presupposition or a conventional implicature.

3.5.2 Tests for Conversational Implicature

Conversational implicatures differ from both presuppositions and conventional implicatures in two distinct ways. Unlike the latter two, a conversational implicature is both cancellable and reinforceable (Grice 1975, Chierchia & McConnell-Ginet 1990, Levinson 2000, Potts 2005, Coppock 2012 a.o). First, I outline the basic contrast using commonly used examples in order to show that only a conversational implicature (among the three types of inferences) is cancellable and reinforceable. After that I will show that *John is not a doctor that Susan knows* → *John is a doctor* is indeed a conversational implicature.

Cancellablility

69)   Conversational Implicatures can be cancelled
    a.   John likes some of his presents.
    b.   John doesn't like all of his presents.   ← Conv. Implicature of (69a)
    c.   John likes some of his presents. Though I wonder if he likes all of his presents.

70)   Presuppositions cannot be canceled
    a.   Mary stopped smoking.
    b.   She smoked in the past.   ← Presupposition of (70a)
    c.   Mary stopped smoking. #Though I wonder if she smoked in the past.

71)   Conventional Implicatures cannot be canceled

a.   Ed's claim, which is based on extensive research, is highly controversial.

b.   Ed's claim is based on extensive research.   ← C I of (71a)

c.   Ed's claim, which is based on extensive research, is highly controversial. #Though I wonder if Ed's claim is based on extensive research.

The above examples are based on Coppock (2012), although these observations can be originally attributed to Grice (1975). (69b) shows a common conversational implicature of (69a). If John did like all of his presents, the weaker form *some* should not have been used. By using *some*, the speaker implicates that John does not like all of his presents. However this can be cancelled by the speaker, if the speaker expresses doubt as to the status of the implicature itself. This is shown in (69c). The follow on sentence cancels the implicature and the hearer of (69c) is expected to understand that (69a) does not implicate (69b) after all. Presuppositions cannot be cancelled as seen in (70). (70b) is the presupposition of (70a). However, canceling this presupposition is not possible as shown in (70c). Similarly, the conventional implicature introduced by the non-restrictive relative clause in (71a) cannot be cancelled by the speaker.

A concept related to cancellablity is reinforceability, where the speaker can choose to strengthen the conversational implicature. This can be seen below.

Reinforceability

72)   Conversational Implicature can be reinforced
a.   John likes some of his presents.
b.   John doesn't like all of her presents.   ← Conv. Implicature of (72a)
c.   John likes some of her presents. But she doesn't like all of her presents.

73)   Presuppositions cannot be reinforced
a.   Mary stopped smoking.
b.   She smoked in the past.   ← Presupposition of (73a)
c.   Mary stopped smoking. #And she smoked in the past.

74)   Conventional Implicatures cannot be reinforced
a.   Ames was, as the press reported, a successful spy.
b.   The press reported that Ames was a successful spy. ← CI of (74a)

c.   Ames was, as the press reported, a successful spy. #And he was
reported   to be a successful spy. (Coppock 2012: 7)

(72)-(74) show that a conversational implicature can be reinforced but presuppositions and conventional implicatures cannot be. In (72c), the follow-on sentence reinforces the implicature of (72a). However, reinforcing the case of presuppositions (73c) and conventional implicatures (74c) is infelicitous.

We can now use these two diagnostics to show that *John is not a doctor that Susan knows* implicates *John is a doctor*.

75)   **Cancellable**
    a.   John is not a doctor that Susan knows.
    b.   John is a doctor.
    c.   John is not a doctor that Susan knows. Though I wonder if John is a doctor (at all).

76)   **Reinforceable**
    a.   John is not a doctor that Susan knows.
    b.   John is a doctor.
    c.   John is not a doctor that Susan knows. But John is a doctor.

As seen in the (c) sentences in (75) and (76), it is not infelicitous to cancel or reinforce *John is a doctor* after *John is not a doctor that Susan knows*. I conclude that this is indeed a conversational implicature.

This then requires us to modify our restrictions on predicate inversion in a specificational copular clause.

77) **Restrictions on Predicate Inversion (Version 3)**
    a.   An inverted predicate must have an existential presupposition or an existence implicature.
    b.   A specificational copular clause must be an equation.

(77) illustrates a further modified version of the conditions on predicate inversion. An indefinite predicate which is modified can serve as a topic in a specificational copular clause, hence it can be inverted. Unmodified indefinites, on the other hand, cannot be

inverted as these have neither an existence presupposition nor implicature. Note that this analysis is compatible with Mikkelsen's analysis of indefinite subjects in specificational copular clauses. In my analysis, modification gives rise to an existence implicature in an indefinite predicate which allows it to serve as topic. In Mikkelsen's analysis, the modifier phrase percolates its topic features to the whole indefinite thus allowing the indefinite to be topic. If Mikkelsen's theory is to be retained, the pragmatic explanation I have provided here can be seen as the basis for why feature percolation may occur in a way that is otherwise unusual, i.e, from an adjunct relative clause to the head noun it adjoins to.[16]

As a final point of this section note that the determiner does not have to be indefinite for this implicature to arise.

78) a.   John is not the doctor that Susan knows.
    b.   John is a doctor.   ← Implicature of (78a)
    b.   There is a doctor.   ← Entailment of (78b)

Recall that a definite phrase in post-copular position does not have an existence presupposition. Thus, (78a) is true in a situation in which there are no doctors that Susan knows. However, even in such a context, the implicature in (78b) arises which indicates that there must be at least one doctor, i.e. *John*. One way to think about this is if John is not even a doctor, then it is sufficient to say *John is not the/a doctor*. By adding the modification, the speaker implicates that John is indeed a doctor but not a doctor of the right type and this is where the existence implicature that doctors exists comes from. As with indefinites, this implicature can be canceled and reinforced.

79) a.   **Cancellable**

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[16] Or it could be that the proposal here can be taken to replace Mikkelsen's theory of feature percolation but more work is needed to determine if we can indeed do away with Mikkelsen's theory.

John is not the doctor that Susan knows. Indeed I wonder if John is a doctor (at all).

b. **Reinforceable**
John is not the doctor that Susan knows. But John is a doctor.

(79) shows that a modified definite predicate does implicate the existence of doctors. But of course, definites can be topics even without this implicature because they have an existence presupposition on one of their meanings. As such even unmodified definite predicates can be fronted to form a specificational copular clause.

3.5.3   Semantic analysis of specificational copular clauses with indefinite subjects

Here I will outline the semantic analysis of specificational copular clause with indefinite subjects. These are the assumptions I make to account for these types of specificational copular clauses.

- Indefinites are ambiguous between type e and type $<<e,t>,t>$ meanings and these can be type shifted with IDENT and BE respectively. This is the same assumption that I have made for definites and possessives.

- The type e meaning of indefinites is a result of a choice function (Reinhart 1997, Kratzer 1998). These two authors differ on whether the choice function is existentially closed. While Reinhart employs such a closure, Kratzer proposes that a choice function is contextually chosen. The choice between these analyses does not affect my analysis of specificational copular clauses and for concreteness I adopt Kratzer's analysis.[17]

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[17] Although it should be noted that there are analyses of specific indefinites that are not compatible with the analysis of specificational copular clauses with indefinite subjects proposed here. For example, Winter (1997) analyses specific indefinites as quantification over choice functions. There are also quantificational analyses of specific indefinites (eg. Schwarzschild 2002).

- The type e meaning of an unmodified indefinite does not have an existence presupposition or implicature. For an indefinite like *a doctor*, the choice function analysis presupposes only that a choice function exists but not the existence of any doctors. This is adopted from Kratzer (2003).

- Thus, even a type e meaning of an indefinite is insufficient to allow *a doctor* on the choice function analysis to be a topic. Modification with a relative clause is required, since this introduces an existence implicature which allows the indefinite to serve as a topic.

The following shows the two meanings of an indefinite like *a doctor*.

80) a.   [[a doctor]] = f(doctor)   type e
    b.   [[a doctor] = $\lambda P \exists x[\text{doctor}(x) \wedge P(x)]$ type <<e,t>,t>

(80a) shows a type e meaning of the indefinite and (80b) shows the quantificational meaning for the indefinite. In (80a), the choice function takes a predicate of type <e,t> as its argument and returns as its value any one individual that is in the set. In this case, the choice function will take the set containing doctors and return any individual in this set. One of the important assumptions here is that even though a choice function applied to a predicate returns an entity of type e, the choice function itself does not refer to any individual and as such there is no presupposition that a doctor exists. Kratzer (2003: 1-2)'s example makes this distinction clear.

> *To sharpen intuitions, here is an example describing a custom from my home town Mindelheim. After every funeral, all the mourners gathered around the still open grave say a prayer that starts with the words: "And now let us pray for the person among us who will die next."*

(1) After the funeral, the mourners prayed for some (particular) person among them.

... The funeral example (1) suggests that reference to choice functions seems to work like other cases of reference: The mourners establish a method for picking out somebody among them. They don't know who is picked out by that method.

In the example from Kratzer, what a choice function analysis does is indicate that there is a way of picking out a person to pray for. However, the phrase *the person among us who will die next* is not referential (unless one can predict the future). Likewise, on the choice function analysis in (80a) of *a doctor*, there is no presupposition that a doctor exists. The quantificational meaning of *a doctor* in (80b) does not presuppose existence of doctors either. In order for these meanings to occur in a predicational copular clause, they need to be type-shifted. Their respective shifted meanings are shown below.

81) a. $[[\text{a doctor}]]_{e \rightarrow <e,t>} = \lambda x[x = f(\text{doctor})]$ shifted with IDENT
    b. $[[\text{a doctor}]]_{<<e,t>,t> \rightarrow <e,t>} = \lambda x [\text{doctor} (x)]$ shifted with BE

(81a) denotes the set containing the individual that is picked out from the set of doctors. (81b) contains the set of indviduals who are doctors. The type-shifted meanings of *a doctor* do not have any existence presupposition or implicature that doctors exist either and therefore neither meaning is possible as a specificational copular clause subject. As a result the sentence *A doctor is John* is ungrammatical.

Modification makes the specificational copular clause possible and this was argued to be because modification introduces an existence implicature.

82) a. $[[\text{a doctor that Susan knows}]]_{e \rightarrow <e,t>} = \lambda x[x = f(\text{doctor-Susan-knows})]$

    b. $[[\text{a doctor that Susan knows}]]_{<<e,t>,t> \rightarrow <e,t>} = \lambda x [\text{doctor-Susan-knows} (x)]$

lead to a semantics of equation such that only predicate meanings that lead to such a

meaning can be fronted. This analysis thus unifies syntactic inversion with a semantics of

equation by accounting for a significant set of data concerning specificational copular

clauses.[18]

3.6   Unifying Existence Presuppositions and Existence Implicatures

In this final section, I refine (84a).

84) **Restrictions on Predicate Inversion (Version 3)**
   a.   An inverted predicate must have an existential presupposition or existence
         implicature.
   b.   A specificational copular clause must be an equation.

(84a) as stated indicates that in order for a predicate to be fronted and serve as a topic in a

specificational copular clause, it must either have an existence presupposition or an

existence implicature. This suggests that these form a sort of natural class (as suggested

by Mark Baker (p.c)). After all, if these did not have some property that unifies them then

it would be entirely accidental that both just happen to license predicate inversion. I

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[18] One aspect of modification that remains unexplained is the fact that adjectival modification does not appear to help a specificational copular clause as much as relative clause modification.

a)   ??A blond girl is Susan.

b)   ??A tall boy is John.

(a) and (b) both show adjectival modification of an indefinite but are not very good. The explanation that I have provided that modification introduces an existential implicature appears at first to predict that (a) and (b) should be good. This is because *John is not a tall boy* and *Susan is not a blond girl* do appear to give rise to the existential implicatures that *John is a boy* and *Susan is a girl*.

The reason for the lack of clarity among pre-nominal modifiers as opposed to post-nominal modifiers may have its basis in the fact that modifiers that are heads have quite different properties from post-nominal modifiers that are phrasal (Sadler & Arnold 1994). Dayal (1998, 2005) uses this difference between pre-nominal and post-nominal modifiers to account for the licensing of free choice *any* in non-modal, non-characterizing contexts by using the situation variable that phrases, but not heads, introduce. I will have to leave for future research how Sadler & Arnold and Dayal's claims would affect the formation of specificational copular clauses. For completeness, note that indefinites with PP modifiers (which are also phrasal) appear to be just as acceptable as relative clause modification.

       a)   A girl with blond hair is Susan.

       b)   A doctor with a good reputation is John.

propose that the reason why both facilitate predicate inversion is because both of these types of inferences are projective, in that both survive embedding under an entailment cancelling operator (Frege 1892, Heim 1983, Cheirchia & McConnell-Ginet 1990, Roberts, Simons, Beaver, and Tonhauser 2009). I then argue that this indicates that the existential presupposition and existential implicature are both not-at-issue following Roberts et al (2009).

It is not controversial that existence presuppositions project, so let us start with this.

85) a.　　The doctor is John.　　　　　　Unembedded
　　 b.　　There is a doctor.　　　　　　← Existence Presupposition of (85b)

(85a) shows a specificational copular clause which has a definite predicate. We have already discussed the fact that a pre-copular definite in a specificational copular clause presupposes existence. Crucially, this presupposition survives embedding under the so-called P-family tests (Chierchia & McConnell-Ginet 1990). Thus, the existence presupposition of the definite *the doctor* persists in all the following contexts.

86) a.　　It isn't the case that the doctor is John.　　Negation
　　 b.　　Is the doctor John?　　　　　　　　　　　Yes-No question
　　 c.　　If the doctor is John, …　　　　　　　　　Conditional

In all of these contexts, von Fintel's *Wait a minute* detects the presence of the existence presupposition. Thus, if a speaker X utters (86a), (86b) or (86c), a speaker Y can felicitously challenge the existence presupposition.

87)　　　X: {It isn't the case that the doctor is John./ Is the doctor John?/ If the doctor is John,…}
　　　　　Y: Hey, wait a minute. I thought there was no doctor.

Thus, an existence presupposition is said to project. On the other hand, we can observe that entailments do not project.

88) a.　　John is the doctor.　　　　　　　　Unembedded
　　b.　　Someone is the doctor.　　　　　　← Entailment of (88b)

(88b) is entailed by (88a). However, the P-family test shows us that this entailment does not survive embedding under operators that are appropriately called entailment cancelling operators.

89) a.　　It isn't the case that John is the doctor.　　Negation
　　b.　　Is John the doctor?　　　　　　　　　　　Yes-No question
　　c.　　If John is the doctor, …　　　　　　　　　Conditional

Thus, none of the statements in (89) entail (88b). Thus, if (89a) is true, it could still be false that someone is the doctor in a context where no one is a doctor. Thus, entailments do not project.

The question of whether conversational implicatures project is a tricky one. It is clear that there are examples of implicatures that do not project.

90) a.　　I have $10.
　　b.　　I do not have $11.　　　　　　　　　← Implicature of (90a).

(90b) is an implicature of (90a). The P-family tests indicate that this implicature does not project.

91) a.　　I do not have $10.　　　　　　　Negation
　　b.　　Do I have $10?　　　　　　　　　Yes-No question
　　c.　　If I have $10, …　　　　　　　　Conditional

(91) shows the P-family for (90a). It appears that none of these implicate (90b). Thus, if someone was to utter (91a), there is no implicature that they do not have $11. The same failure of the implicature to project can be seen in (91b) and (91c).

So far we have seen that presuppositions project and that entailments and at least some types of conversational implicatures do not project. Interestingly, the implicature that we have been looking with respect to modification of indefinites patterns with

presuppositions with respect to projection. The existence implicature that arises

through modification also projects.

92) a.   John is a doctor that Susan knows.   Unembedded
    b.   John is not a doctor that Susan knows.   Negation
    c.   Is John a doctor that Susan knows?   Yes-No question
    d.   If John is a doctor that Susan knows, …   Conditional

(92a) shows the unembedded case where the post-copular phrase is a modified indefinite.

Although the implicature that *John is a doctor* (and thus that there is a doctor) is obscured

by the fact that it is also an entailment of (92a), this implicature is readily detected in

(92b), (92c) and (92d).

93) a.   John is not a doctor that Susan knows even though John is a doctor.
    b.   Is John a doctor that Susan knows? After all, John *is* a doctor.
    c.   If John is a doctor that Susan knows, I will be surprised. Even though
          there is no question that John is a doctor.

(93) shows the reinforcement test applies felicitously and illustrates that the implicature

that *John is a doctor* is present in the P-family sentences in (92). Based on this I conclude

that the existence implicature that arises from modification of a common noun does

project. What an existence presupposition and an existence implicature in the contexts we

have seen have in common is just this, they both project.

Following Roberts et al, I further claim that the types of inferences that project are

not-at-issue, based on the following definition of what it means to be *at-issue* and *not-at-issue*.

94) **At-Issue**
    At-issue content is content which is intended by the speaker to accomplish
    a conversational move i.e. to address the QUD or to raise another QUD
    which is relevant to the present one.   (Roberts et al: 4)

95) **Not-At-Issue**
    An utterance may, however, convey a good deal of additional material, in
    some cases material which is new and of interest to the addressee. The
    intuition is that this material, although it may add to the information store

of the addressee[4], does not in itself move the conversation forward in its established direction. (Roberts et al: 5)

This account of what types of meaning project thus gives us an explanation for why existence presuppositions and existence implicatures license predicate inversion in the formation of a specificational copular clause. The existence of individuals denoted by the head noun are both not-at-issue whether due to an existence presupposition or an existence implicature. This is why these license predicate inversion.

96) **Restrictions on Predicate Inversion (Final)**
   a.   An inverted predicate must be not-at-issue with respect to existence.
   b.   A specificational copular clause must be an equation.

(96a) is the final version of the condition governing when a predicate can be inverted to form a specificational copular clause. In order for inversion to be possible, the predicate has to be not-at-issue with respect to existence. This is the case when existence is presupposed (as in the case of definite and possessive predicates) or when existence is implicated (as in the case of modified indefinites).

3.7   Conclusion

In this chapter, I have argued that specificational copular clauses are semantically equations. Nonetheless, I have maintained that they are syntactically inversions. In the literature, these choices are often offered as alternative analyses of specificational copular clauses. I have shown that an analysis which reconciles syntactic inversion with semantic equation is possible. One of the key ingredients of this analysis is the discourse properties of specificational copular clauses wherein the subject is necessarily a topic. I argued that predicate meanings of nominals are inherently ambiguous and that only predicate meanings that are compatible with topichood can be inverted. For definites and possessives, this means that the predicate must presuppose existence and for indefinites

this means that the predicate must implicate existence. An existence implicature is argued to be a necessary (but possibly not sufficient) requirement for topichood of predicate indefinites and the obligatory modification on indefinites is shown to be evidence that indefinite predicate topics must implicate existence. Finally, I argued that the commonality between an existence presupposition and an existence implicature is that both are not-at-issue with respect to existence, as defined by Roberts et al.

Chapter 4   Inversion Structures and the Labeling algorithm

4.1   Introduction

In the previous chapters, I argued that specificational copular clauses are inverted predications with a semantics of equation. This was established in Chapter 2 by first arguing that the neuter agreement that we see in Tamil specificational copular clauses is the result of the subject of a specificational copular clause being a predicate. In addition, in chapter 3, I argued that specificational copular clauses are equations, but ones in which equation is introduced through the IDENT type shift function (Partee 1987). In this chapter, I explore the nature of predicate inversion in light of the Labeling Algorithm of Chomsky (2013, 2015). I argue that inversion structures in general may provide confirmation of the principles outlined by the Labeling algorithm. I provide evidence from Tamil specificational copular clauses but the a richer set of data comes from one type of inversion structure found in Kirundi (Bantu).

Syntactically, inversion structures such as specificational copular clauses raise several questions about the types of derivations that are allowed in natural languages. For one, specificational copular clauses seem to violate widely assumed minimality constraints on movement found in natural languages (eg. Relativized Minimality, Rizzi 1990) as the landing site of the inverted predicate is Spec, TP, an A-position. This requires by-passing the phrase that is in Spec, PredP. Mikkelsen (2004) and den Dikken (2006) provide different solutions for how a minimality violation is avoided. Another question pertains to what such inversion structures say about the types of structures that are allowed in a particular language. For example, while Tamil (and English) allows

movement of a predicate past the small clause subject, this type of inversion is not allowed with transitive structures, where a direct object moves to Spec, TP. For example, *The milk drank children*, meaning that the children drank milk is not possible in English or Tamil.[1] However, Kirundi (Ura 1996, Ndayiragije 1999) allows such constructions.

1) **Kirundi**

   a. Abana   ba-a-*ra*-nyoye   amata.   SVO
       children   3P-PST-F-drink:PERF   milk
       'Children drank milk' (Ndayiragije 1999: 400)

   b. Amata   y-a-(*ra*)-nyoye   abana.   OVS
       milk   3S-PST-F-drink:PERF   children
       'Children (not parents) drank milk.' (Ndayiragije 1999: 400)

 A representative example from Kirundi is shown above. One may then wonder why these types of derivations are not allowed in English and Tamil, which nevertheless do show inversion in the copular clause context.

The main objective of this chapter is as follows. I provide support for the Labeling algorithm of Chomsky (2013, 2015) by investigating Kirundi inversion structures. Generalizing the conclusions of Moro (2009), I argued that the external arguments in these structures cannot remain in their base generated positions but must move to a clause-internal FocP. This movement is argued to follow from the premises of the labeling algorithm. I hypothesize that it is also the presence of such a FocP that allows the formation of specificational copular clauses in Tamil.

Given the support for the main ideas of the labeling algorithm that comes from inversion structures, we could then ask how much the labeling algorithm allows us to simplify current syntactic theory. For example, it has been argued that the EPP and the MOVE/ MERGE distinction can be eliminated as the labeling algorithm can account for

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[1] Modulo passivization.

some of the core facts that were proposed to initially motivate these. At the end of the chapter, I discuss issues pertaining to this. I show that there is much more for the Labeling algorithm to address before it can be seen as successfully replacing the EPP. In addition, given that Ndayragije (1999) uses the MOVE/ MERGE distinction in order to account for some Kirundi data, it is important to show that the labeling algorithm can account for these facts as well. I will show that this can indeed be done.

The outline of the chapter is as follows. In the next three sections, I describe the Labeling algorithm, what the Labeling algorithm predicts about inversion structures, and show that this prediction is fulfilled by looking closely at Kirundi OVS inversion. In the fourth section, I address some issues related to the possible elimination of the EPP and the MOVE/ MERGE distinction in favor of the Labeling algorithm. I then conclude.

4.2   The Labeling Algorithm

Before we look at the inversion data, a detailed description of the version of the labeling algorithm (LA) assumed here is in order. While Chomsky has earlier versions of the LA (Chomsky 2008) and other variations currently exist, including Cechetto & Donati (2010), I follow the version in Chomsky (2013, 2015) and Epstein, Kitahara and Seely (2014). The Labeling Algorithm as outlined in Chomsky (2013, 2015) and Epstein et al (and its predecessors in different guises) propose that the label of a newly formed structure is not added *ad hoc* but rather is calculated using a rigid algorithm from the elements being merged in the computational system.[2] It is assumed that all structures that are to be interpreted must have a label by the time they leave narrow syntax (where

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[2] See also Collins (2002) for arguments in favor of rejecting X'-theory labels.

labeling is determined) and enter the conceptual-intentional interface (where structures are interpreted). If some structure enters the C-I interface without a label, it simply cannot be interpreted and thus will fail.[3] This means that if an instance of MERGE for whatever reason cannot be labeled immediately, the label must be resolved by the time the structure is transferred to the interfaces. The LA is thus an additional 'filter' (loosely understood) by which one can evaluate derivations. The following outlines the LA assumed here.

2) Labeling algorithm (Chomsky 2013: 43)
   a. Suppose SO = {X, YP}. Then X is the label.

   b. Suppose SO = {XP, YP}. Labeling is ambiguous and this can be resolved in two ways.
      i) Make only one term visible, eg. XP, so as to remove the ambiguity.
      ii) If XP and YP share features, the label becomes the shared features.

I assume following Epstein et al that the difference between a head and a phrase for the labeling algorithm is that a head is a item from the lexicon made up of a bundle of features whereas a phrase is a set of items from the lexicon. An implicit assumption, then, is that the labeling algorithm must be able distinguish between sets and non-sets in order to recognize the type of element that occurs in any given instance of MERGE. The version of MERGE assumed here is also what Epstein et al call SIMPLEST MERGE, to express the idea from Chomsky (2013). This is simple set merge without any commitment to pair merge or a formal difference between internal merge and external merge previously characterized in the literature as MERGE and MOVE (Chomsky 2000).[4] However, I

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[3] However, see Oseki (2014) for versions of the labeling algorithm where it is assumed that failure to label does not in fact lead to a crash.
[4] See Epstein et al for an account of how *There* expletive insertion can be accounted for in the labeling algorithm without appeal to the difference between MOVE and MERGE. When we discuss Kirundi facts

continue to use the terms external and internal merge for expositional convenience. With these assumptions, we can now see how the labeling algorithm works.

(2a) applies to the simple structure in which one of the elements being merged is a head and the other is a phrase. In this case, the label will be that of the head, as minimal search finds the head first. Label identification when MERGE happens between two non-heads is more complicated.[5] Here minimal search finds two heads and either could in principle become the label. In such cases, there is more than one way to determine the label. The first way is to make one of the phrases invisible at that point. The way a phrase can be made invisible to the LA at a given point is by merging it in a higher position so that the chain containing the two copies of the phrase is not entirely contained below the node that is to be labeled. Since the node that has to be labeled cannot see the entire chain, it is assumed that the lower copy of the phrase is invisible to the LA and the label of the sister phrase is chosen as the label of this node. This is illustrated in (3). Here, moving XP higher up in the structure, makes the lower copy of XP invisible to the LA at the node immediately dominating the lower XP and base position of YP.

3)

```
        ???                              ???
        /\                               /\
      XP  YP          ———→             XP  ZP
                                           /\
                                          Z  YP
                                             /\
                                          <XP>  YP
```
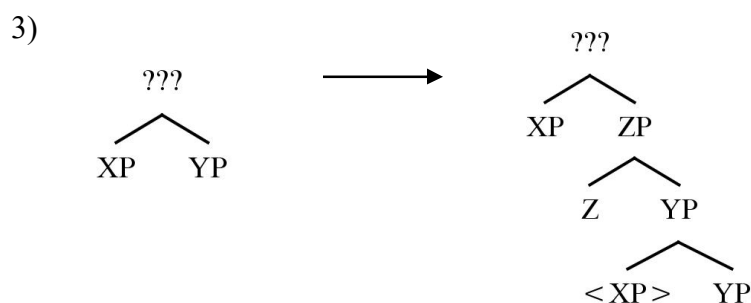
Another way to identify the node label when two non-heads are merged is by projecting their shared features, if any. Looking at the second structure in (3), we can see that

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below, we will see that the Labeling algorithm provides a relatively simpler account for some crucial Kirundi facts without appealing to a distinction between Merge and Move, as Ndayiragije (1999) does.
[5] I will not deal with how labeling is settled when MERGE is between two heads X and Y, but see Chomsky (2015) for comments on this.

although the label identification at the first merge site of XP and YP is now possible,

we have only temporarily postponed the problem as the merge of XP and ZP leads to a

similar labeling problem. One could keep merging XP higher and higher in the structure

but eventually XP needs to stop somewhere. The position where XP stops is one where

the head of the phrase, WP, that XP merges with, shares with X some prominent feature.[6]

Chomsky (2013, 2015) observes that this process where a phrase keeps moving up a

structure until it finds a suitable position is illustrated by wh-movement.[7]

4) a. [In which city]$_i$ did John say t_i the man was assassinated t_i?
   b. John said the man was assassinated [in which city]?
   c. *John said [in which city]$_i$ the man was assassinated t_i.

(4a) shows the standard position of English wh-phrases at the highest Spec, CP.

However, Chomsky (2013) and Epstein et al note that English allows wh-in situ matrix

questions such as (4b), for example, in quiz show contexts. Such facts have also been

discussed in Pires & Taylor (2007) and Vlachos (2012). What is starkly disallowed is wh-

in situ in the intermediate position, as seen in (4c). The LA explains these facts

straightforwardly. In (4a), the wh-phrase can be merged in the highest Spec, CP position

as this highest C and the wh-phrase share Q features and the highest node label can be

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[6] There are instances of merger of two non-heads which appear to be lable-abel without movement or feature sharing. An obvious case would be merger of adverbials or prepositional adjuncts. Thus, the LA as it is currently defined has to be modified. A fruitful way in which this distinction can be made is by utilizing the set-merge and pair-merge distinction of Chomsky (2004) who aims to distinguish adjuncts (in their traditional sense) from arguments in bare phrase structure (thanks to Mark Baker for suggesting this possibility). If pair-merge (which forms ordered pairs) occurs on a separate plane which is invisible to the core phrase structure (Chomsky 2004: 117 - 118), this would make the pair-merged phrase invisible to the LA. In so far as this characterization is correct, in this chapter, we only deal with instances of set-merge of two phrases. Also see Oseki (2015) who argues for the elimination of pair-merge to be replaced with the double peak structure of Epstein, Kitahara and Seely (2012). Although different in detail, double peak structures (which replace pair-merge) are argued to be why adjuncts need not move (or feature share) in order to satisfy the LA.

[7] I use traces in the data throughout the paper without any theoretical commitment to the notion of a trace. They could simply be replaced with unpronounced copies.

identified as the Q features. In (4b), label identification is simply resolved as the wh-phrase merges with a head, V. In (4c), the wh-phrase is in an intermediate position but this is not allowed even though this is also an instance of a merger of two phrases. This is because this intermediate C head does not have a Q feature and as such the intermediate CP cannot be labeled.

Apart from successive cyclic A'-movement, the LA also derives the EPP-effect in English by which external arguments have to move to Spec, TP.

5) Merge (DP$_{ea}$, v') $\rightarrow$ {DP$_{ea}$, v'}

Take (5), where an external argument is merged in Spec, vP. Here DP$_{ea}$ and v' are both phrases and as such vP cannot be labeled. However, we can move DP$_{ea}$ and merge it with T' as shown in (5).

6) Merge (DP$_{ea}$, T') $\rightarrow$ {DP$_{ea}$, T'}

Here, T' contains the vP node with an invisible copy of DP$_{ea}$ and as such the syntactic object in (5) can be labeled v. The structure formed in (6) can also be labeled because Chomsky claims that DP$_{ea}$ and T have shared phi features. Thus, these phi features will become the label of the syntactic object in (6). Note that the reason why DP$_{ea}$ leaves the vP in (5) is not due to any EPP feature or some such trigger on T but rather because not doing so will cause a labeling conflict at the vP level. v' and the DP$_{ea}$ are both non-heads which do not have any shared features, so moving DP$_{ea}$ is needed to enable vP to be labeled.[8] The external argument cannot remain in Spec, vP and in most contexts, the

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[8] Chomsky (2013) acknowledges that it is not entirely clear why it must be the DP$_{ea}$ that moves and not v'. I do not have a concrete answer to this question either but this may have to do with the fact that v unlike T does not have phi features or any type of feature that could facilitate unification. Note that if it did, then DP$_{ea}$ would not need to leave Spec, vP in the first place. Niuean may reflect an interesting parametric difference from English in this regard (thanks to Mark Baker for pointing this out). Massam (1985, 2001) argues that in this language it is actually the VP that moves to Spec, TP. If it is actually what we know as v'

availability of phi features on the external argument and T make feature unification in Spec, TP possible.[9] Note that this approach to the EPP differs from traditional approaches to the EPP in making a clear claim that there is nothing special about the Spec, TP position that requires it to be filled. This filling of Spec, TP only occurs as a result of the external argument being barred from remaining in Spec, vP and there being no other relevant position between Spec, vP and Spec, TP.

Epstein et al recognize this potential of the LA (they note some possible issues to do with *there*-insertion in their footnote 13). In addition, they show that Chomsky (2013) is right that it is empirically possible to treat both MOVE and MERGE as a single operation *simplest merge* which applies without restriction. In other words, the LA allows us to reanalyze well-known data that was used to motivate the distinction between MOVE and MERGE in Chomsky (2000), without appealing to this distinction. If correct, this is a simplification of the theory. The discussion below of (7) is largely drawn from Epstein et al: section 2.

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that moves to Spec, TP in Nieuen, then the English situation may not need to be stipulated. But this raises the possibility that what moves to Spec, TP is a matter of parametrization.

[9] A note has to be made with respect to names and pronouns (also applicable to bare plurals and mass nouns) which appear to be lexical items when they occur in Spec, vP. One predicts that these should not need to move for labeling reasons. Similar considerations arise for the Kirundi data to be dealt with in later sections of the paper. However, there is no empirical asymmetry between names, pronouns and phrasal nominals in this regard.

a)   {The boy/ John/ He} has *{the boy/ John/ He} seen the girl.

(a) shows that the external argument would be base-generated in Spec, vP and be moved to Spec, TP as evidenced by the relative positions of the auxiliary verb and the external argument (regardless of whether it is a name, pronoun, or phrasal). I will follow Chomsky (2013: 46) in treating names and pronouns as complex structures even though they appear to be lexical items. Thus, pronouns will have a [DP D-pro] structure as evidenced by sentences such as '[DP We linguists] like a good puzzle.' As for names (and other bare nominals), I see two ways in which a phrasal structure can be posited. The first way is to posit a phrase like the following: [nP n [r John]]. This is what Chomsky (2013) suggests and here, little *n* takes the category-less root to form a complex nominal phrase. Alternatively, names could be DPs with a null D: [DP John] as suggested by Longobardi (1994) for Italian. Either way, I treat pronouns and names as phrasal even if they do not appear so on the surface.

7) a.   There is likely [$_{TP}$ to be [a man] in the room].
  b.   *There is likely [$_{TP}$ [a man]$_i$ to be t$_i$ in the room].

The difference between (7a) and (7b) is *prima facie* surprising because there is certainly nothing wrong from an EPP perspective that should explain why (7b) should be ungrammatical. If the EPP requires Spec, TP to be filled, then in (7a), *there* satisfies the EPP of the lower Spec, TP before moving to satisfy the higher EPP. In (7b), *a man* should satisfy the EPP of the lower EPP. To account for such facts, Chomsky (2000) proposed that MOVE (a composite operation consisting of MERGE and AGREE) is more costly than just MERGE. As a result, the derivation involved in (7b) is more costly than the one in (7a) and is ruled out. Given that *there* and *a man* are both in the numeration, the computational system prefers *there* being merged for the first time in the intermediate Spec, TP position.

Epstein et al invoke (2bii) to explain the contrast in (7). They assume that only finite T has phi features and with this assumption, it follows that a phrase can only remain in Spec, TP if T is able to project a shared label with the phrase in its specifier. In (7a), *there* is merged in the intermediate Spec, TP position but cannot stay there as the T here is non-finite (and thus, no phi features to share with the subject) and therefore *there* must move up to merge with a finite T.[10] In (7b), *a man* cannot remain here for the same reason. Non-finite T does not have phi features and as a result, the intermediate TP suffers a fatal labeling failure if merged with a DP. Note that the LA makes a MOVE/

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[10] There is the question of how the labeling of PredP is possible if *a man* stays in Spec, PredP as in (7a). Two possible solutions exist. If we assume that [*a man in the room*] is a small clause, then following Epstein et al's suggestion in their footnote 13, there is likely to be movement of *a man* to a clause-internal Spec, FocP. However, if we assume following Williams (1984) that the complement of the verb in a *there*-construction is just a DP and not a PredP, then this problem does not exist as the DP would be a complement of the verb. The PP would thus be adjoined to VP. Either choice is compatible with the claims in this dissertation.

MERGE difference unnecessary to explain the contrast in (7).[11] In the later parts of this chapter, I will address to what degree the inversion structures we look at here support the claim that the labeling algorithm can lead to an elimination of the EPP and MERGE/MOVE distinction. However, I first argue that certain types of inversion structures are valuable constructions for evaluating the Labeling algorithm's main premises.

4.3   Inversion Structures and the Labeling Algorithm

There are many types of inversion structures attested in natural languages. Inversion structures here are taken to mean structures in which the logical subject (i.e., the external argument) does not move to Spec, TP but rather some other phrase does. In this regard, Tamil specificational copular clauses, as well as Kirundi inversion structures are good examples of the types of structures which I claim to be particularly illuminating with respect to the Labeling Algorithm. To see why, consider the following, which show the relevant parts of the respective structures.

8) a.

TP
├── DP$_{pred}$
└── T'
    ├── T
    └── VP
        ├── V
        └── PredP
            ├── DP$_{arg}$
            └── Pred'
                ├── Pred
                └── <DP$_{pred}$>

b.

TP
├── DP$_{ia}$
└── T'
    ├── T
    └── vP
        ├── DP$_{ea}$
        └── v'
            ├── v
            └── VP
                ├── V
                └── <DP$_{ia}$>

---
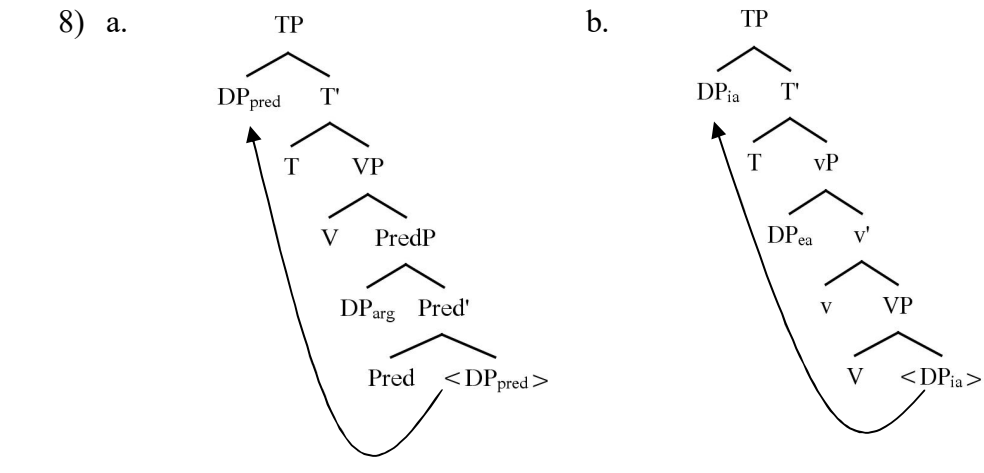
[11] See also Epstein et al's account of sentences like the following which have been used to motivate phases and numerations in Chomsky (2000).

a. There is a possibility that a man$_i$ will be t$_i$ in the room.
b. A possibility is that there is a man in the room.

Note that (a) and (b) can be accounted for with the same analysis given for (7) in the main text.

(8a) shows a partial derivation of a specificational copular clause and (8b) shows the partial derivation of an inversion structure like that in Kirundi seen in (1b). The main difference between the two is that in the specificational copular clause, there is no vP and the complement of the V is a PredP. In the transitive inversion, there is a vP but no PredP. These differences are to be expected under normal assumptions as one is a copular clause and the other is a simple transitive clause. However, these derivations lead to the same consequence for the argument that is not moved to Spec, TP if the Labeling Algorithm is right. Note that in (8a), if the predicate DP (DP_{pred}) is moved to Spec, TP, then it means that the argument DP (DP_{arg}) has not. In (8b), if the internal argument (DP_{ia}) is moved to Spec, TP (as Ndayiragije 1999 argues), then the external argument (DP_{ea}) has not. In such cases, since DP_{arg} and Pred' are non-heads, and DP_{ea} and v' are non-heads, a fatal labeling failure will result if these DPs remain in situ. Recall that in the non-inversion derivations involving these structures, it is the DP_{arg} and DP_{ea} that moves to Spec, TP. This is how the labeling failure of the PredP and vP nodes is avoided. What this means for inversion structures is that, if the Labeling Algorithm is correct, then DP_{arg} and DP_{ea} must be somewhere else in the derivations in (8).[12]

It is important to note at this point that this conceptual solution to the labeling problem in (8) is not entirely novel. Moro (2009) proposes a similar solution in Italian copular clauses, but with one crucial difference. He assumed that only symmetrical structures, i.e. equational copular clauses, give rise to a labeling problem. Consider the following data.

9) *pro   è [$_{SC}$ [una foto del muro]   [la causa della rivolta]]

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[12] Marcel den Dikken suggests an alternative. He proposes that it could be that Pred and v themselves could have features which allows DP_{arg} and DP_{ea} to remain in situ through feature unification. However, a movement analysis accounts better for the Kirundi facts that we will see shortly.

(pro   is   a picture of the wall   the cause of the riot)

According to Moro (2009), (9) is surprising from an EPP standpoint because if *pro-* insertion occurs to satisfy the EPP as is otherwise allowed in Italian, it should be grammatical. Note that if instead of inserting *pro*, if either phrase is moved to Spec, TP, then the results are acceptable. Thus (10a) and (10b) are both grammatical.

10) a.   [una foto del muro]$_i$ è [$_{SC}$ t$_i$ [la causa della rivolta]]
          (a picture of the wall   is   the cause of the riot)

   b.   [la causa della rivolta]$_i$ è [$_{SC}$ [una foto del muro]   t$_i$]
          (the cause of the riot   is   a picture of the wall)

Moro, however, notes that (9) can be improved if the phrase closest to the copular verb is focused.

11) a.   pro   è [$_{FocP}$ UNA FOTO DEL MURO$_i$ [$_{SC}$ t$_i$ la causa della rivolta]]
          (pro   is   a picture of the wall   the cause of the riot)

   b.   pro è [$_{FocP}$ LA CAUSA DELLA RIVOLTA$_i$ [$_{SC}$ una foto del muro   t$_i$]]
          (pro is   the cause of the riot   a picture of the wall)

Moro (2009) argues from the comparison of (9) and (11) that focusing the phrase closest to the verb actually involves moving the focused phrase to a clause-internal FocP position, which is claimed to be how labeling of the small clause is made possible. The derivations in (12) show the main contrast between (9) and (11a).

12) a.   * TP   (= 9)   b.   TP   (=11a)
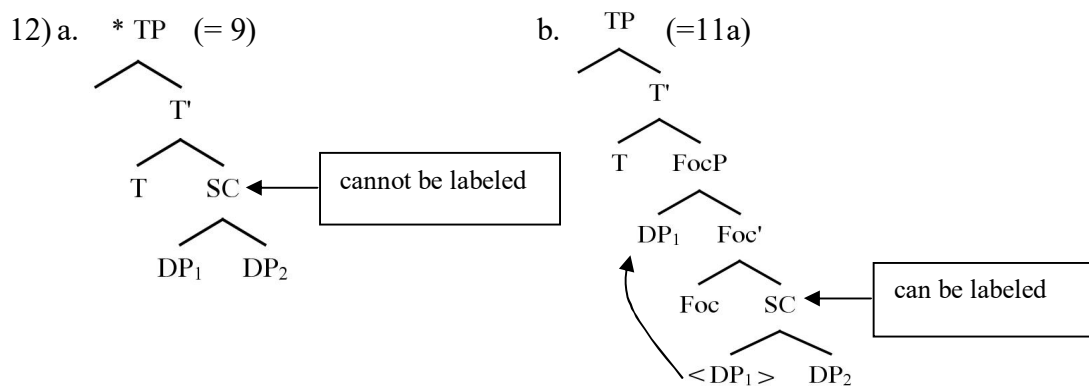
In (9), the small clause has a labeling ambiguity and thus cannot be labeled.[13] In (11a), one of the phrases in the small clause has been moved to Spec, TP and this enables labeling of the small clause for the reason outlined in (2bii).

What is adopted here is Moro's solution whereby labeling of a phrase can be made possible by moving a phrase within it to a clause-internal Spec, FocP. However, there are important differences between Moro's analysis and what I propose here. The most important difference is that Moro assumes that this strategy of label resolution by which a phrase moves to a clause-internal Spec, FocP only occurs when the phrase to be labeled is a symmetrical structure. However, the proposal here generalizes this to 1) asymmetrical small clauses (Tamil specificational copular clauses), and 2) non-small clause contexts (Kirundi inversion). What this indicates is that whether the structure that is to be labeled is symmetrical or not is largely irrelevant. This is the novel aspect of my proposal. This generalization of Moro's solution to such asymmetrical structures can be shown to have the right empirical consequences in Tamil and Kirundi.

Based on the discussion above, I conclude that the Labeling algorithm makes a clear empirical prediction about inversion structures: in structures in which Spec, TP is filled with an inverted element, the phrase in the specifier position of PredP and vP cannot remain in situ as this leads to a fatal labeling failure. Instead, the external argument in these structures moves to a clause-internal FocP, as argued by Moro (2009) for Italian copular clauses that are assumed to have symmetrical small clauses. In what follows, I focus on Kirundi Inversion, as this language provides the richest evidence for

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[13] Mark Baker asks why the D features that DP$_1$ and DP$_2$ have, not sufficient to label the small clause. It is not clear to me why and may be a serious problem for Moro's analysis. One potential solution may lie in the fact that small clauses are propositional whereas a D feature is not. In my approach with an asymmetrical small clause, this problem does not arise.

my claim. What the Kirundi evidence indicates is that the presence of a symmetrical structure is unnecessary for the main implications of the LA to be realized. This finding can also be extended to Tamil specificational copular clauses, which are inverted predications.

4.4 Clause-internal FocPs and the Labeling algorithm : A Kirundi Case Study

In this section, I consider in detail inversion in Kirundi. First, I motivate independently a clause-internal FocP in Kirundi, and second, show that the external argument in Kirundi inversion structures must move to the specifier position of this FocP.

4.4.1 Independent Motivation for a clause-internal FocP in Kirundi

A significant portion of the initial analysis and most of my data is taken from Ndayiragije (1999). One of the morphological properties that suggest the existence of a distinct clause-internal FocP is the obligatory absence of a -ra- affix in structures where any post-verbal element is focused. The presence of this affix is argued to force a discourse neutral interpretation for the sentence as shown below.

13) **Kirundi**
   a.   Abâna   ba-á-*(**ra**)-nyoye   amatá   SVO
        children   3P-PST-drink:PERF   milk
        'Children drank milk.'

   b.   Abâna   ba-á-(***ra**)-nyoye   amatá   SVO
        children   3P-PST-drink:PERF   milk
        'Children drank milk (not water).' (Only possible without -ra-)

Ndayiraije (1999: 410) shows that the occurrence of the *-ra-* affix forces a neutral interpretation for the sentence whereas the absence of *-ra-* allows a focused reading for the object. Thus the contrastive focused interpretation of 'milk' is not possible when *-ra-* is present. Based on such data, Ndayiragije analyzes this affix as an anti-focus head that

occurs in a position lower than the T head but higher than v.[14] When this *-ra-* affix is missing, it is assumed that there is a null focus head in the same position.[15] The evidence for overt movement to a Spec, FocP comes from the following.

14) a. Yohani a-á-***ra***-oógeje   (*néezá)   imiduga (néezá).
      John   3S-PST-F-wash:PERF   well   cars   well
      'John washed cars well.'

    b. Yohani a-á-oó-geje   (néezá)   imiduga (néezá).
      John   3S-PST-wash:PERF   well   cars   well
      i)   'John washed CARS (not trucks) well.'   (AdvP-DO order)
      ii)   'John washed cars WELL (not badly).'   (DO-AdvP order)

(14a) shows a sentence with a discourse-neutral meaning. Here, *ra* is required and there is a strict order between the post-verbal elements. The adverb must follow the DP$_{i(nternal)}$ $_{a(rgument)}$ indicating that the adverb right-adjoins to vP. In (14b), there is no *-ra-* affix which means that one of the post-verbal elements can be focused. In this context, either order between the DP$_{ia}$ and adverb is possible. Importantly, the phrase that is focused has to be the one that is rightmost. Thus, when the adverb is sentence-final, it is the adverb that is focused and when the DP$_{ia}$ is sentence final, it is this that is focused. Following

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[14] Other contexts in which *-ra-* must be absent is in cleft-constructions and constructions where there is wh-movement, further indicating that non-neutral discourse contexts are incompatible with *-ra-*.

[15] Ndayiragije (1999) offers another reason for the low position of the FocP from scope evidence. Consider the interaction of negation and numerals (Ndayiragije 1999: 409).

    a) Yohani *nti*-a-á-somye   ibitabo bibiri.
      John   NEG-3S-PST-read:PERF books   two
      i. 'John didn't read two books.'
      ii. 'John didn't read two books (he read only one).'

(a), which does not have the -ra- affix on the verb has two meanings. The first shown as (i) is the neutral reading. The second is the reading where the object is focused. However, even with focus, it is not possible to have a wide scope reading of the object, i.e, the reading 'There are two books such that John did not read them' is not available. If the Spec, FocP is TP-external the lack of this reading is unexpected. On the other hand, Ndayiragije shows that the focused phrase resists overt wh-movement (see Ndayiragije's discussion of his example (53)). If this applies at LF as well, then we expect the focused direct object which is clause-internal, to also not be able to LF-move to the periphery and result in a wide scope reading of *two books*.

Ndayiragije, these data are taken as evidence that the FocP has a rightward specifier.

Thus (14bi) would have the following partial structure.

15)
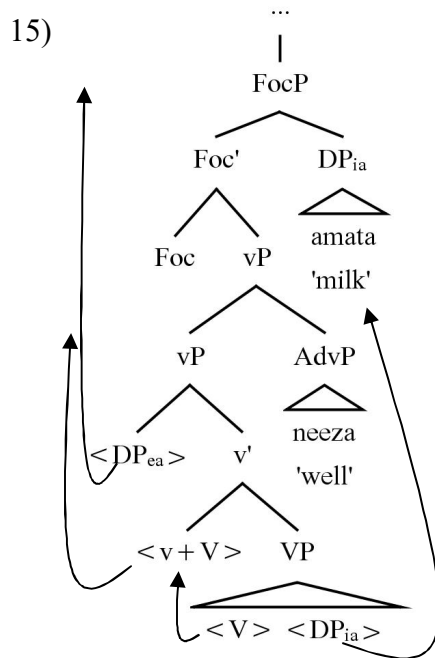
(15) shows just the lower portion of the tree. The external argument, DP_{ea} and V have moved to Spec, TP and T respectively. DP_{ia}, on the other hand, has moved to the right specifier of FocP over the adverb. In (14a), it is the adverb that is in this Spec, FocP position. This not only explains the word order between DP_{ia} and the adverb but also why it is the sentence-final phrase that is interpreted with focus.

4.4.2 The Position of the DP_{ea} in Inversion and TECs

It is one thing to illustrate that Kirundi has a clause-internal FocP and quite another to say that the external argument cannot remain in Spec, vP in inversion structures. In the following sub-sections, we see evidence that in constructions where the DP_{ea} has not moved to Spec, TP, it must move to this Spec, FocP position. This is argued to follow from the LA. We will also see evidence from Kirundi Transitive Expletive Constructions

(TEC) that illustrate the same point.

4.4.2.1   The DP$_{ea}$ in OVS structures cannot stay in Spec, vP

One of the first pieces of evidence that indicates that the DP$_{ea}$ cannot remain in Spec, vP in inversion structures can be seen in the comparison of (21a) and (21b) reproduced below from (1).

16) a. Abana   ba-a-*ra*-nyoye   amata.   SVO
         children   3P-PST-F-drink:PERF   milk
         'Children drank milk' (Ndayiragije 1999: 400)

   b.   Amata   y-a-(**ra*)-nyoye   abana.   OVS
         milk   3S-PST-F-drink:PERF   children
         'Children (not parents) drank milk.' (Ndayiragije 1999: 400)

While the SVO structure can have the -ra- affix, this affix is not allowed in the OVS order. If the characterization of when -ra- is disallowed is correct, this indicates that the post-verbal DP$_{ea}$ in OVS order is obligatorily focused. This suggests that the DP$_{ea}$ in OVS structures is in the clause-internal FocP, in accordance with our expectations.

Stronger evidence comes from subject-object asymmetries. Consider the following data.

17) a. Yohani$_i$ a-á-ra-emeye   [$_{CP}$ PRO$_i$ kugura iyo modoka].
         John   3S-PST-F-accept:PERF   INF-buy that car
         'John agreed to buy that car.'

   b.   [iyo modoka]$_j$ a-á-ra-emeye   [$_{CP}$ PRO$_i$ kugura   t$_j$] Yohani$_i$.
         that car   3S-PST-F-accept:PERF   INF-buy   John
         'John (not Peter) agreed to buy that car.'

   c.   *[iyo modoka]$_j$ a-á-ra-emeye   Yohani$_i$ [$_{CP}$ PRO$_i$ kugura   t$_j$]
         that car   3S-PST-F-accept:PERF   John   INF-buy
         'John agreed to buy that car.'

(17a) shows the canonical SVO order where the verb complement is a CP. (17b) and

(17c) show that when an object within the embedded CP is moved to matrix Spec, TP, the

order between the embedded remnant CP and the DP$_{ea}$ must be CP-DP$_{ea}$, as in (17b),

not DP$_{ea}$-CP as in (17c). This is a bit surprising because given no prior assumptions, one

might expect that the DP$_{ea}$ could at the very least stay in its canonical order with respect

to the CP. The ungrammaticality of (17c) thus shows that the DP$_{ea}$ cannot stay in situ in

Spec, vP when it does not move to Spec, TP (assuming V to T movement for Kirundi, as

Ndayiragije does). Rather, it has to move to Spec, FocP. Compare this to an uninverted

structure with a DP$_{ia}$ and CP complement.

18) a.   pro   tu-á-rungitse   [$_{CP}$ PRO$_i$ kuryâma]   abâna$_i$.
                1P-PST-send:PERF   INF-sleep   children
           'We sent to sleep children (not adults).'

     b.   pro   tu-á-rungitse   abâna$_i$ [$_{CP}$ PRO$_i$ kuryâma].
                1P-PST-send:PERF   children   INF-sleep
           'We sent children to sleep (not to play).'   (Ndayiragije 1999: 411)

(18a) shows a non-inverted structure with a post-verbal CP and DP$_{ia}$. These structures

have focus (due to the absence of -ra-), and here, either the CP or the DP$_{ia}$ can be focused,

corresponding to either order between CP and DP$_{ia}$. Crucially, the phrase that is

outermost is the one that is focused. The comparison between (17c) and (18b) thus

strongly suggests that the problem with (17c) is that the DP$_{ea}$ is in Spec, vP and is not

focused.

      The ungrammaticality of (17c) actually tells us more. It also tells us that there is

no other Focus (or Topic) position at the periphery of vP that could host DP$_{ea}$. There is

only one Spec, FocP position TP-internally and once this position is occupied with some

phrase, there is no other position for DP$_{ea}$ to move to and project a shared label. This is

why (17c) is not possible even with what otherwise appears to be a perfectly licit

interpretation where the embedded remnant CP is focused (cf. That car, John agreed to

buy it (not to steal it)). This sentence is ungrammatical because the DP$_{ea}$ cannot be in

Spec, FocP given it order relative to the CP and is thus stuck in Spec, vP. The vP thus cannot be labeled and a fatal labeling failure occurs. Further evidence that DP$_{ea}$ can only move to either Spec, TP or the internal Spec, FocP position comes from adverb placement (Ndayiragije 1999: 416).

19) a.   Yohani a-á-***ra***-oógeje   (*néezá)   imiduga (néezá).
         John   3S-PST-F-wash:PERF   well   cars   well
         'John washed cars well.'

    b.   Yohani a-á-oó-geje   (néezá)   imiduga (néezá).
         John   3S-PST-wash:PERF   well   cars   well
         i)   'John washed CARS (not trucks) well.'   (AdvP-DO order)
         ii)   'John washed cars WELL (not badly).'   (DO-AdvP order)

(19) is a reproduction of (14) and shows that either the DP$_{ia}$ or an adverb are capable of being focused when the DP$_{ea}$ moves to Spec, TP. However, in OVS structures, we see another asymmetry. Unlike in (14b), the DP$_{ea}$ must follow the adverb in OVS structures, and it must be interpreted as focused.

20) a.   Imiduga   yi-á-oógeje   néezá   Yohani.   OVS
         cars   3P-PST-wash:PERF   well   John
         'John (not Peter) washed cars well.'

    b.   *Imiduga   yi-á-oógeje   Yohani   néezá.   OVS
         cars   3P-PST-wash:PERF   John   well

The contrast between (19b) and (20b) again follows from the fact that a DP$_{ea}$ which is not in Spec, TP must be in Spec, FocP. If it is not in either place, the only remaining choice is Spec, vP and this has the result that vP cannot be labeled. In conclusion, we have seen in this sub-section that in inversion structures where the DP$_{ea}$ does not move to Spec, TP, it must move to a clause internal Spec, FocP. It cannot remain in situ in Spec, vP. This, we have argued, falls out as a necessary consequence of the LA.

4.4.2.2   The DP$_{ea}$ in Kirundi TECs

One may posit that the reason why DP$_{ea}$ must move to Spec, FocP when a direct object moves to Spec, TP may have something to do with relativized minimality (RM, Rizzi 1990) and little to do with the LA. Perhaps, the only way that a direct object can move past the subject to Spec, TP is if the subject is in an A'-position, i.e Spec, FocP, as a way to avoid a violation of RM.

However, we can see that the explanation given above for why a subject in an OVS structure must move to Spec, FocP also extends to constructions in which there is no inversion. These are the so-called transitive expletive constructions (TECs) shown in (21) (Ndayiragije 1999: 435).

21)   pro$_{exp}$ ha-a-nyoye   amata abana.   Exp-VOS
              LOC-PST-drink:PERF   milk   children
         'Children (not parents) drank milk.'

(21) shows a TEC where there is no overt element in Spec, TP but where the DP$_{ea}$ and DP$_{ia}$ both occur post-verbally. In addition, the agreement morphology on the verb is a locative prefix and does not agree with either argument of the verb. We can thus safely assume that there is no copy of either argument in Spec, TP. The availability of such constructions allows us to further test the LA. If the DP$_{ea}$ cannot remain in Spec, vP, as the LA dictates, what does this predict for the Kirundi TEC in (21)? If the characterization of the facts here is correct, then this means that the DP$_{ea}$ must be in Spec, FocP. This has two empirical consequences. First, Kirundi TECs cannot allow the -ra- suffix (as otherwise such constructions will allow a neutral reading which cannot be possible if DP$_{ea}$ is necessarily focused) and second, this means that the Exp-VSO order should not be possible, as this implies that it is the DP$_{ia}$ that is in Spec, FocP and the DP$_{ea}$

is stuck in Spec, vP causing a vP labeling failure. Both predictions are borne out as seen in (27).

22) a.   *pro$_{exp}$ ha-a-**ra**-nyoye   amata abana.   Exp-VOS
                             LOC-PST-F-drink:PERF   milk   children
              'Children (not parents) drank milk.'
       b.   *pro$_{exp}$ ha-a-nyoye   abana   amata.   Exp-VSO
                             LOC-PST-drink:PERF   children   milk

(22a) shows that TECs do not allow the -ra- marking on the verb just as OVS structures do not and they have the same focused interpretation for the DP$_{ea}$. In addition, the Exp-VSO order in (22b) is ungrammatical. The LA allows us to provide a uniform explanation for the ungrammaticality of the TEC in (27b), and the OVS structures in (17c) and (20b). All of these are ungrammatical because in these constructions, the DP$_{ea}$ is stranded in Spec, vP and thus, the vP cannot be labeled.

In the proposal here in terms of the LA, the distinction between (21) and (22b) is predicted based on what we know from OVS structures and the LA. Crucially, we did not have to assume any distinction between MERGE and MOVE, as Ndayiragije (1999) does.[16] In so far as the arguments above have been correct, what we find is that Kirundi TECs and inversion structures indicate that when the DP$_{ea}$ has not moved to Spec, TP, it must move to Spec, FocP in order to allow the vP node to be labeled. Failure to do so leads to ungrammaticality.

4.4.3   Extending the analysis to Tamil specificational copular clauses

If the analysis of Kirundi is correct, then this indicates that even Tamil specificational copular clauses which have been argued to be inverted structures require a clause-internal

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[16] This will be addressed in further detail below.

FocP. In this section, I provide independent evidence for the presence of a clause-internal FocP in Tamil copular clauses. The possibility of such a FocP in copular clauses is thus taken to be an indication that DP_{arg} does move to the specifier of FocP in specificational copular clauses.

4.4.3.1 Evidence for a Clause-internal FocP in Tamil

The strongest independent evidence for a clause-internal FocP in Tamil comes from pseudo-cleft variants of the copular clause shown below.

23) a. [Balan$_i$ adici-kit-**adu**]   Somu-ve$_i$-yaa   iru-ndicci
    Balan   beat-koL-ADU   Somu-acc-AA   be-PST.3sm
    'The one thing Balan beat was Somu.'

  b. [Balan   adici-kit-**avan**]   Somu-vaa   iru-ndicci
    Balan   beat-koL-AVAN   Somu-AA   be-PST.3sm
    'The one thing (3sm) Balan beat was Somu.'

(23a) and (23b) look the same except for the verbal morphology which is homophonous with the neuter deictic pronoun in (23a) and with the masculine pronoun in (23b). In Chapters 5 and 6, such constructions will be dealt with in much more detail. For our purposes here, note that despite the minimal difference between (23a) and (23b), only the former allows reflexive connectivity as seen in (24).

24) a. [Balan$_i$ adici-kit-**adu**]   tan-ne$_i$-yaa   iru-ndicci
    Balan   beat-koL-ADU   self-acc-AA   be-PST.3sm
    'The one thing Balan beat was himself.'

  b. *[Balan   adici-kit-**avan**]   taan/ tanne-aa   iru-ndicci
    Balan   beat-koL-AVAN   self/ self-acc-AA   be-PST.3sm
    'The one thing (3sm) Balan beat was himself.'

In (24a), the construction with the invariant pronoun allows the post-copular reflexive to be co-indexed with *Balan* whereas in (24b), the construction with the agreeing pronoun does not do so. Based on this (and other reasons that will be discussed fully in Chapter 5),

the reflexive in (24a) is argued to have moved to a clause-internal FocP. The following illustrates the respective derivations.

25) a.

```
                    TP
              _____|_____
           DPⱼ            T'
     _____|_____    __|__
  Balan <tanne>ᵢ adicikit-ADU   VP    T
  'Balan beat.koL-ADU'      |    [Tense, Agr]
                            V
                       ___|___
                    FocP      iru
                    _|_        be
                  DPᵢ   PredP
                  |_    __|__
                 tanne       Pred'
                 self.acc   __|__
                        <DPⱼ>    Pred
                       ___|___    aa
                   Balan <tanne>ᵢ adicikitadu
```

b.

```
                    TP
              _____|_____
           DPⱼ            T'
     _____|_____    __|__
  Opᵢ Balan tᵢ adicikit-AVAN   VP    T
  'Balan beat.koL-AVAN'      |    [Tense, Agr]
                            V
                       ___|___
                    PredP     iru
                    _|_        be
                  DP      Pred'
                  |_      __|__
                 taan  <DP>ⱼ    Pred
                     ___|___     'AA'
                 Opᵢ Balan tᵢ adicikit-AVAN
                 Balan beat.koL-AVAN
```
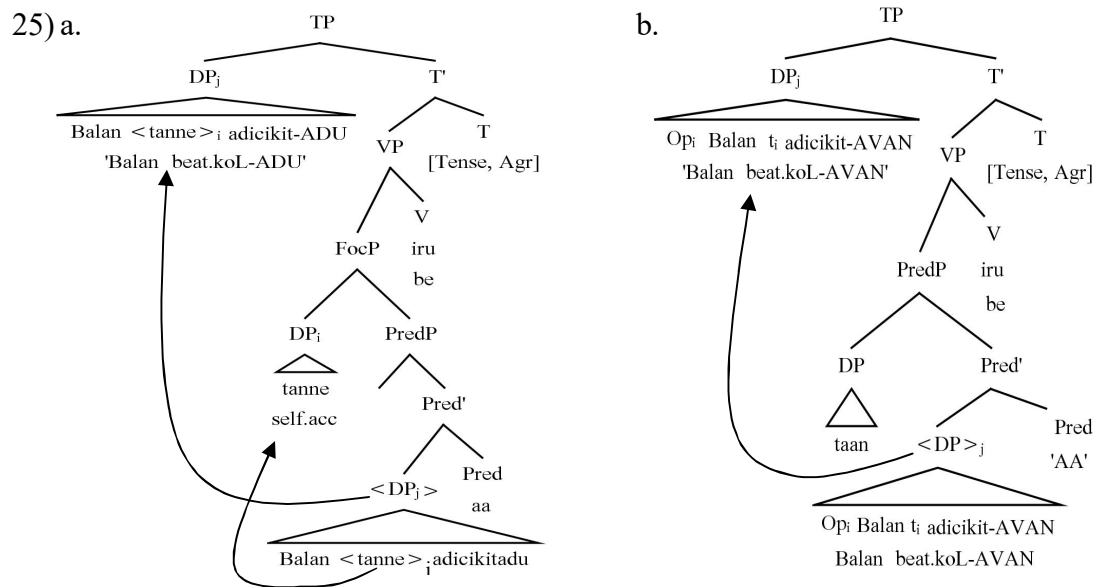
(25a) shows the derivation of (24a) which is similar to the structure proposed for the cognate construction in Malayalam by Jayaseelan (2000). The crucial aspect of this analysis is that the reflexive in (25a) is moved from inside the subject phrase to a clause internal Focus Phrase. The phrase in the complement of PredP then remnant moves to Spec, TP. On the other hand in (25b), the reflexive is actually base-generated in Spec, PredP. The surface subject is the PredP complement which inverts to Spec, TP. The important part of the derivation that explains reflexive connectivity is the presence of the copy of the reflexive inside the subject DP. If there is a copy of the reflexive in the moved remnant, then reflexive connectivity is licensed as in (24a). If there is no such copy, then reflexive connectivity is not licensed as in (24b). This follows from the copy theory of movement.

The landing site of the reflexive in (25a) is argued to be a FocP. If this position does not exist, then there would be no other suitable landing site for the reflexive between

Spec, TP and Spec, PredP. One plausible alternative is to say that instead of a FocP,

the reflexive has moved to Spec, PredP. However, this is unlikely as this would represent

movement into a theta position, a type of movement disallowed under most

assumptions.[17] On the other hand, movement into Spec, FocP captures the fact that the

post-copular phrase in (24a) has to be obligatorily (contrastive) focused. Given the fact

that Tamil copular clauses do allow a clause-internal FocP, I will take this as independent

evidence corroborating the claim that the DP_{arg} in simple specificational copular clauses

in Tamil is in a low FocP position.

4.5   Some other issues

So far the properties and distribution of inversion structures have been argued to support

the Labeling algorithm. I have mainly focused on the position of the external argument in

inversion contexts, as this is where the main evidence that supports the Labeling

algorithm is found. In the concluding section of this chapter, I address some other issues

pertaining to the Labeling algorithm. Recall from our discussion at the beginning of this

chapter that it has been proposed that the Labeling algorithm can potentially deduce the

EPP, as well as lead to the elimination of the MERGE/ MOVE distinction. Here, I make

some brief remarks about what inversion structures tell us about these possibilities.

4.5.1   The EPP

The Labeling algorithm's potential to deduce the EPP is one in a long line of alternate

explanations that have been proposed in the attempt to eliminate the EPP as a primitive of

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[17] In Chapter 5, I provide another argument for this claim.

syntactic theory.[18] One prominent alternative that has been offered is the Inverse Case Filter (ICF, Fukui & Speas 1986, Boskovic 2002) where it is claimed that some phrase must move to Spec, TP in order for T to discharge its case feature. If T does not discharge its case feature, the derivation will fail. Thus, the ICF replicates the effects of the EPP in some simple cases without appealing to an EPP. The Labeling algorithm and the ICF promise to make the EPP redundant in quite different ways. While the Labeling algorithm recasts the EPP negatively (movement to Spec, TP occurs in order to solve a problem elsewhere, i.e vP), the ICF remains a positive characterization of the EPP (T has some special property).

We can now see whether inversion structures help us to distinguish between these two approaches. The labeling algorithm and the ICF make different predictions about what should happen in an inversion structure. The negative characterization of the EPP by the labeling algorithm requires that the external argument not remain in situ in Spec, vP. If it did, then the vP could not be labeled and the sentence is expected to be ungrammatical. On the other hand, in the positive characterization of the EPP, the external argument can remain in situ in Spec, vP because the ICF is satisfied by movement of the internal argument to Spec, TP. The Kirundi inversion facts that we saw above clearly supports the negative characterization of the EPP since even though Spec TP can be filled overtly (by moving a direct object in OVS inversion) or not (as in TECs), the external argument cannot remain in situ in Spec, vP.

However, there remain areas where the labeling algorithm does not explain movement to Spec, TP especially with expletive insertion. With respect to expletives, if it

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[18] Although see Lasnik (2003) for why we may need something like the EPP.

is true that expletives are inserted in Spec, TP (as claimed by Chomksy 2000 and assumed widely since), the labeling algorithm will not be able to explain this since nothing in this theory requires Spec, TP to be filled. However, there may be reason to believe that expletive insertion is not an intractable obstacle to the reduction of the EPP from the LA. Expletive insertion is only surprising for the LA if expletives are inserted directly in Spec, TP as argued in Chomsky (2000). If these are inserted in Spec, vP (for whatever reason), then their surface position in Spec, TP will have the same explanation as any ordinary external argument. As it turns out, with respect to *there*-insertion, Richards & Biberauer (2005), Deal (2009), and Alexiadou & Shafer (2011) argue that the expletive is actually merged in Spec, vP before moving to Spec, TP. If this is the case, then *there*-insertion does not have to be motivated by an independent EPP property of T. Additional evidence supporting this comes from the fact that expletives are arguably found in non-subject positions, such as the complement of a verb and prepositional head. Postal & Pullum (1988) offer the following examples as cases of non-subject expletives.

26) a.   I dislike **it** that he is so cruel. (P&P: 642)
    b.   John will see to **it** that you have a reservation. (P&P: 648)

In (26a/b), the expletives are complements of V and P respectively. If there is a uniform explanation for expletive insertion, it may not be due to EPP satisfaction. Baker (2003) provides another argument from causative constructions.

27) a.   John made [$_{vP}$ *(it) seem like John hates you].
    b.   John made [$_{vP}$ *(there) be a disaster in the garden].

Such sentences are especially illuminating because Baker (2003) argues that the embedded clause in a causative is not a TP but smaller, perhaps a VP or vP. What this means is that if expletives are directly inserted in Spec, TP, we expect embedded clauses in causative constructions to not allow expletives. As can be seen in (41a/ b), this is

clearly not the case. While this does not explain why expletives are inserted in Spec, vP, it appears to be the case that their insertion may have little to do with the EPP associated with Spec, TP.

It remains to be seen how far the project of reducing the EPP to the Labeling algorithm can be pushed. A simpler (but much less satisfactory) solution would be that what are known as EPP-effects do not really have a single source of explanation. If we permit both the ICF and the Labeling algorithm to be operational in the computational system, a larger set of data regarding the position of the external argument in various constructions (including expletive insertion) can be accounted for.

4.5.2   The MOVE/ MERGE Distinction

Kirundi inversion also provides evidence for the claim that the distinction between MOVE and MERGE can be eliminated, and as a result providing a simpler explanation for a contrast in Kirundi. First note that while Chomsky (2000) argues that MOVE is more costly than MERGE, this is not accepted universally. Shima (2000), for example, argues that it is actually MERGE that is more costly than MOVE because the former operation includes an additional step of SELECT (Chomsky 1995: 226) which chooses an element from the numeration. This step is not required for MOVE as the element to be moved is already in the derivation. His argument comes from super-raising sentences such as the following.

28)   *[$_{TP}$ John$_i$ seems that [$_{TP}$ it is likely [$_{TP}$ t$_i$ to win]]].

In (28), *John* has been raised directly from the lowest Spec, TP to the highest Spec, TP, skipping the intermediate Spec, TP position. According to Shima, the assumption that MERGE is preferred over MOVE will incorrectly rule in sentences such as (28). This is

because the computation will prefer to merge *it* in the intermediate Spec, TP. However if MOVE is preferred over MERGE then this intermediate Spec, TP has to be filled by *John* that is moved there from the lower Spec, TP position. Shima reanalyzes Chomsky's data for the Move/ Merge distinction as arising from constraints on the case of *there*.

Ndayiragije (1999) appeals to a similar distinction in accounting for the following facts (reproduced from (21) and (22b)).

29) a.   pro$_{exp}$ ha-a-nyoye   amata abana.   Exp-VOS
                    LOC-PST-drink:PERF   milk   children
          'Children (not parents) drank milk.'

    b.   *pro$_{exp}$ ha-a-nyoye   abana   amata.   Exp-VSO
                    LOC-PST-drink:PERF   children milk

Recall that Kirundi allows transitive expletive constructions of the type in (29a), where both the external and internal arguments occur post-verbally. Notably, the word order has to be VOS and not VSO. This was argued to be a necessary consequence of the fact that the external argument has to be in a clause-internal Spec, FocP. This provides a uniform solution for why all the constructions in which the external argument is post-verbal but an adverb or a CP occurs sentence finally (see (17c) and (20b)) are ungrammatical, as discussed in section 4.4.2.2 above.

Ndayiragije (1999) is not, however, able to provide a uniform explanation for why all these constructions are ungrammatical, since he does not have an explanation for why the DP$_{ea}$ has to move to Spec, FocP when it is not in Spec, TP. His account for (29b), furthermore, rests on the MERGE/ MOVE distinction. Unlike Chomsky's original formulation, Ndayiragije proposes that it is actually MERGE that is more costly than (a version of) MOVE (similar to Shima 2000). His idea is that if there is an overt element in

Spec, vP, it must be moved to Spec, TP. Merge of *pro* is not allowed. This is an instance of what he calls SHORTEST ATTRACT being less costly than MOVE).

30)   a.   TP   (=29a)   b.   TP   (=29b)
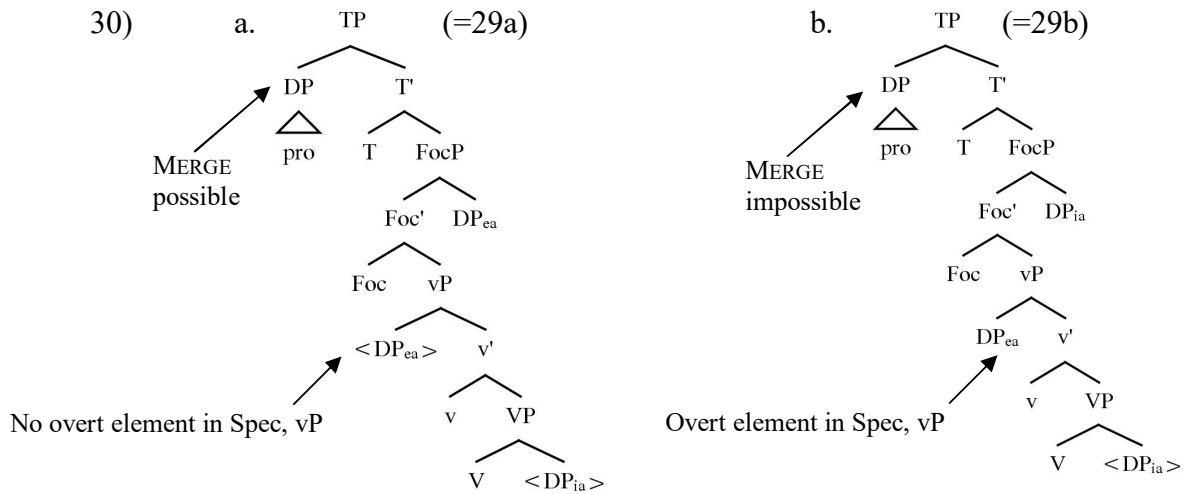
In (30a), the DP$_{ea}$ has moved to Spec, FocP. Since Spec, vP is empty in this derivation, either movement of the DP$_{ia}$ or merge of a pro in Spec, TP is possible. On the other hand, in (30b), DP$_{ia}$ has moved to Spec, FocP which means that DP$_{ea}$ is still in Spec, vP. In this derivation, SHORTEST MOVE is possible and as such insertion of *pro* in Spec, TP is ruled out.

If the argument from the Labeling algorithm given for this contrast is correct, then we can do away with the MOVE/ MERGE distinction as a means to account for the TECs. As Chomsky (2013) and Esptein et al claim, all we will need, then, is SIMPLEST MERGE. The Labeling algorithm-based analysis of Kirundi TECs thus further supports the elimination of the MOVE/ MERGE distinction.

4.6   Conclusion

In this chapter, I have argued that inversion structures such as specificational copular clauses provide support for the relatively new theory that has been proposed to explain how structures are built and interpreted in the computational system. In such

constructions, an external argument which does not move to Spec, TP cannot remain in Spec, vP either. As such the Labeling algorithm predicts that the external argument has moved to some position between Spec, TP and Spec, vP. While not all inversion structures in all languages provide clear evidence for this, Kirundi OVS inversions and TECs were discussed in detail as a confirmation of this prediction of the Labeling algorithm. Specifically, it was argued that Kirundi has a FocP at the periphery of vP where the external argument is moved to in inversion constructions.

In the concluding sections of this chapter, some peripheral claims about the Labeling algorithm were discussed. It was argued that expletive insertion is a formidable challenge to the claim that the EPP can be deduced from the Labeling algorithm, unless it could be shown that expletives are merged in Spec, vP and not Spec, TP. Even then, there is the unresolved question of what would motivate expletive insertion in Spec, vP in the first place. On the other hand, it was shown that Kirundi provides more evidence that the MOVE/ MERGE can be eliminated in favor of SIMPLEST MERGE. If correct, then this does lead to a significant simplification of syntactic theory.

Chapter 5   Complex Specificational copular clauses in Tamil[1]

5.1   Introduction

In this chapter of the dissertation, I consider what I will call complex specificational copular clauses. These differ from the simple specificational copular constructions we have looked at so far in a straightforward way. In the complex specificational copular clauses, the subject phrase contains a clause.

1) a.   <u>The doctor</u> is John.
    b.   <u>What Paul saw</u> was John.
    c.   <u>The person that Paul saw</u> was John.

(1a) shows a simple specificational copular clause whereas (1b) and (1c) show two different types of complex specificational copular clause in English, characterized by a free relative and a full relative clause. These copular clauses deserve a separate treatment from simple copular clauses, especially since these latter types can exhibit connectivity effects (Akjmajian 1970, Higgins 1973). However, we postpone discussion of connectivity until the next chapter.

In this chapter, I am primarily concerned with motivating the derivations for complex specificational copular clauses in Tamil. While this chapter serves a documentary function for a novel specificational copular clause type, the Tamil data is also of general interest because there is clear morphological evidence that shows that there are two ways to form complex specificational copular clauses in Tamil. This morphological evidence is shown to be a consequence of a deeper derivational difference between the two constructions. The two types of copular clause are illustrated below.

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[1] Portions of this chapter exist as Selvanathan (2015) although this chapter is significantly expanded from that work.

2) a.   Mala-ve   paatt-**adu**   Balan
         Mala-acc   saw-**ADU**   Balan
         'The one that saw Mala is Balan.'

   b.   Mala-ve   paatt-**avan**   Balan
         Mala-acc   saw-**AVAN**   Balan
         'The one (masc.) that saw Mala is Balan.'

(2) shows the two types of complex specificational copular clauses in Tamil. The primary

surface difference between the two lies in the verbal morphology. In (2a), the verbal

suffix is homophonous with the neuter pronoun while in (2b), the verbal suffix is

homophonous with the masculine pronoun. I will call the specificational copular clause in

(2a) the Invariant Construction (IC) and the one in (2b) the Agreeing Construction (AC).[2]

There is a third way to form complex specificational copular clauses using a

headed relative clause.

3)   Mala-ve   paatt-**a**   payyen   Balan
          Mala-acc   saw-**REL**   boy   Balan
          'The boy that saw Mala is Balan.'

In (3), the verbal morphology is the relative clause marker with an overt head *payyen*

'boy'. In this chapter, I am mostly concerned with the derivations of the two

specificational copular clauses in (2).[3] In investigating these, I also document two types

of connectivity effects that are not evident in English, case connectivity and (what I will

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[2] The 'agreeing' part of the name comes from the fact that this morphology appears to 'agree' with the pivot *Balan* which is a masculine name. However, it is highly unlikely that there is an actual AGREE relationship between this verbal morphology and the pivot. Instead, this agreement is probably similar to the type of feature matching seen in the following English example.

a)   #The male person that saw Tom is Sally.

Assuming *Sally* to be a feminine name, (a) is infelicitous because the pre-copular and post-copular phrases do not match gender. This is the type of agreement that we see in the AC.

[3] Although I do not deal much with these types of specificational copular clauses with respect to connectivity in this chapter or the next, I note here that with respect to connectivity, these behave exactly the same as the AC. Thus, these types of copular clauses exhibit both bound variable connectivity and NPI licensing but do not exhibit reflexive connectivity or case connectivity. See chapter 6 for more details on the connectivity properties of the IC and AC.

call) -*aa* connectivity. Based on a number of other properties, we will see that the IC and AC have quite different derivations although they have very similar semantics. The derivation of the AC will be shown to be relatively unremarkable and is similar to that of a headed relative clause inside a simple copular clause. The IC, is where a novel derivation not found in English is found. In short, the derivation of the AC will be shown to be relatively unremarkable in that the pivot is base-generated in Spec, PredP. On the other hand, the IC pivot is shown to be extracted to its surface position from within the subject phrase.

In this chapter, I am mainly concerned with motivating an analysis for the IC and AC which includes an explanation of why certain connectivity effects arises in only the IC but not the AC. Establishing these derivations are important as they will play a very central role in the discussion of connectivity effects in Tamil specificational copular clauses in the next chapter. The outline of the chapter is as follows. In the next section, I introduce the two main structures and describe their general morphological properties. In section 3, I provide a detailed syntactic analysis for the IC and AC based on certain key characteristic they have. In section 4, I provide a semantic analysis for these structures, with the aim of showing that even though they are syntactically different, they have the same meaning typical of a specificational copular clause. In section 5, I discuss a locality problem that the derivation of the IC poses for how predication is usually assumed to be established. In section 6, I conclude.

5.2   Introducing the Constructions

The constructions relevant for our investigation are reproduced below.

4) a.   Mala-ve   paatt-**adu**   Balan   IC
         Mala-acc   saw-**ADU**   Balan

'The one that saw Mala is Balan.'

b.   Mala-ve   paatt-**avan**   Balan   AC
             Mala-acc   saw-**AVAN**   Balan
             'The one (masc.) that saw Mala is Balan.'

The IC and the AC are both best analyzed as copular clauses. This is seen in the fact that they show the same kind of overt copula alternation that is seen in simple copular clauses.[4] Thus, the IC and AC can have the following forms.

5) a.   [Mala-ve   paatt-**adu**]   Bala-naa   iru-ndicci   IC
              Mala-acc   saw-**ADU**   Balan-AA   be-PST.3sneut
              'The one that saw Mala is Balan.'

      b.   [Mala-ve   paatt-**avan**] Bala-naa   iru-ndicci   AC
              Mala-acc   saw-**AVAN**   Balan   be-PST.3sneut
              'The one (masc.) that saw Mala is Balan.'

In (5), along with the overt copula *iru*, we also see the familiar AA suffix that was argued in Chapter 2 to be a Pred head. Note also that the agreement seen on the copula verb is neuter as with simple specificational copular clauses. Given this morphological similarity between the IC and AC and simple copular clauses, the surface structure for the IC and AC are proposed to be similar to the surface structure of simple specificational copular clauses. The (partial) structure of the IC in (4a) that is proposed is shown below.

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[4] Marcel den Dikken (pc) correctly points out that this is not necessarily the case. An alternative is that the copula-less versions are structurally different from the versions with a copula. For example, the copula-less IC and AC may just be simple symmetrical structures. However, as we will see later, the evidence indicates that the derivation of the IC is the same with or without the copula. This is best explained by positing silent structure for the IC and AC even when the copula is not overt.

6)

```
                              TP
                   ┌───────────┴─────────┐
                  FP                      T'
        ┌──────────┴─────────┐         ┌──┴──┐
   <Balan>  Mala-acc  saw-adu          VP    T
                                     ┌──┴──┐
                                   FocP     V
                                  ┌──┴──┐
                                 DP    Foc'
                               ┌──┴─┐ ┌──┴──┐
                             Balan PredP   Foc
                                   ┌──┴──┐
                                       Pred'
                                     ┌──┴──┐
                                  <FP>    Pred
```

In (6), we see that as with simple specificational copular clauses, the complement of PredP (an FP) moves to Spec, TP (as argued in Chapter 2) and the pivot of the specificational copular clause copular clause is in a clause-internal FocP (as argued in Chapter 3).[5] The main difference is that in the derivation of the IC the pivot *Balan* is not base-generated in Spec, PredP. Rather it is extracted from within the complement of Pred (as indicated by the dashed arrow) before the complement moves to Spec, TP. In contrast, I propose the following structure for the AC in (5b).

7)

```
                          TP
                 ┌─────────┴────────┐
                FP                   T'
        ┌────────┴───────┐        ┌──┴──┐
   Mala-acc  saw-avan                VP    T
                                   ┌──┴──┐
                                 FocP     V
                                ┌──┴──┐
                               DP    Foc'
                             ┌──┴─┐ ┌──┴──┐
                           Balan PredP   Foc
                                 ┌──┴──┐
                              <DP>    Pred'
                                    ┌──┴──┐
                                 <FP>    Pred
```

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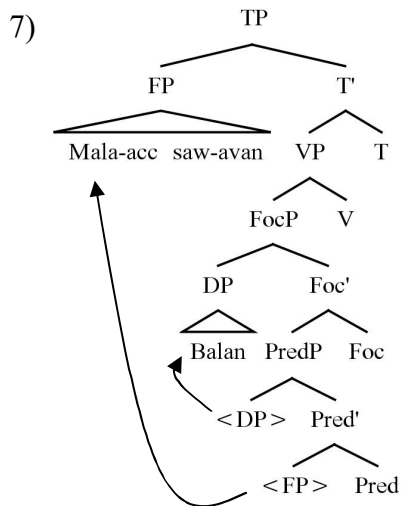
[5] One noteworthy aspect of these structures is that Spec, PredP is never filled at any point in the derivation. We will see evidence for this claim and the implications this has for the locality of predication in section 5 of this chapter.

(7) is essentially the inverted predication analysis of simple copular clauses proposed in Chapters 2. Here, the predicate in the complement of PredP raises to Spec, TP. In addition, the DP in Spec, PredP also moves to Spec, FocP. The crucial difference between the IC derivation in (6) and the AC derivation in (7) lies in where the pivot is base-generated. In the IC, it is base-generated within the PredP complement and then extracted out. In the AC, it is base-generated in Spec, PredP. In the next section, we will look at syntactic derivations of the IC and AC in detail.

5.3   The Syntax of the IC and AC

In this section, I propose a detailed syntactic derivation of the IC and AC. In particular, we will see several pieces of evidence for the claim that the pivot in an IC is extracted to its pivot position. This comes from case-connectivity, -aa connectivity, restrictions on pivots, and pivot interpretational ambiguities. In these respects, the IC is shown to contrast with the AC in several crucial ways. These differences are used to motivate their different analyses.

5.3.1   Case Connectivity

Although the example of the IC in (4a) shows that the pivot is interpreted as the logical subject of the verb in the subject phrase (which would have unmarked nominative case), this is not always true. Consider the following.

8) a.   Balan   Mala-*(ve)   patt-aan   Simple Transitive
         Balan   Mala-acc   see-PST.3sm
         'Balan saw Mala.'

   b.   [Balan   paatt-**adu**]   Mala-*(ve)   IC
         Balan   saw-ADU   Mala-acc
         'The one thing Balan saw was Mala.'

9) a.   Balan Mala-vikki   palat-te   tan-daan
           Ditransitive
           Balan Mala-dat   fruit-acc   give-PST.3sm
           'Balan gave the fruit to Mala.'

    b.   [Balan   palat-te   tand-adu]   Mala-*(vikki) IC
           Balan   fruit-acc   give-ADU   Mala-dat
           'The one that Balan gave the fruit to is Mala.'

(8a) shows a simple transitive clause, which must accusative case mark its direct object. (8b) shows that the IC pivot which is construed as a direct object in the subject phrase must have accusative case as well. Something similar holds for the ditransitive in (9a). When the indirect object is the pivot of the IC as in (9b), the pivot must have dative case.

        Contrast this with what happens in the corresponding AC constructions.

10)   [Balan   paatt-**aval**]   Mala-(*ve)   AC
           Balan   saw-AVAL   Mala-acc
           'The one thing (fem.) that Balan saw was Mala.'

(10) shows the AC construction corresponding to (8b). Here, the pivot cannot have accusative case. Furthermore, it is not possible to even form a AC correspondent of (9b) because the pivot of an AC can only correspond to either the subject or object of the subject phrase.[6]

        The difference between (8b) and (10) is explained by the derivational differences between the IC and AC shown in (6) and (7). In the IC, the direct object *Mala* receives accusative case from within the embedded clause before it moves to Spec, FocP. However, since the pivot in (10) is base-generated in Spec, PredP, there is no overt case marking on the AC pivot. Note that the AC pivot thus behaves exactly the same as the pivot in simple specificational copular clauses in not having any overt case-marking.

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[6] This will be shown to be connected to the null-operator restriction to be illustrated in section 5.3.3.

11) a. Balan   en   nanban-(*e)   Predicational Copular
        Balan   my   friend-acc
        'Balan is my friend.'

    b. en   nanban   Balan-(*e)   Specificational Copular
        my   friend   Balan-acc
        'My friend is Balan.'

In both the simple predicational and the specificational copular clauses, the pivot cannot appear with accusative case. This should not be surprising given that the pivots in (10) and (11b) are base-generated in Spec, PredP. Ultimately, the case connectivity facts are highly suggestive that the respective derivations of the IC and AC shown in (6) and (7) are correct.

5.3.2   -aa Connectivity

-aa connectivity is another source of evidence that indicates a sub-extraction analysis of the IC. Consider the following sentences.

12) a. Balan mukiya-maa   iru-ndaan
        Balan important-AA be-PST.3sm
        'Balan was important.'

    b. Balan nette-yaa   iru-ndaan
        Balan tall-AA   be-PST-3sm
        'Balan was tall.'

Recall that we have analyzed -aa as a Pred head which heads a small clause which occurs in adjectival predicate sentences such as those in (12). These sentences are also interpreted as typical predicational copular clauses. It is also possible to form the corresponding ICs of these sentences with the adjectival phrases as the IC. Let's focus on (13).

13)   Balan irund-adu   mukiya-maa
        Balan be-ADU   important-AA
        'What Balan was was important.' (only specificational reading)

14)
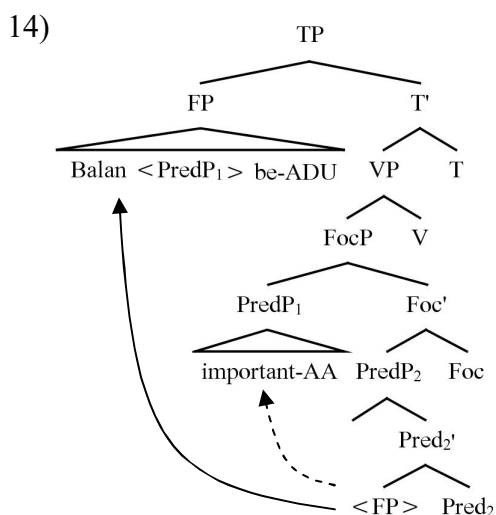
Given our analysis of ICs in general, the derivation of (13) would look like that shown in (14). Here, PredP$_1$ (in the subject phrase) moves to Spec, FocP which results in the pivot having the -aa suffix despite there being no overt copula in V.[7] Recall that -aa in general can only be realized on the pivot if the copula verb is also overt.[8] A similar analysis can be given to the IC that can be formed from (12b) (i.e. *Balan irundadu netteyaa* 'What Balan was was tall'). The reason that (13) must have the *-aa* suffix on the pivot falls out as a natural consequence of the extraction analysis. However, note that (13) is unambiguously specificational. The English translation of (13), in contrast, is ambiguous.

15)   What John was was important.

Unlike (13), (15) can be interpreted as either specificational and predicational. As a specificational copular clause, (15) would be a suitable response to the question: *What is*

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[7] In this derivation, note also that *Balan* has to move out of PredP$_1$ before PredP$_1$ moves to Spec, FocP.

[8] I do not know why -aa must be realized when the copula verb is. However, this co-occurrence pattern cannot be taken as evidence that -aa is part of the verbal spine. In chapter 2, section 2.2.1, we saw some phonological evidence from vowel hiatus for this claim. In short, vowel sequences in adjacent syllables must have consonant epenthesis. However, we do not see this epenthesis between -aa and the following verb even if it starts with a vowel. However, we always see consonant epenthesis between -aa and the phrase that precedes it if the phrase ends with a vowel.

the quality that John had? As a predicational copular clause, (15) would be a suitable response to the question: *What John was has a certain quality. What is this quality?*

However, in order to form a predicational copular clause in Tamil with a property as its pivot, -aa cannot occur on the pivot as shown in the following.

16) Balan irund-adu   mukiyam-(*aa)
      Balan be-ADU   important
      'The fact that Balan stayed was important.' (only predicational)

(16) can only have the predicational meaning indicated in the translation. Here, the copular verb is interpreted as a locational verb in order to facilitate the predicational meaning.[9] I propose that (16) has the derivation of a simple predicational copular clause which is shown below.

17)

```
                        TP
                   ┌─────────┐
                  DP         T'
              ┌────────┐   ┌─────┐
            Balan be-ADU  VP      T
                        ┌─────┐
                      PredP    V
                     ┌──────┐
                   <DP>    Pred'
                          ┌─────┐
                         FP    Pred
                        ┌──┐
                      important
```
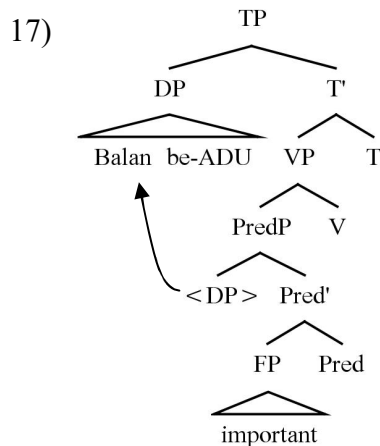
In (17), the pivot is the complement of PredP and the subject phrase is moved to Spec, TP from Spec, PredP. Note that in this derivation, the absence of *-aa* on the pivot (when there is no overt copula verb on V) is expected. Thus, the derivations in (14) and (17), not only explain when *-aa* connectivity is realized, but also why when there is *-aa* connectivity, only the specificational meaning is possible. This follows if the cases where

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[9] It is marginally possible to denote an occupation with the *be* verb in Tamil as in English, but the locational meaning is the preferred one in (20). Interpreted as an occupation, the meaning of (20) would be something like 'What Balan worked as was important'.

-aa connectivity is exhibited are ICs which have an extraction analysis and are formed from the sentences in (12).

5.3.3   Pivot Possibilities

The range of possible categories that the pivot can have in the IC also supports the sub-extraction analysis of the IC. Observe that in my analysis, movement to Spec, FocP is essentially an A'-movement, similar to scrambling in Tamil which can target even non-DPs. In so far as this characterization of IC derivation is correct, it predicts that the IC should allow a large variety of categories to occur as the pivot and this is indeed the case, as shown in (18).

18) a.   [Balan   payyen-e   adic-adu]   Somu-vikkaage   PP
           Balan   boy-acc   beat-ADU   Somu-ben
           'The one that Balan beat the boy for is Somu.'

  b.   [Balan   paris-e   tand-adu]   Mala-vikki   IO
           Balan   prize-acc   gave-ADU   Mala-dat
           'The one that Balan gave the prize to is Mala.'

  c.   [Balan   odun-adu]   veegamaa   AdvP
           Balan   ran-ADU   quickly
           'The way that Balan ran was quickly.'

  d.   [Balan   irukr-adu]   netteyaa   PredP/ AP
           Balan   be-ADU   tall AA
           'The thing that Balan is is tall.'

  e.   [Balan   conn-adu]   Mala   thoongraal   ni   CP
           Balan   said-ADU   Mala   sleep-3sf   comp
           'The thing that Balan said is that Mala is sleeping.'

(18a-e) shows that virtually any category can occur as the IC pivot: the IC pivot can be a PP adjunct, Indirect Object, AdvP, PredP or even a CP. Note all these phrases can undergo another type of A'-movement in Tamil, namely scrambling.

19) a.   Somu-vikkaage$_i$ Balan payyen-e t$_i$ adic-aan   PP
           Somu-ben   Balan boy-acc   beat-PST.3sm

'Balan beat the boy for Somu.'

b.   Mala-vikki$_i$ Balan   paris-e t$_i$ tand-aan   IO
       Mala-dat   Balan   prize-acc   gave-PST.3sm
      'Balan gave the prize to Mala.'

c.   veega-maa$_i$ Balan t$_i$ odun-aan   AdvP
       quick-AA   Balan   ran-PST.3sm
      'Balan ran quickly.'

d.   nette-yaa$_i$ Balan t$_i$ iruk-aan   PredP
       tall-AA   Balan   be-PST.3sm
      'Balan is tall.'

e.   [Mala   thoongraal ni]$_i$ Balan t$_i$ conn-aan   CP
       Mala   sleep-3sf   comp Balan   said-PST.3sm
      'Balan said that Mala is sleeping.'

(19) shows sentences corresponding to the ICs in (18), but with scrambling. Notably, all of the phrases that can be pivots in the ICs in (18) can be scrambled in (19) as well. This is what we would expect if the pivots in the IC end up in their final position through an instance of A'-movement.

On the other hand, in the AC, the possibility of occurring as a pivot depends on being able to construe some position in the subject phrase as a null operator assuming that the subject phrase in an AC is similar to an English free relative. This has been argued to have empirical consequences. For example, Cinque (1990: 102) shows that in Italian, wh-movement can target any phrasal category, but parasitic gap formation (which is assumed to involve null operator movement in the adjunct clause, following Chomsky 1986) only targets individual denoting phrases, i.e. DPs. The same distinction has been noticed in English (Postal 1993; Munn 1999 etc). ATB extraction is not restricted to any particular category, but parasitic gaps are. Consider the following from Postal (1993: 736).

20) a. *How sick$_i$ did John look t$_i$ without feeling *pg*?   AdjP + PG
    b. How sick$_i$ did John look t$_i$ and (Betty) say he actually felt t$_i$? AdjP + ATB

21) a. *Where$_i$ did Elaine work without ever living *pg*?   PP + PG
    b. Where did Elaine work t$_i$ and Gwen vacation t$_i$?   PP + ATB

22) a. What city$_i$ did Elaine work in without ever living in *pg*?   DP + PG
    b. What city did Elaine work in t$_i$ and Gwen vacation in t$_i$?   DP +ATB

The (a) sentences in (20-22) show constructions with parasitic gaps (indicated with *pg*) while the (b) sentences indicate ATB extraction constructions. Notably, in (20) and (21) where the *pg* is construed as an AdjP or a PP, the sentence is ungrammatical. However, the ATB extractions are fine. (22) forms a minimal pair with (21) where the PP *where* is replaced with a DP *what city*. (22), unlike (21), does allow *pg* formation.

   If the distinction between ATB and PG is relevant to IC and ACs as well, we should find that the possible pivots of an AC are much more restricted in terms of category. This is indeed what we find.

23) a. *[Balan   payyen-e   adic-avan]   Somu-(vikkaage)   PP
          Balan   boy-acc   beat-AVAN   Somu-ben

    b. *[Balan   paris-e   tand-aval]   Mala-(vikki) IO
          Balan   prize-acc   gave-AVAL   Mala-dat

When the pivot in an AC is either an adjunct PP or an indirect object, the corresponding AC is not acceptable. This already indicates that not all the categories that are possible as IC pivots, are possible as AC pivots. It is not possible to replicate the data in (19c-e) for the AC mainly because the pivots there are likely to be neuter gendered and therefore it is impossible to see the difference between the AC and IC. However, the fact that the two sentences in (23) are ungrammatical is highly suggestive that there are no AC counterparts of (19c-e). This difference between the IC and AC with respect to the types of pivots they allow falls out from the analysis if we assume that in Tamil, null operator

movement only targets DPs, as in Italian and English. The extraction process in IC,
does not involve null operator movement (as scrambling does not) and as such it is not
restricted to particular category types.

5.3.4   Interpretational Possibilities for Bare Nominals

The final piece of evidence I consider here that supports an extraction analysis of the IC
lies in the interpretation possibilities of bare nominals when they occur as the pivot of an
IC. First note that in Tamil, bare nouns can be interpreted as an argument or a predicate.

24) a. Payyen   Mala-ve   paat-aan   Argument
         Boy   Mala-acc   saw-3sm
         'The boy saw Mala.'
    b.   Somu (oru)   payyen   Predicate
         Somu one   boy
         'Somu is a boy.'

Although, *payyen* 'boy' has the same surface form in (24a) and (24b), in (24a), it is
interpreted as an argument and in (24b), it is interpreted as a predicate. For concreteness,
based on the arguments in Chapter 2, we will assume that *payyen* in (24a) is a DP
whereas *payyen* in (24b) is an FP. In light of this, consider the following comparison.

25) a. [Mala-ve   paatt-adu]   payyen   IC
         Mala-acc   saw-ADU   boy
         'The one that saw Mala is the/ *a boy.

    b. [Mala-ve   paatt-avan]   payyen   AC
         Mala-acc   saw-AVAN   boy
         'The one that saw Mala is a/ the boy.'

The IC and the AC in (25) have bare nominals as their pivot. However, the IC pivot in
(25a) can only be interpreted as an argument, whereas the AC pivot in (25b) can be
interpreted as either an argument or a predicate. This means that (25a) only has one
meaning, the specificational one. Here, the individual that saw Mala is identified as *the
boy*. On the other hand, (25b) is ambiguous between the specificational and predicational

copular clause meanings. On the predicational meaning, (25b) means that the individual that saw Mala is a boy.

These meanings can be further teased apart by using a conjunction test for the predicate meaning discussed in Sharvit (1999: 302).

26) a.   John is [$_{ConjP}$ the fool and the doctor].
    b.   [$_{ConjP}$ The fool and the doctor] are/ *is present.

In (26a), the two predicates are conjoined and applied to one individual, whereas in (26b) the conjoined phrase denotes two separate individuals, as can be seen in plural agreement on the copula. We can apply a similar conjunction test to the Tamil IC and AC.

27) a.   Mala-ve   paatt-adu   [payyen-um   daktar-um]   IC
           Mala-acc   saw-ADU   boy-coord   doctor-coord
           'The ones that saw Mala are the boy and a doctor.'

    b.   Mala-ve   paatt-avan   [payyen-um   daktar-um]   AC
           Mala-acc   saw-AVAN   boy-coord   doctor-coord
           'The one that saw Mala is a boy and a doctor.'

The IC pivot in (27a) must denote two separate individuals (despite not being forced to by any from of agreement within the verb morphology) whereas the AC pivot applies to a single individual. Note that it is the lack of a predicational meaning in the IC that we are interested in explaining here and this restriction on the interpretation of a bare nominal that occurs as an IC pivot can be explained within the extraction analysis. I assume that a DP that is extracted from an argument position remains a DP argument in its landing site and cannot be type-shifted to a predicate meaning after movement. What this means is that the reason why the IC pivot can only be interpreted as a DP argument (and not a predicate) has to do with the fact that it was extracted from a position in which it was necessarily a DP argument. This has the result that the IC can only have the specificational copular clause reading. (28) shows the derivation of the IC in (25a).

28)
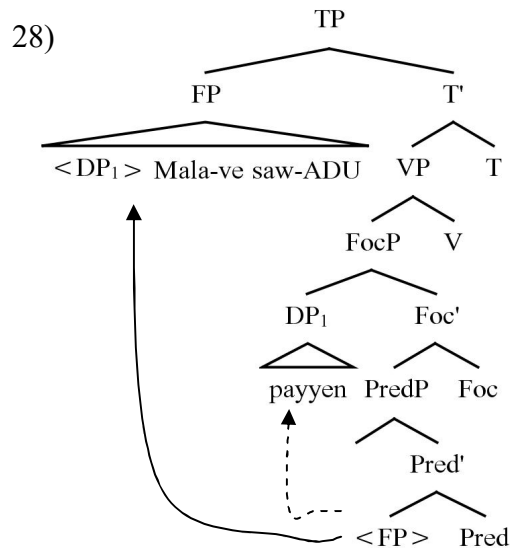
In this derivation of an IC, the pivot is a DP extracted from the subject position of the subject phrase, FP. Given this derivation, it is not possible to interpret the IC pivot as a predicate at all. On the other hand, the availability of both the predicate and argument interpretation of the pivot in an AC comes about because of the two different derivations that the AC has. In one derivation, the pivot is base generated as a DP in Spec, PredP and predicate inversion takes place and in the other, it is base-generated as an FP in the complement position of PredP.

29) a.   Base Generated as DP   b.   Base generated as FP

(29a) shows the derivation of the AC where *payyen* 'boy' is base-generated in Spec, PredP. This is derivation of a simple specificational copular clause and the pivot is correctly interpreted as an argument. (29b) shows the derivation much like that of a simple predicational copular clause where *payyen* 'boy' is base generated as the complement of PredP. This derivation is not possible for an IC and therefore only an AC allows a predicational interpretation of a bare nominal.

5.3.5   Summary of Facts

We have seen the following differences between the IC and the AC.

	Case Connectivity	-*aa* Connectivity	Category of Pivot	Bare Nominal Meaning
IC	Yes	Yes	Unrestricted	Argument
AC	No	No	Restricted	Argument/ Predicate

Figure 1: Properties of IC and AC

The IC, but not the AC, shows case and -*aa* connectivity. The IC pivot can be of any category that can otherwise be scrambled in a regular sentence. In addition, a bare nominal pivot of an IC can only have an argument meaning whereas a bare nominal pivot of an AC can be either an argument or a predicate. I believe that this set of facts strongly supports the extraction and remnant movement analysis of the IC, shown in (30a) (reproduced from (6)) as sketched in (30b).

> 30) a. Mala-ve   paatt-**adu**   Balan   IC
>   Mala-acc   saw-**ADU**   Balan
>   'The one that saw Mala is Balan.'

b.

```
                          TP
              ┌────────────┴─────────┐
             FP                      T'
        ┌─────┴──────────┐        ┌──┴──┐
  <Balan>  Mala-acc  saw-adu     VP     T
                              ┌───┴──┐
                            FocP     V
                         ┌───┴───┐
                        DP      Foc'
                      ┌─┴┐    ┌──┴──┐
                   Balan  PredP    Foc
                          ┌──┴──┐
                        Pred'
                       ┌──┴──┐
                    <FP>    Pred
```

As discussed earlier, the pivot of an IC like (30a) is extracted to Spec, FocP from within the clause that is the complement of Pred. This clause then moves to Spec, TP.

While I have focused on the overall derivation of the IC, I have not mentioned anything about the internal structure of the phrase that ends up as the subject phrase in (30b). I propose the following structure for the complement of a PredP in a IC before any phrase is extracted out of it.

31)
```
                    FP
                 ┌───┴──┐
                DP      F
             ┌───┴──┐
            CP       D
          ┌──┴──┐    │
         TP     C   -adu
       ┌──┴──┐
      DP     T'
    ┌─┴┐   ┌──┴──┐
 Balan   vP      T
       ┌──┴──┐
    <DP>    v'
           ┌──┴──┐
          VP      v
        ┌──┴──┐
    Mala-acc  see
```
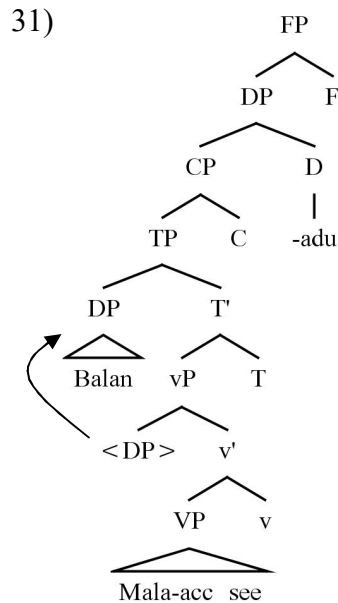
(31) shows the base-generated structure of the complement of PredP in (30a). The whole structure is an FP (see Chapter 2 where this FP structure is motivated for all PredP

complements). The crucial part of the structure is the DP where the *-adu* suffix is analyzed as the D head that takes CP as its complement. In addition, I propose that the D agrees with its complement, the CP. I further assume that the CP itself has default neuter features which results in D spelled out as *adu* regardless of what the pivot of the IC is. Note that in this structure, *Balan* is the agent of the verb *paar* 'see' and *Balan* is base-generated in Spec, vP and moves to Spec, TP as in ordinary matrix clauses. In this structure, the extraction of *Balan* to Spec, FocP of the IC, proceeds through (at least) the specifier position of CP.[10]

On the other hand, (32) shows the structure of the corresponding part of AC.

32) a.   Mala-ve   paatt-**avan**   Balan   AC
        Mala-acc   saw-**AVAN** Balan
        'The one (masc.) that saw Mala is Balan.'

b.

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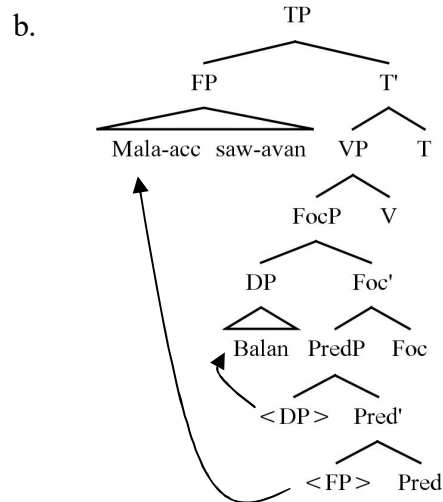
[10] The identity of the actual landing sites depends on which of these are phases. The status of CP as a phase is generally accepted. I also assume that DPs are not phases, although nothing crucial hinges on this.

c.

```
                          FP
                         /  \
                       DP    F
                      /  \
                    NP    D
                   /  \   |
                 CP    NP -avan
                /  \   /\
              DP    C' pro
             /\    /  \
            Op   TP    C
                /  \
            <DP>    T'
                   /  \
                 vP    T
                /  \
            <DP>    v'
                   /  \
                 VP    v
                /  \
          Mala-acc  see
```
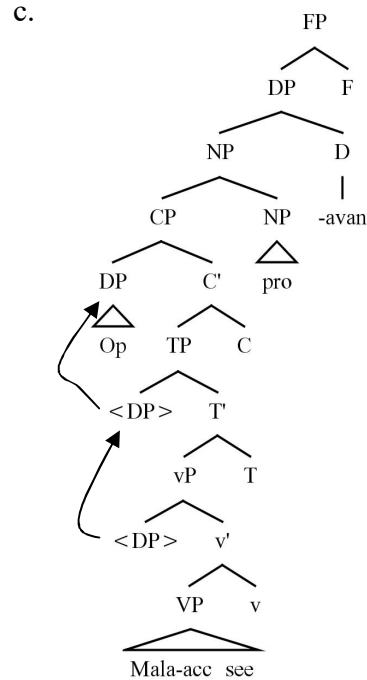
(32c) shows the internal structure of the FP in the AC in (32b). Unlike in the IC, the complement of D here is an NP to which a CP has been adjoined - a normal relative clause structure.[11] The NP itself is a null *pro*. CP contains a null operator which moves to Spec, CP. This is essentially the head-external analysis of relative clauses proposed by Jackendoff (1972) and Chomsky (1977). In this analysis, D agrees with its complement, this time an NP which gets its features from the external head of the relative clause, *pro*. (32c) also shows that Spec, CP contains a null operator which is moved there from within the vP. In this case, the null operator is base-generated as the external argument.

---

[11] The difference between (31) and (32c) is an important one and is crucial in answering a question that Marcel den Dikken raises. He asks whether extraction out of a relative clause is possible in Tamil given that this is the type of structure out of which extraction appears to take place in an IC. Extraction from relative clauses is also not possible in Tamil. However, this should not be taken to be evidence against the analysis proposed for the IC because in the structure in (31), there are no adjoined structures which may possibly prevent extraction. Compare this to the structure in (32c) where adjunction is employed. If this is correct, then this may suggest that even English free relatives which ban extraction have adjunction structures similar to the Tamil AC. In addition, the AC, unlike the IC, contains a null operator, which may also be a reason why extraction out of the AC is blocked.

In so far as these structures are correct, the crucial thing for us to take away from this discussion is that in the IC, the pivot extracted from within the FP into Spec, FocP. On the other hand, the pivot in an AC is base generated in Spec, PredP and then moved to Spec, FocP. In the next section, I will outline the semantics of the IC and the AC.

5.4   The Semantics of the IC and AC

In this section, my objective is to show how despite the two different syntactic derivations that the IC and AC have, their semantics is largely the same (modulo gender information). Let's start with the IC.

5.4.1 IC Semantics

(33) shows how the IC in (30a) is composed.

33)

$$\lambda P_i[P_i(\text{Balan})] \ (\lambda y[\iota x[x \text{ saw Mala}] = y]) \Rightarrow$$
$$\iota x[x \text{ saw Mala}] = \text{Balan}$$

```
                              TP

              FP_i                        VP

         t  Mala-acc saw-adu
         λy[ιx[x saw Mala] = y]        P_i(Balan)

                              FOCP              V
                              P_i(Balan)        λt[t]


                        DP
                                  FOC'
                        Balan     λx[P_i(x)]


                              PREDP       FOC
                              λx[P_i(x)]  λt[t]


                         t_i          PRED
                         P_i          λPλx[P(x)]
```
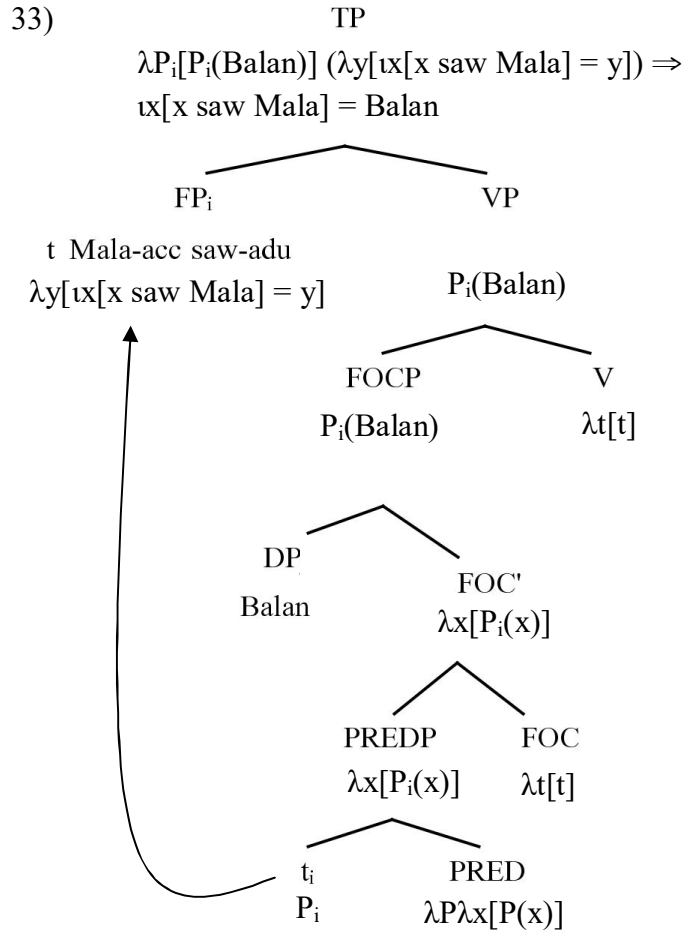
I use standard rules of functional application and abstraction over traces.[12] *Balan* is located in Spec, FocP after being extracted from within the FP before FP moves to Spec, TP. The semantic composition of FP is shown below.

---

[12] For simplicity, I assume that Foc and V are identity functions over propositions. This gives us the ordinary semantic value of the IC, not the focus semantic value of the IC (Rooth 1992).

34)

$$\text{FP}$$

$$\lambda x \lambda y[x=y] \ (\iota x \ [x \ \text{saw Mala}]) \Rightarrow$$

$$\lambda y[\iota x[x \ \text{saw Mala}] = y]$$

DP	F
$\lambda P \iota x[P(x)] \ (\lambda x_i[x_i \ \text{saw Mala}])$	IDENT
$\Rightarrow \iota x \ [x \ \text{saw Mala}]$	

CP	D
t_i Mala-acc saw	-adu
$\lambda x_i[x_i \ \text{saw Mala}]$	IOTA
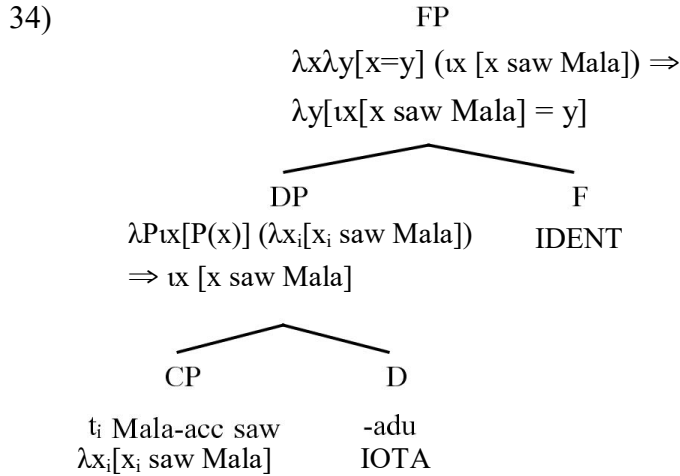
In the analysis of simple specificational copular clauses in Chapter 3, I proposed that specificational copular clauses are semantically equations and the composition of the IC given here fits this general idea. F is assumed to host the operator IDENT, which shifts the DP into a type $<e, t>$ phrase (Partee 1987). The only difference is that in the IC, the phrase that is the pivot of the clause is extracted from within the FP. The IC is true in a situation in which the unique individual that saw Mala is Balan. If there is a unique individual that saw Mala and it is not Balan, this IC is judged false. The use of the iota operator is supported by the fact that the subject phrase in this IC has both a uniqueness and existence presupposition, much like the subject phrase in *The doctor is John*. In other words, if there is no individual that saw Mala or if there is more than one individual that saw Mala, this IC is undefined.

In order to see that there is a uniqueness and existence presupposition on the subject phrase in the IC, we can use von Fintel (2004)'s *Wait a minute* test, as we did in Chapter 3.

35)   X: Is de Gaulle <u>the King of France</u>?
         Y: #Hey, wait a minute. I thought there is no King of France.

36)   X: Is <u>the King of France</u> de Gaulle?

Y: Hey, wait a minute. I thought there is no King of France.

von Fintel's *Hey, wait a minute* test identifies the presence of a presupposition by challenging directly the presupposition that has been made. If such a challenge is infelicitous, then this indicates that there is no presupposition. In other words, challenging something that has not been presupposed is infelicitous. In this light, Y's challenge in (35) is infelicitous since X has not presupposed the existence of any kings of France. However, the challenge is acceptable in (36), since X has presupposed the existence of a French King and Y is not accepting this presupposition. We can now see how this test works in Tamil. Consider the following.

37)   S1:   Balan Mala-ve   paatt-aan
               Balan Mala-acc   saw-he
               'Balan saw Mala.'

         S2:   konjo nellu. #Malave   Somu-vum   paataa-ne
               little wait Mala-acc   nobody   saw-emph
               'Wait a minute. Somu saw Mala as well right?'

In (37), S1 utters a simple transitive clause. Here, S2's challenge is meant to question a uniqueness presupposition on the number of people that saw Mala but since S1's utterance has no such uniqueness presupposition, the challenge is infelicitous. On the other hand, the subject phrase in an IC has both a uniqueness and existence presupposition as confirmed by the tests in (38).

38)   S1:   [Mala-ve   paatt-**adu**]   Balan
               Mala-acc   saw-he   Balan
               'The one that saw Mala is Balan.'

         S2:   konjo nellu. Malave   yaarom   paakileye
               little wait Mala-acc   nobody   saw-neg-emph
               'Wait a minute. Nobody saw Mala, right?'

         S3:   konjo nellu. Malave   Somu-vum   paataa-ne
               little wait Mala-acc   Somu-coord   saw-emph
               'Wait a minute. Somu saw Mala as well right?'

In (38), S1 has uttered the IC. S2 challenges the existence presupposition of S1's utterance and S3 challenges the uniqueness presupposition of S1's utterance. Neither challenge is infelicitous. I take this as evidence that the use of the iota operator in the meaning of the IC is correct. We can now move on to see how the semantic composition of the AC proceeds.

5.4.2   AC Semantics

In this section, the semantics of the AC is shown.

39) a.

Mala-ve	paatt-**avan**	Balan
Mala-acc	saw-**AVAN**	Balan

'The one (masc.) that saw Mala is Balan.'

b.

TP

$\lambda P_i[P_i(\text{Balan})] \ (\lambda y[\iota x[x \text{ is male and saw Mala}] = y]) \Rightarrow$
$\iota x[x \text{ is male and saw Mala}] = \text{Balan}$

FP_i   VP

t Mala-acc saw-avan
$\lambda y[\iota x[x \text{ is male and saw Mala}] = y]$ $P_i(\text{Balan})$

FOCP   V
$P_i(\text{Balan})$ $\lambda t[t]$

DP   FOC'
Balan $\lambda x[P_i(x)]$

PREDP   FOC
$\lambda x[P_i(x)]$ $\lambda t[t]$

t_i PRED
P_i $\lambda P \lambda x[P(x)]$

In this analysis, the meaning of the AC is basically an equation, much like the IC, but with an added element of meaning. In this case, the unique individual that sees Mala has to be male as well. von Fintel's wait a minute test shows that the AC has the same uniqueness and existence presuppositions as the IC.
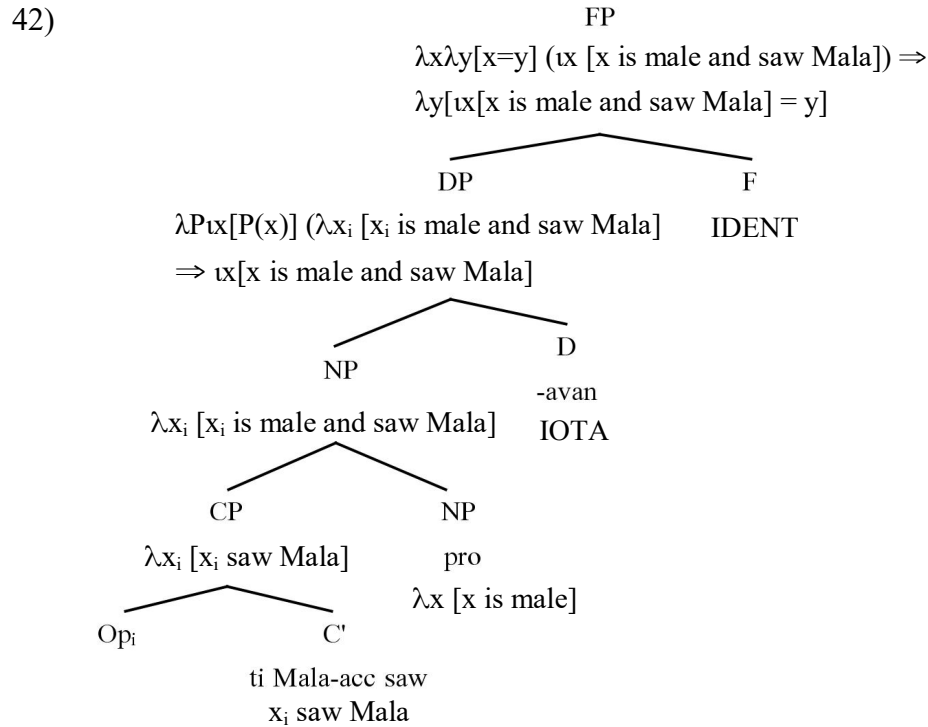
40)　　S1:　　[Mala-ve　　　paatt-**avan**]　　Balan
　　　　　　　　Mala-acc　　　saw-he　　　　Balan
　　　　　　　　'The (male) one that saw Mala is Balan.'

　　　　S2:　　konjo　nellu.　Malave　　　yaarom　　　paakileye
　　　　　　　　little　　wait　　Mala-acc　　nobody　　　　saw-neg-emph
　　　　　　　　'Wait a minute. Nobody saw Mala, right?

　　　　S3:　　konjo　nellu.　Malave　　　Somu-vum　　paataa-ne
　　　　　　　　little　　wait　　Mala-acc　　Somu-coord　saw-emph
　　　　　　　　'Wait a minute. Somu saw Mala as well right?'

Similar to the IC, if there is no one or more than one *male* person who saw Mala, then the AC is judged undefined. However, these presuppositions are relevant only to male individuals. Challenging the presuppositions with female individuals is infelictous.

41)　　S1:　　[Mala-ve　　　paatt-**avan**]　　Balan
　　　　　　　　Mala-acc　　　saw-he　　　　Balan
　　　　　　　　'The (male) one that saw Mala is Balan.'

　　　　S2:　　konjo　nellu.　#Malave　　oru pombaleyum　　paakileye
　　　　　　　　little　　wait　　Mala-acc　　even.one.woman　　saw-neg-emph
　　　　　　　　'Wait a minute. Not a single woman saw Mala, right?

　　　　S3:　　konjo　nellu.　#Malave　　Malathi-yum　　　paataa-le
　　　　　　　　little　　wait　　Mala-acc　　Malathi-coord　　saw-emph
　　　　　　　　'Wait a minute. Somu saw Mala as well right?'

In (41), as opposed to (40), S2 and S3 are the challenging the existence and uniqueness of female individuals. S2 wonders how can S1 be correct if it is known that no woman saw Mala. S3 wonders how can S1 be correct if it is true that some woman called *Malathi* has seen Mala as well. However, both challenges are infelicitous because the uniqueness and existence presuppositions of S1's utterance only applies to male individuals.

We can now see how the denotation of the FP node in (39b) is derived.

42)

FP

$\lambda x\lambda y[x{=}y]$ (ιx [x is male and saw Mala]) $\Rightarrow$
$\lambda y[\iota x[x$ is male and saw Mala] = y]

DP   F

$\lambda P\iota x[P(x)]$ (λx_i [x_i is male and saw Mala]   IDENT
$\Rightarrow \iota x[x$ is male and saw Mala]

NP   D

λx_i [x_i is male and saw Mala]   -avan
                    IOTA

CP   NP

λx_i [x_i saw Mala]   pro
                λx [x is male]

Op$_i$ C'

ti Mala-acc saw
x$_i$ saw Mala

The FP in an AC is analyzed as a externally headed relative clause which has a null head. The masculine features are hosted by this null head. Recall that in the FP in the IC, there is no such head (see 34). As such, D spells out as a neuter form. In the AC, however, the D spells out as a masculine form in the context of (42).

In summary, the following shows the denotations of the IC and AC shown below.

43) a.   Mala-ve   paatt-**adu**   Balan   IC
        Mala-acc   saw-**ADU**   Balan
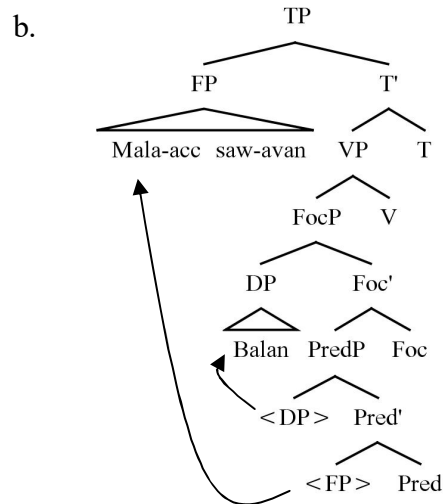   'The one that saw Mala is Balan.'

    b. ιx. x saw Mala = b

44) a.   Mala-ve   paatt-**avan**   Balan   AC
        Mala-acc   saw-**AVAN** Balan
        'The one (masc.) that saw Mala is Balan.'
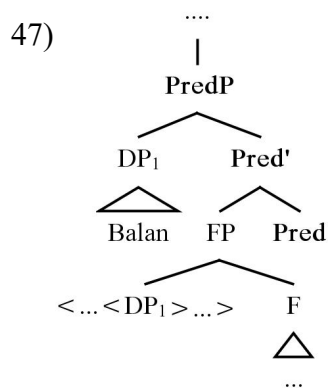
    b. ιx. x is a male and x saw Mala = b

While these have been argued to have different syntactic derivations, semantically, we can see that both have a semantics of equation much like simple specificational copular clauses. In the next chapter, I use these derivations to illustrate their consequences for copular clause connectivity. Before concluding this chapter however, I address an issue for the locality of predication that the derivation of the IC gives rise to.

5.5 An Outstanding Issue: Locality of Predication

The derivation of the IC in particular poses a problem with respect to where the phrase that saturates the argument position of Pred occurs. I reproduce the derivation of an IC below.

45) a. Mala-ve   paatt-**adu**   Balan   IC
        Mala-acc   saw-**ADU**   Balan
        'The one that saw Mala is Balan.'

b.

In the derivation in (45b), the external argument of Pred is not actually found in Spec, PredP but rather in Spec, FocP. Consider the AC as a crucial contrast.

46) a. Mala-ve   paatt-**avan**   Balan   AC
        Mala-acc   saw-**AVAN**   Balan
        'The one (masc.) that saw Mala is Balan.'

b.

```
                        TP
                   ┌────────┴────────┐
                  FP                 T'
         ┌─────────┴─────────┐    ┌──┴──┐
    Mala-acc  saw-avan      VP    T
                          ┌──┴──┐
                        FocP     V
                     ┌────┴────┐
                    DP        Foc'
                  ┌─┴─┐     ┌──┴──┐
              Balan  PredP  Foc
                  ┌────┴────┐
               <DP>        Pred'
                        ┌───┴───┐
                     <FP>      Pred
```

While the AC pivot in (46b) is also argued to be in Spec, FocP, there is a copy of the pivot in Spec, PredP. Comparing (45b) and (46b), we see that the IC suggests that a predication relationship can be established higher than PredP. This is contrary to most standard assumptions about the locality of predication (Williams (1980), Heycock (1991), den Dikken (2006) a.o). Indeed, a strong case can be built to show that there is no copy of the pivot in Spec, PredP in the IC. The argument comes mainly from considerations of improper movement.

In section 1.3.3, it was shown what can be pivots in an IC mirrors what can undergo local scrambling in Tamil (a type of movement that does not have properties associated with A-movement). This was contrasted with the AC, which allows only a pivot that can be construed as the subject or direct object of the FP. In other words, the mechanism by which the pivot was extracted from the FP before the FP moves to Spec, TP in an IC is similar to scrambling: it is an A' type movement. If this is correct, then moving from the FP and landing in Spec, PredP would constitute an instance of improper movement. This is illustrated with the following partial tree of an IC in which such movement has occurred.

47)

```
              ....
               |
             PredP
            /‾‾‾‾\
         DP₁        Pred'
        /‾‾\       /‾‾\
     Balan   FP   Pred
   /‾‾‾‾‾‾‾\       /‾‾\
<...<DP₁>...>         F
                     /\
                    ...
```

(47) shows the PredP of an IC. Here, a FP is merged as a complement of the Pred head and DP₁ within the FP is extracted. It is the movement from Spec, FP to Spec, PredP that constitutes the improper movement. DP₁ has A'-moved to Spec, FP but now has to A-move to Spec, PredP. This derivation counts as an improper movement, a movement type ruled out under most assumptions. Improper movement is characterized as a phrase moving into an A'-position and then into an A-position (Chomsky 1981). That this is usually is seen in ungrammatical sentences like the following:

48) *[CP Who_i [TP t_i was surprised [CP t_i [TP t_i showed up late]]]]?

In (48), the wh-word moves to the embedded Spec, CP position and then to the matrix Spec, TP position. The transition from the embedded Spec, CP to the matrix Spec, TP is where the improper movement lies. This is the kind of movement we would need to accept if *Balan* in (45b) lands in Spec, PredP before moving to Spec, FocP.

Another indication that the extracted element does not move to Spec, PredP first comes from the following contrast between the IC and AC.

49) a. *Balan   [Mala-ve   paat-adu]   Reversed IC
         Balan   Mala-acc   saw-ADU
         For: 'Balan is the one that saw Mala.'

    b.   Balan   [Mala-ve   paat-avan]   Reversed AC
         Balan   Mala-acc   saw-AVAN
         'Balan is the one that saw Mala.'

(49a) shows that an IC has a fixed order between the extracted and remnant phrase. In contrast, in the AC, the reversed order is possible. The grammaticality of (49b) is expected given our analysis of the AC on par with simple specificational copular clauses. Like simple copular clauses which can have both the specificational and predicational copular clause word order, ACs can have both orders too. On the other hand, the IC cannot have a reversed order. The impossibility of (49a) is unexpected if the extracted pivot lands in Spec, PredP first. This is because from Spec, PredP, it should be able to move to Spec, TP, as in the derivation of any other predicational copular clause. Thus, if we allow for *Balan* to land in Spec, PredP after extraction from within the FP, then we need an explanation for why it must move to a clause-internal Spec, FocP but not to a higher A-position. On the other hand, if this extracted phrase moves directly to Spec, FocP, we have an explanation based on the ban on improper movement for why (49a) is ungrammatical. Spec, FocP is an A'-position and Spec, TP is an A-position so movement from the former to the latter is not possible. Based on these reasons, I conclude that Spec, PredP in an IC does not contain a copy of the pivot that is in Spec, FocP.

Rather than take this as evidence that a predication relationship can be established non-locally, I adopt a proposal from Saito & Hoshi (2000) and Saito (2001) who argue that head movement can extend the domain of a head over which it can select its arguments[13] as seen in the Japanese light-verb construction. Boskovic & Takahashi (1998), who propose a base-generation analysis of Japanese scrambling, also permit head movement of V to I in cases of local scrambling. I will not reproduce their arguments here. But following in their footsteps, I propose that head movement can extend the

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[13] See also Baker (2003: 150).

domain over which predication relations can be established. Specifically, I propose that head movement of Pred to Foc makes Spec, FocP a position in which a predication relationship can be established between Spec, FocP and the complement of PredP. If this is correct, then the locality problem is solved.[14] In fact, in order to retain the locality of predication, we are forced to accept such a solution.[15]

5.6   Conclusion

In this chapter, I have introduced two types of complex specificational copular clause that can be formed in Tamil without using an externally headed relative clause: the IC and the AC. I have shown that the IC requires a derivation in which the IC pivot is extracted to Spec, FocP from inside the subject phrase of the IC. In contrast, the AC is like a complex specificational copular clause that is formed with an externally headed relative clause. Even though the IC and AC are derived differently with respect to their syntax, their semantics is quite similar in that both of them are equations which have the same type of existence and uniqueness presuppositions. The only difference is that while the AC makes such presuppositions relative to gender and number, the IC does not make any such qualifications. In the final section, I also discussed a problem for the locality of predication that the derivation of the IC raises. I propose that this shows that there is necessary head movement of Pred to Foc.

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[14] See also den Dikken (2006, 2007) who proposes that Pred head moves, but for him this movement is due to phase-extension.

[15] Marcel den Dikken (pc) points out two problems with this solution to the locality issue. First, this indicates that Foc is the head that establishes the predication relationship which means that having both Foc and Pred may be redundant. Second, this requires us to accept a derivation in which "a constituent that is moved out of a node Alpha becomes the subject of Alpha". However, he also suggests a solution to the locality problem which avoids these problems. This is positing a null neuter pronoun in Spec, PredP which actually serves as the subject of predication. This would mean that predication is established locally without leading to the problems mentioned above. However, an account for how this null pronoun is co-construed with the phrase in Spec, FocP would have to be fleshed out.

Chapter 6   Connectivity in Tamil Copular Clauses[1]

6.1   Introduction

One of the more prominent reasons why complex copular clauses deserve additional discussion beyond simple copular clauses is because they can exhibit connectivity effects (Akjmajian 1970, Higgins 1973) more extensively.[2] The following is an illustration of the main types of connectivity exhibited by English copular clauses, taken from Sharvit (1999: 300).[3]

1) BV (Bound Variable) Connectivity
   a.   The women no man$_i$ listens to __ are **his$_i$ wife and his$_i$ mother-in-law**.
   b.   What no student$_i$ enjoys __ is **his$_i$ finals**.

2) BT (Binding Theory) Connectivity
   a.   What John$_i$ is __ is **a nuisance to himself$_{i/*j}$**   Principle A
   b.   What John$_i$ is __ is **a nuisance to him$_{*i/j}$**   Principle B
   c.   What he$_{*i/j}$ is __ is **a nuisance to John$_i$**   Principle C

3) NPI Licensing
   What John {didn't buy/ *bought} was **any books**.

(1), (2) and (3) illustrate connectivity effects because the bolded post-copular phrases behave as if they were in the position indicated by gap in the pre-copular phrase. Thus, the dependency relations in (1) - (3) are the same as in (4) - (6).

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[1] The data in this chapter exists as Selvanathan (2015) but the analysis here is revised.

[2] Marcel den Dikken points out that simple specificational copular clauses can also exhibit certain types of connectivity.

a) His$_i$ car is every man$_i$'s pride and joy.

Also see Schlenker (2003).

[3] See Sharvit (1999) for other connectivity effects. Also see den Dikken, Wilder and Meinunger (2000) for a similar list of connectivity effects in English.
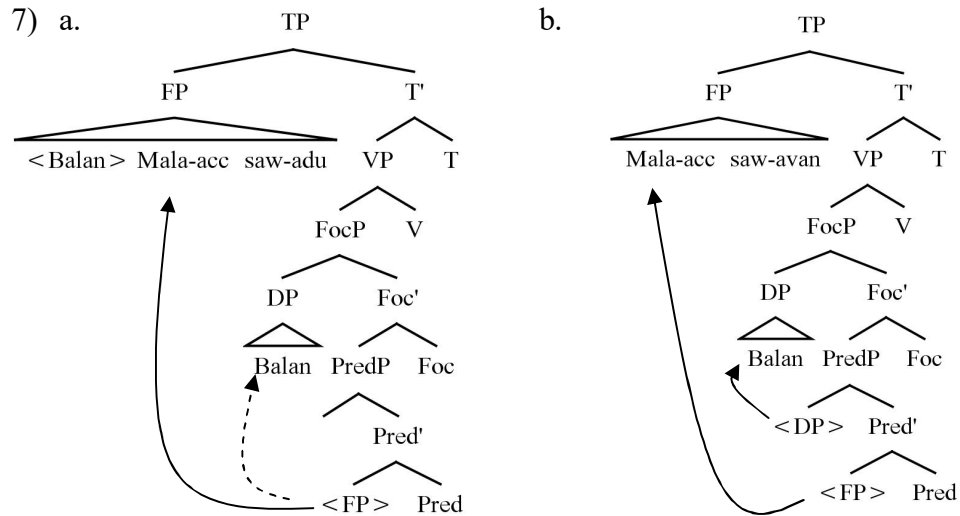
4) Variable Binding
   a.   No man$_i$ listens to **his$_i$ wife and his$_i$ mother-in-law**.
   b.   No student$_i$ enjoys his$_i$ finals.

5) Binding Theory
   a.   John$_i$ is **a nuisance to himself$_{i/*j}$**.   Principle A
   b.   John$_i$ is **a nuisance to him$_{*i/j}$**.   Principle B
   c.   He$_{*i/j}$ is **a nuisance to John$_i$**.   Principle C

6)   NPI Licensing
   John {didn't buy/ *bought} **any books**.

Notably, only the specificational copular clause interpretation is possible when connectivity is exhibited. For example, it is possible for *John* and *him* to corefer in (2b), a violation of Principle B. But in this case, only the predicational copular clause reading is available. The connectivity effects in English specificational copular clauses has been given different analyses. The prominent semantic analysis (Jacobson 1994, Sharvit 1999, Heller 2004) proposes that connectivity in these clauses can be explained by treating specificational copular clauses as equatives. For BV connectivity, Jacobson (1994) proposes that the these are equatives of functions. Sharvit (1999) extends this analysis to Binding Theory connectivity and NPI licensing. On the other hand, den Dikken, Wilder and Meinunger (2000) claim that different types of connectivity can have different sources. Specifically, they claim that only NPI licensing connectivity requires a strict syntactic analysis (implemented with the question-under-disguise analysis) whereas BV and BT connectivity arise due to semantic factors.

In the previous chapter dealing with the derivations of the IC and AC, we have already seen two types of connectivity effects in Tamil copular clauses, case connectivity and *-aa* connectivity. In fact, these were some of the evidence that was used to support the following different derivations for the IC and AC.

7) a.

```
                TP
        FP              T'
   <Balan> Mala-acc saw-adu    VP    T
                            FocP   V
                         DP    Foc'
                      Balan PredP  Foc
                               Pred'
                            <FP>   Pred
```

b.

```
                TP
        FP              T'
   Mala-acc saw-avan       VP    T
                        FocP   V
                     DP    Foc'
                  Balan PredP  Foc
                      <DP>   Pred'
                          <FP>   Pred
```

8) a.   Mala-ve   paatt-**adu**   Balan   IC
          Mala-acc   saw-**ADU**   Balan
          'The one that saw Mala is Balan.'

    b.   Mala-ve   paatt-**avan**   Balan   AC
          Mala-acc   saw-**AVAN**   Balan
          'The one (masc.) that saw Mala is Balan.'

In this chapter, I outline the connectivity properties of the IC and AC and show that the question-under-disguise theory (QDT) does not apply to Tamil. I conclude that only BV connectivity is licensed through semantic equation in Tamil. Of the various connectivity effects, I pay closer attention to reflexive connectivity and show that in Tamil, reflexive connectivity is licensed by reconstruction. One of the main reasons why reflexive connectivity in copular clauses is much more interesting than the other types is that reflexives have traditionally been analyzed as subject to a strict syntactic relationship (with the exception of logophors, Reinhart & Reuland 1993) but the necessary relation clearly does not exist in (2a) on the surface. In contrast, variable binding, which is commonly assumed to require syntactic c-command (Reinhart 1983 and since), has been shown by Barker (2012) to not be dependent on c-command after all. For example,

variables bound by quantified possessors are a well known exception to the c-command condition (Hornstein 1995)[4].

9) a.   [Everyone$_i$'s mother] thinks he$_i$'s a genius.
   b.   [No$_i$ one's mother-in-law] fully approves of her$_i$.

(9) (originally noted by Higginbotham 1980) shows that a quantifier bound within a possessor can bind a pronoun that occurs outside it.[5] In addition, Barker (2012) shows a slew of other data that argues against c-command as the relevant condition for variable binding. For example, Barker (2012: 63) shows that it is possible for a quantifier within a VP or PP to bind a pronoun inside an adjunct PP that is possibly merged higher than *each book*.[6]

10) a.   She [$_{VP}$ copied each book$_i$] without hurting it$_i$.
    b.   [$_{PP}$ After the name of every$_i$ student] will be added his$_i$ place of residence.

In (10a), the quantifier binds out of a VP[7] and in (10b) it does so out of a PP. Such data suggest that whether we resort to a syntactic or semantic mechanism of scope,[8] the

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[4] Although Kayne (1994) provides a definition of c-command under which sentences like (9) can be accounted for. See Safir (2008) for arguments against Kayne's account.

[5] See also Safir (2004: 37) who uses VP ellipsis to show that such cases are indeed bound variables.

[6] There are ways to circumvent the claim that c-command is not implicated in these examples as well. Marcel den Dikken notes that *each book* in (10a) may not be within the VP but in a higher position given the possibility of examples such as the following noted in Lasnik and Saito (1991).

a)   The DA accused the defendents during each other's trials.

In addition, in (10b), it is possible that the quantifier *every student* in the PP has raised to a position in which it is in an almost c-command configuration with *his*.

[7] There are certain contexts where it appears that a reflexive in a PP can be bound by something that does not c-command it either (Mark Baker p.c.). Pesetsky (1995: 161) contains more such examples although Reinhart & Reuland (1993) have discussed these before extensively.

a)   Mary [$_{VP}$ spoke [$_{PP}$ to John$_i$]] about himself$_i$.

In (a), *John* does not c-command *himself* either. Even so, the contexts in which quantifier binding is possible without c-command do seem to be much easier to come by than contexts in which reflexives occur without c-command even at some earlier stage in the derivation. Marcel den Dikken adds that sentences such as (a) can be pseudo-passivized: *John was spoken to about himself*. This may indicate that *John* may be object shifted at LF in which case it would plausibly c-command *himself*.

analysis cannot depend simply on c-command alone (as it is traditionally defined).

However, reflexives (outside of specificational copular clauses and modulo wh-movement) always require a c-commanding antecedent on the surface. Thus, the possessor of a DP cannot be an antecedent of a reflexive outside that DP as shown in (11).

11) a.   *[John$_i$'s sister] likes himself.
    b.   *[Everyone's sister] likes himself.

(11b) in comparison with *everyone$_i$'s sister likes him$_i$* shows that the use of the reflexive *himself* is subject to a stricter condition than the use of a bound pronoun. It is this rigidity of reflexive licensing in non-copular clauses that makes binding theory connectivity in specificational copular clauses seen in (2) that much more surprising.

In this chapter, I investigate connectivity in the Tamil specificational copular clauses with a special focus on reflexive connectivity. What I claim is that given the proposed derivations of the IC and the AC, reflexive connectivity is licensed by syntactic reconstruction. Reflexive connectivity in Tamil is licensed as the copular clause pivot only if a copy of the reflexive is c-commanded by its antecedent at some point in the derivation. As a result, only the IC but not the AC exhibits reflexive connectivity. Data from reduplicated reflexive forms in Tamil is also shown to support the fact that reflexives in Tamil have a strict c-command condition. In contrast, by evaluating previous proposals for connectivity in English specificational copular clauses, I argue that the semantic equation analysis is the one that can capture the relevant facts in English. Thus, the (perhaps surprising) conclusion that I arrive at is that English reflexives do

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[8] While Barker (2012) proposes a semantic mechanism of scope, see Safir (2004) for a syntactic analysis. What is crucial for my purposes is that bound variable phenomenon does not appear to rest on the availability of c-command between the apparent *binder* and *bindee*.

have a meaning in which they are identity functions which can be licensed without

any type of c-command by an antecedent following Jacobson (1994). In contrast, the fact

that the AC does not exhibit reflexive connectivity means that semantic equation is not

sufficient to license a reflexive as the copular clause pivot in Tamil. In other words,

Tamil reflexives never have the identity function meaning. I adopt Safir (2014)'s claim

that local and long-distance anaphora are just different spell-out forms of the same type

of variable and argue that Tamil reflexives are unambiguously variables of this type.

Some independent support for this difference between English and Tamil reflexives is

shown using the availability of N-V compounding in both languages.

The outline of this chapter is as follows. In section 2, I describe two different

types of connectivity in Tamil that we have not seen before. These are bound variable

connectivity and reflexive connectivity. We will see that while the IC exhibits both, the

AC only exhibits bound variable connectivity. In section 3, I look at the two main

proposals that have been offered to explain connectivity in English, the question-under-

disguise analysis and the semantic equation analysis. By paying closer attention to

reflexive connectivity, I conclude that the question-under-disguise analysis cannot be

correct. However, this means that we have to accept that English reflexives do have a

meaning in which they are identity functions. I then apply the QDT and semantic

equation analyses to the Tamil IC and show that neither can account for why the IC but

not the AC shows reflexive connectivity. In contrast, the derivations proposed for the IC

and AC are shown to be able to do this. In the final section of this chapter, I investigate

two additional questions: 1) Why is semantic equation sufficient to license a reflexive in

English but not in Tamil, and 2) Why is semantic equation sufficient to license bound

variable connectivity but not reflexive connectivity in Tamil. I provide an answer to both

questions by claiming that the Tamil reflexive is a D-bound variable which requires an A-binder (Safir 2014) but it is never an identity function like the English reflexive.

6.2 Connectivity in Tamil Copular Clauses

In this section, I describe the main connectivity properties of the IC and the AC. We have already seen case connectivity and *-aa* connectivity effects in the previous chapter and I do not reproduce them here. The main objective of this section is to show that in Tamil, reflexives are always subject to syntactic licensing conditions even in copular clauses.

6.2.1 Bound Variable (BV) Connectivity

Both the IC and the AC show BV connectivity.

12) a.   ellarum$_i$ avenode$_i$ tambi-ye   adic-aange
    everone   3rd.sg.m.POSS   brother-acc   beat-3pl
    'Everyone beat his brother.'

    b.   [ellarum$_i$ adic-adu]   avenode$_i$ tambi-ye   **IC**
    everone   beat-ADU   3rd.sg.m.POSS   brother-acc
    'The one that everyone beat is his brother.'

    c.   [ellarum$_i$ adic-avan]   avenode$_i$ tambi   **AC**
    everone   beat-AVAN   3rd.sg.m.POSS   brother
    'The one that everyone beat is his brother.'

(12a) shows a simple transitive with NOM-ACC case; (12b) and (12c) show that the IC and AC derived from such a sentence show BV connectivity.

The possibility of BV connectivity in the IC is perhaps expected if one assumes that variable binding is licensed through c-command at some point in the derivation. Thus BV connectivity may be thought to arise through reconstruction just like in the following sentence.

13) a.   Which reviews of his$_i$ movies does every actor$_i$ like?

b. Which reviews of his$_i$ movies does every actor$_i$ like < which … his$_i$ movies>?

In (13), the bound variable reading is possible even though there is no surface c-command between the quantifier and the pronoun. However, under a copy theory of movement, this problem can be solved in terms of the fact that wh-movement is commonly assumed to leave a copy in its base-generated position, as shown in (13b). Given our analysis of the IC where the pivot is base-generated in a lower position, there will also be a copy of the pivot in a position that is c-commanded by the quantifier. This is shown in (14).

14) [ellarum$_i$ <avenode$_i$ tambi-ye> adic-adu] avenode$_i$ tambi-ye
     everone   beat-ADU 3rd.sg.m.POSS brother-acc
     'The one that everyone beat is his brother.'

However, the availability of BV connectivity in the AC (12c) remains unexplained under the assumption that c-command is a necessary and sufficient condition for this type of binding. As can be seen in the derivation of an AC in (7b), there is no copy of the pivot in the subject phrase of the copular clause.[9] As such, we can conclude that the possibility of BV connectivity in the AC constitutes further evidence that syntactic c-command is not necessary for variable binding, including the type exhibited in (12).

6.2.2 Reflexive Connectivity

So far we have seen three different types of connectivity effects. The IC exhibits all three types of connectivity (case, -*aa*, and BV) whereas the AC only exhibits BV connectivity.[10] Next, we see that only the IC exhibits reflexive connectivity. I consider

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[9] I assume that the null operator and its copies do not count as copies of the pivot.

[10] ACs, in fact, also exhibit NPI connectivity.

a) Balan entha payyen-eyum paak-{ile/ *aan}

three different contexts, 1) simple reflexives occupying the entire pivot, 2) simple

reflexives embedded in a larger phrase as the pivot, and 3) reduplicated reflexives.

6.2.2.1   Simple Reflexives as the entire pivot

We will start with the morphologically simple form of the reflexive.

15) a.　　Balan$_i$　tan-ne$_i$　　　adicikit-aan
　　　　Balan　self-acc　　　beat.koL-PST.3sm
　　　　'Balan beat himself.'

　　　b.　　[Balan$_i$　　　adicikit-adu]　　　tan-ne$_i$　　　**IC**
　　　　　　Balan　　　　beat.koL-ADU　　　self-acc
　　　　　　What Balan beat was himself.'

　　　c.　　*[Balan$_i$　　　adicikit-avan]　　　taan$_i$　　　**AC**
　　　　　　Balan　　　　beat.koL-ADU　　　self
　　　　　　'What Balan beat was himself.'

(15a) shows a simple clause with the simple reflexive *taan*. (15b) and (15c) show an IC

and AC where the reflexive is the entirety of what occurs as the pivot. These show that

whereas the IC shows reflexive connectivity, the AC does not.

Note that for *taan* to have a local antecedent with a verb like *adi* 'beat' as in (15),

there is an additional requirement that the verb bears the suffix *koL*.[11] When the verb does

---

　　　　Balan　any　　boy-acc　　　　see-NEG/ -PST.3sm
　　　　'Balan did not see any boy.'
　　b.　[Balan　paa-{kaad/ *t}-adu]　　entha　payyen-eyum　　IC
　　　　Balan　see-NEG/PST-ADU　　any　　boy-acc
　　　　'The thing that Baln did not see is any boy.'
　　c.　[Balan　paa-{kaad/ *t}-avan]　　entha　payyenum　　　AC
　　　　Balan　see-NEG/PST-AVAN　　any　　boy
　　　　'The thing that Baln did not see is any boy.'

(a) shows that an object NPI is only licensed if the verb contains a negation marker. This could be actual
NPI licensing or a type of negative concord (eg. Zeiljstra 2004). What is important for us is the fact that an
AC and an IC both show NPI connectivity. In this dissertation, I have little to say about NPI connectivity
but see Sharvit (1999) and den Dikken et al (2000) for details regarding this.

[11] See Lidz (2001) and Sundaresan (2012) for possible analyses of this suffix.

not have a *koL* suffix, only a long-distance antecedent is possible for the reflexive.

This can be seen in (16a). Once again however, long distance antecedents are again only

allowed with the IC.

16) a.   [Balan$_i$ tan-ne$_{*i/j}$ adic-aan   ni]   Somu$_j$ conn-aan
         Balan self-acc   beat.-PST.3sm   comp Somu say-PST.3sm
         'Somu said that Balan beat himself (Somu).'

     b.   [[Balan$_i$ __ adic-aan   ni]   Somu$_j$ conn-**adu**]   tan-ne$_{*i/j}$ **IC**
         Balan   beat.-PST.3sm comp Somu say-ADU   self-acc
         'The one that Somu said that Balan beat was himself (= Somu).'

     c.   *[[Balan$_i$ __ adic-aan   ni]   Somu$_j$ conn-**avan**]   taan   **AC**
         Balan   beat.-PST.3sm comp Somu say-AVAN   self
         'The one that Somu said that Balan beat was himself (= Somu).'

Thus, the IC in (16b) also shows this form of reflexive connectivity whereas the AC in

(16c) does not.

     The facts seen so far indicate that while the IC shows reflexive connectivity, the

AC does not. This appears to indicate that reflexive licensing in Tamil does have a strict

c-command condition. This is because reflexive connectivity in Tamil copular clauses is

attested only when a copy of the reflexive occurs in a position that is c-commanded by

the antecedent. One may imagine that there is another reason for why (16c) is

ungrammatical. Perhaps, there is an independent reason that bans *taan* as the pivot of an

AC. However, any such reason can be ruled out. This is because there are contexts when

taan as an AC pivot is possible as seen below.

17)   [[Balan   adici-**avan**]   taan$_i$ ni]   Somu$_i$ conn-aan
             Balan   beat-AVAN self   comp Somu   said-3sm
             'Somu$_i$ said that the one thing (3sm) Balan beat was self$_i$.'

In (17), we have an AC that is embedded under a *say* verb. In this construction, the AC

pivot is a reflexive and the matrix subject *Somu* c-commands the reflexive. This sentence

thus shows that the problem with the ACs in (15c) and (16c) is not that *taan* cannot be the

pivot of an AC, but rather that there is no suitable c-commanding antecedent for the reflexive in those constructions. Once we provide a suitable antecedent in the form of a matrix subject as in (17), the AC with a reflexive pivot is possible.

6.2.2.2 Simple Reflexives embedded in the pivot

So far we have seen that the IC exhibits reflexive connectivity whereas the AC does not. However, we have only seen constructions where the reflexive is the entire pivot. The usual types of sentences that are used to illustrate reflexive connectivity in specificational copular clauses are ones where the reflexive is embedded within a larger phrase. We turn to these now and see that the same generalization holds. While the IC exhibits reflexive connectivity, the AC does not.

18) a.   Balan$_i$ tann-iki$_i$ mukiya-maa   iru-ndaan
        Balan   self-dat   important-AA   be-PST.3sm
        'Balan was important to himself.'

    b.   [Balan$_i$ irund-adu]   tann-iki$_i$ mukiya-maa   IC
        Balan   be-ADU   self-dat   important-AA
        'What Balan was was important to himself.'

    c.   *[Balan$_i$ irund-adu]   tann-iki$_i$ mukiyam   AC
        Balan   be-ADU   self-dat   important
        'What Balan was was important to himself.'

(18a) shows a simple clause which has a reflexive embedded within an adjectival phrase. (18b) and (18c) show the IC and the AC derived from such a structure. A note is in order here because our usual indicator of what is an IC and what is an AC breaks down in such sentences. This is because the pivot here has neuter gender and as such the verbal morphology is also neuter even in the AC. However, we have another way of telling that (18b) is an IC. This is from -*aa* connectivity. Recall from chapter 5 that the derivation of (18b) involves extraction of the PredP whereas the derivation of (18c) is that of a

predicational copular clause. The following derivations are proposed for (18b) and (18c) (but without the reflexive).

19) a.

```
          TP
       /      \
      FP        T'
   /   |   \   /  \
 Balan <PredP1> be-ADU  VP   T
                      /    \
                   FocP     V
                 /      \
             PredP1      Foc'
            /     \      /   \
  important-AA  PredP2  Foc
                /    \
             Pred2'
            /     \
        <FP>    Pred2
```

b.

```
          TP
       /      \
      DP        T'
   /  |   \    /  \
 Balan be-ADU  VP   T
              /    \
          PredP     V
         /     \
      <DP>    Pred'
             /    \
           FP     Pred
          /  \
       important
```
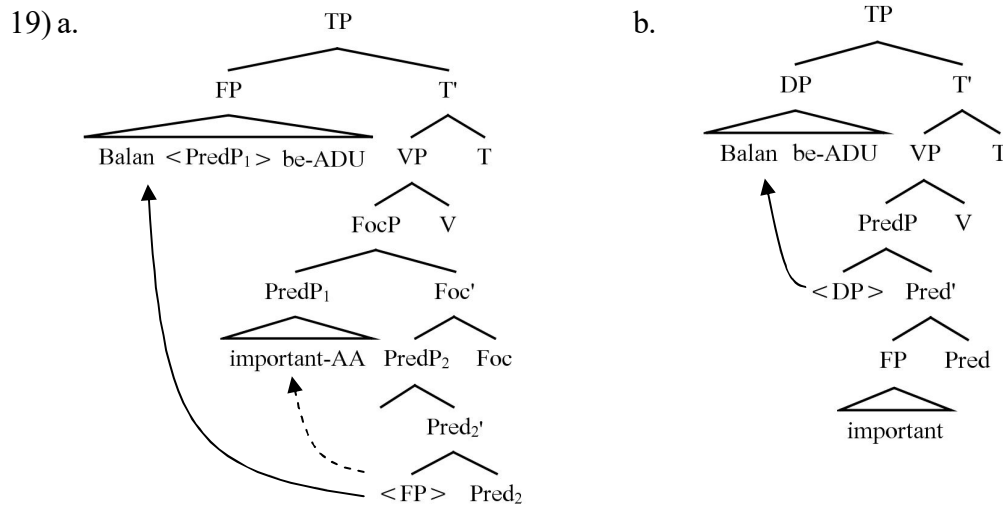
(19a) shows the PredP extraction analysis and (19b) shows the derivation of (18c). Given this, the lack of reflexive connectivity in (18c) is also expected. However, observe that when we embed (18c) under a *say* verb, the sentence is grammatical.

20)   [[Balan$_i$ irund-adu] tann-iki$_{*i/j}$ mukiyam ni]   Somu$_j$ conn-aan
        Balan   be-ADU   self-dat important comp Somu said-PST.3sm
        'Somu said that the thing that Balan was was important to self (Somu).'

(20) shows that when the copular clause is embedded, it is grammatical. The comparison between (18c) and (20) indicates that the reflexive embedded in the pivot has a possible antecedent, the matrix subject *Somu*, in the latter but not the former.[12] Thus, we conclude

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[12] Another case exemplifying the case of an embedded reflexive is with possessive reflexives.

a) Balan$_i$ [tan$_i$ akkaa-ve] paatt-aan
   Balan   self sister-acc saw-3sm
   'Balan saw self's (Balan's) sister.'
b) [Balan$_i$ paatt-adu] [tan$_i$ akkaa-ve]
   Balan   saw-ADU   self sister-acc
   'The one that Balan saw was self's (Balan's) sister.'
c) *[Balan$_i$ paatt-aval] [tan$_i$ akkaa]
    Balan   saw-AVAL self sister
    'The one (fem) that Balan saw was self's (Balan's) sister.'

that even when the reflexive is embedded within the pivot, the IC exhibits reflexive connectivity but the AC does not.

6.2.2.3 Complex Reflexives

Apart from the simple form, Tamil also allows a complex form of the reflexive which has reduplicated morphology.

21) a. Balan$_i$ tanne   taane$_i$ adicikit-aan
        Balan   self-acc   self   beat.koL-PST.3sm
        'Balan beat himself.'

    b. Balan-ikki$_i$ tanne   taane$_i$ pidi-kum[13]
        Balan-dat   self-acc   self   like-3sg.neut
        'Balan likes himself.'

(21) shows the reduplicated anaphor. Case marking occurs on the first occurrence of the reflexive form and the second occurrence has the emphatic marker -*e*. In addition to the direct object position, this reduplicated form also occurs as the indirect object.

22)   Balan$_i$ tan-ikki   taane$_i$ pari-se   vanngikit-aan
        Balan self-dat   self   prize-acc   buy.koL-PST.3sm
        'Balan bought himself the prize.'

Apart from these two contexts, the reduplicated form does not occur in any other position. Thus we do not find this version occurring as the subject or possessive.

23) a. *[taan taane Balan-e   adi-paan   ni]   Somu conn-aan
        self self   Balan-acc   beat-FUT.3sm comp   Somu said-PST.3sm
        'Somu said that self will beat Balan.'

    b. *Balan   [tann-ode   taane buk-ke]   padi-caan
        Balan   self-gen   self   book-acc   read-PST.3sm
        'Balan read self's book.'

(a) shows a simple clause with a reflexive possessor. (b) shows that while the IC formed from such a sentence is grammatical, the corresponding AC shown in (c) is not.

[13] Note that psych verbs that have a dative subject like those in (21b) allow a local antecedent even without a *koL* suffix. In fact, this suffix is not allowed on such verbs at all.

(23a) is ungrammatical even if a possible antecedent in the form of a matrix subject is present. (23b) shows that a possessive reflexive cannot be a reduplicated form. This contrasts with the simple form of the reflexive which can occur in these contexts.

24)   [taan_i Balan-e   adi-paan   ni]   Somu_i conn-aan
         self   Balan-acc   beat-FUT.3sm   comp   Somu   said-PST.3sm
         'Somu said that self will beat Balan.'

   b.   Balan_i   tann-ode_i   buk-ke   padi-caan
         Balan   self-gen   book-acc   read-PST.3sm
         'Balan read self's book.'

The comparison between (23) and (24) shows that the reduplicated form is much more restricted in its distribution than the simple form. In addition to this restriction, the reduplicated form also only allows a local antecedent unlike the simple form.

25) a.   [Balan-ikki_i   tan-ne_{i/j}   pidi-kum   ni]   Somu_j conn-aan
         Balan-dat   self-acc   like-3sneut   comp   Somu   said-PST.3sm
         'Somu said that Balan likes himself.'

   b.   [Balan-ikki_i   tan-ne taane_{i/*j} pidi-kum   ni]   Somu_j conn-aan
         Balan-dat   self-acc self   like-3sneut comp   Somu   said-PST.3sm
         'Somu said that Balan likes himself.'

(25a) shows the simple reflexive form. In this particular construction, either the matrix or the embedded subjects is a possible antecedent for the reflexive. However, in (25b) with a reduplicated reflexive, only the embedded subject is a possible antecedent. The reduplicated reflexive form thus not only has a restricted distribution, it also requires a local antecedent in any context.

Given this background, we can now see that the reduplicated form can occur as the pivot of an IC but not an AC.

26) a.   [Balan_i   adicikit-adu]   tan-ne   taane_i   IC
         Balan   beat.koL-ADU   self-acc self
         'The one Balan beat was himself.'

b.   *[Balan   adicikit-avan]   taan   taane$_i$ AC
        Balan   beat.koL-ADU   self   self
        'The one thing Balan beat was himself.'

(26) shows the reduplicated from as the pivot of copular clauses where the verb has NOM-ACC arguments. The IC is grammatical whereas the AC is not. In these cases, it is not possible to make the AC grammatical by embedding it. Recall that we could do so when the AC pivot is a simple reflexive (see (17)).

27)   *[[Balan   adici-**avan**]   taan   taane$_i$ ni]   Somu$_i$ conn-aan
            Balan   beat-AVAN   self   self   comp   Somu   said-3sm
            'Somu$_i$ said that the one thing (3sm) Balan beat was self$_i$.'

(27) shows an AC with a reduplicated reflexive as the pivot embedded under a verb of saying. Here, even though there is a possible c-commanding antecedent, the sentence is still ungrammatical.[14] This shows further evidence that the reduplicated form has a much more restricted licensing condition than the simple reflexive.

In summary, we have seen the following with respect to reflexive connectivity. In non-copular contexts, the simple reflexive is only licensed when there is a c-commanding antecedent. The complex reflexive is only licensed in argument positions when there is local c-commanding antecedent. Given the general picture of reflexive licensing in Tamil, the reflexive connectivity facts in the IC and AC are expected. Whether it is a simple or a reduplicated reflexive, only the IC shows reflexive connectivity. This holds true whether the simple reflexive is the entire pivot or whether the simple reflexive is embedded within a bigger phrase in the pivot. This difference between the IC and AC falls out from the analysis that we have outlined for them independently. In the IC, there

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[14] Later in the chapter, such data is taken as evidence that the complex reflexive form must not only have a c-commanding antecedent but that this complex form must find its antecedent within the same phase (Kratzer 2009, Safir 2014).

is a copy of the pivot within the subject phrase of the specificational copular clause but there is no such copy in the AC. Thus, reflexives, which in Tamil never deviate from the c-command condition in order to be licensed, can occur as the IC but not the AC pivot.

6.2.3 Summary of Connectivity effects

The following illustrates the connectivity effects that we have seen thus far.

	-aa	Case	Reflexive	BV
IC	Yes	Yes	Yes	Yes
AC	No	No	No	Yes

The IC shows all four of the connectivity types that we have seen whereas the AC only shows BV connectivity (and NPI connectivity, see footnote 10). As mentioned above, we take this to indicate that BV connectivity is subject to semantic licensing conditions which are present both in an AC and IC. The fact that the AC does not show -aa and case connectivity is not surprising given the derivation of the AC. The surprising aspect of these connectivity effects is the lack of reflexive connectivity in the AC when we compare it to English specificational copular clauses. As we saw above English specificational copular clauses show BV, NPI and reflexive connectivity. However, there is nothing about the English derivations which suggests that there could be a derivation by means of extraction and remnant movement like that seen in Tamil's IC.[15]

28) a. What John$_i$ is ___ is a nuisance to himself$_{i/*j}$
    b. The one thing that John$_i$ is ___ is a nuisance to himself$_{i/*j}$

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[15] Ken Safir asks if there is a principled reason why English does not have a derivation like that of the IC. One suggestion he makes is that the lack of an IC-type construction in English may have to do with the fact that English lacks the low FocP that is required to serve as a landing site for the extracted phrase. If this is correct, I will need an alternative explanation for how PredP is labeled in an English specificational copular clause (see Chapter 4). I have to leave a detailed answer for the question of why English does not have an IC-type construction to future research.

(28) shows the reflexive connectivity in English specificational copular clauses with a pseudocleft and with an externally headed relative clause. While we could propose an analysis parallel for these constructions like the IC in principle, there is very little evidence for such a derivation in English. As such we will not further consider this possibility for English. This then gives rise to the two questions below that I explore in depth:

a)   What licenses reflexive connectivity in English specificational copular clauses?

b)   Why isn't this possible in the Tamil AC, given that the AC does not show reflexive connectivity?

In order answer the first question, I first review the two main proposals that have been put forward for specificational copular clause connectivity. This is what I turn to next.

6.3   Explaining Reflexive Connectivity in English

There are two main theories explaining connectivity in English copular clauses,[16] the question-under-disguise analysis (QDT) and the semantic equation analysis. I start by describing and evaluating each theory.

6.3.1   Question-Under-Disguise

Arguably, the most prominent theory of connectivity by which the crucial syntactic configuration, i.e. c-command, is retained in the analysis is the question-under-disguise theory (QDT) (Ross 1972, Den Dikken, Wilder & Meinunger 2000, Schlenker 2003 etc). In the QDT, the precopular phrase is analyzed as a question and the post-

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[16] These are the prevailing theories of copular clause connectivity in the modern era. There are some alternatives that propose (post)-LF movement of the pivot into the gap in the precopular phrase such as Boskovic (1997) and Heycock & Kroch (1999). I do not include detailed discussion of these approaches here as I believe that there is much less independent evidence for these approaches.

copular phrase is the answer.[17] In the QDT, ellipsis in the post-copular phrase results in the surface form of specificational copular clauses.

29) a.   What I did then was I called the grocer.   (Ross 1972: (39a))
    b.   What I did then was call the grocer.   (Ross 1972: (39b))

The QDT takes as its starting point pairs such as those in (29) where the post-copular phrase can be either a full clause or a part of a clause. Although den Dikken et al do not propose that all specificational copular clauses are question-answer pairs, if we were to generalize this idea to all specificational copular clauses, QDT approaches would provide a simple solution for connectivity.

30) a.   [What John$_i$ is] is ~~John$_i$ is~~ important to himself$_i$.   Refl.
    b.   [What John didn't read] is ~~John didn't read~~ any linguistic articles.   NPI[18]
    c.   [What [every boy]$_i$ likes] is ~~every boy$_i$ likes~~ his$_i$ toy.   BV

(30) shows the connectivity effects that we have looked at and under the QDT, the post-copular phrase itself is a full sentence which undergoes (in these cases, obligatory) ellipsis as indicated by the strikethroughs. Since the requisite configuration does exist before ellipsis, all of the connectivity effects are thus explained.

There are, however, a number of problems with this analysis. I now go through the more prominent ones and evaluate how each problem has been addressed and to what

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[17] This analysis can also be extended to specificational copular clauses where the subject phrase of the copular cause contains an externally headed relative clause. Schlenker proposes that this becomes possible if the subject phrase is analyzed as a concealed question.

[18] It should be noted that den Dikken et al. do not consider NPI connectivity to be licensed the same way as reflexive or bound variable connectivity given, that NPI connectivity does not persist in reversed specificational copular clauses such as the following.

a)   Important to himself$_i$ is what John$_i$ is.
b)   His toy$_i$ is what every boy$_i$ likes.
c)   *Any linguistics article is what John didn't read.

These facts suggest that, as den Dikken et al argue, NPI licensing in copular clauses has a syntactic component that is not required for BV and reflexive connectivity.

extent the counter-arguments are successful. I conclude that this analysis cannot capture all the relevant facts about connectivity.

6.3.1.1   Cumulative Readings

One argument that Sharvit (1999) makes against the QDT is the possibility of cumulative readings. Sharvit (1999: 325) provides the following sentences.

31) a.   The sum total of what John read __ and what Mary was planning to read __ was Huck Finn, Tom Sawyer, A Connecticut Yankee, and The Prince and the Pauper.

b.   What John is looking for __ and what Mary needs __ is, in total, a friend to complain to, a decent idea for a dissertation, and a good dissertation advisor.

In (31a), there is a cumulative interpretation of the sentence in which the books that John read and the books that Mary was planning to read are not the same. For example, it could have been that John read *Huck Finn* and *Tom Sawyer* while Mary planned to read the other two books. Likewise in (31b), the thing that John is looking for could be a friend whereas Mary needs a dissertation idea and advisor. Sharvit (1999) claims that these type of cumulative readings cannot be generated by means of question ellipsis. However, given that VP pivots of specificational copular clauses optionally allow full clauses, we can see that an ellipsis approach may be able to capture the required meaning.

32) a.   In total, what John did yesterday and what Mary did today was take out the trash and cook for the party.
b.   In total, what John did yesterday and what Mary did today was John took out the trash and Mary cooked for the party.

(32a) shows a specificational copular clause with a VP pivot which has a possible cumulative reading in which John took out the trash while Mary cooked for the party. (32b) shows the un-elided counterpart of (32a) where the pivot of the specificational copular clause contains two different clauses one indicating what John did and the other

indicating what Mary did. Since the unelided clause in (32b) allows a cumulative reading, the presence of a cumulative reading in (32a) can be accounted for under the QDT analysis. The possibility of cumulative readings may thus not be insurmountable for the QDT. Of course this crucially depends on the claim that the pivot of a specificational copular clause can be a full clause which undergoes elision.[19] However, while it is possible to have a full clause alternate of the pivot when it is a VP, this type of alternation is not always possible.

33) a.   What John saw was Mary hiding in the bushes.
    b.   ??What John saw was John saw Mary hiding in the bushes.

34) a.   What John saw and what Paul saw was Mary hiding in the bushes and Tom up in the tree respectively.
    b.   *What John saw and what Paul saw was John saw Mary hiding in the bushes and Paul saw Tom up in the tree respectively.

(33) shows that a full clause variant of the pivot is degraded when the pivot denotes an individual. (34) shows that while cumulative readings are in general possible with such specificational copular clauses, the full clause variant is still not possible. For the QDT to be able to explain the possibility of cumulative readings, there has to be an account for why ellipsis in the pivot is obligatory in most cases. However, an explanation for this has remained elusive.

6.3.1.2   DP subjects of specificational copular clauses

While it is possible to construe a free-relative as a question, such an analysis is much less obvious when the subject of the specificational copular clause is a DP with an externally headed relative clause, although these also show the same types of connectivity as the pseudocleft variants.

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[19] Or as Mark Baker points out, "scattered" deletion (Cavar & Fanselow 2000).

35) a.   The one thing that no student$_i$ enjoys __ is **his$_i$ finals**.

b.   The one thing that John$_i$ is __ is **a nuisance to himself$_i$**

c.   The one thing that John {didn't buy/ *bought} was **any books**.

These types of specificational copular clauses also show BV, reflexive and NPI connectivity. If these connectivity effects are to have the same analysis as the specificational pseudocleft, we need to show that the precopular phrase is semantically a question. But this is not easily achieved. [20]

It has been known since Grimshaw (1977) and Heim (1979) that DPs can have concealed question interpretations and this is what Schlenker (1998, 2003) proposes for the DPs in (36).

36) a.   John found out the time. (= John found out what time it was)
b.   John revealed the winner. (= John revealed who the winner was)

Since DPs can have concealed question interpretations, Schlenker proposes that the subject of a specificational copular clause is another context in which such readings are possible. This is similar to Romero (2005), who argues that specificational copular clause subjects are concealed questions. In chapter 2, I argued that this analysis has a serious under-generation problem, which led to its ultimate rejection. These arguments are summarized here.

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[20] den Dikken et al point out an echoic reading in which an externally headed relative clause can be construed as a question.

a)   A: What is the one thing that John did not buy?

       B: The one thing that John didn't buy? Any books, I guess.

Under this construal, the externally headed relative clause does have a question interpretation. However, the under-generation problems for such an analysis discussed in examples (37), (38) and (39) remain.

First this analysis does not capture the fact that indefinite subjects of specificational copular clauses must have relative clause modification.

37) a.   They guessed <u>a winner (that Susan knows)</u>.
    b.   <u>A winner *(that Susan knows)</u> is John.

(37a) is not judged to have a concealed question regardless of whether the indefinite is modified or not. This is the case even if the verb is *know* or *announce.* However, an indefinite with relative clause modification can be a specificational copular clause subjects as shown in (37b). If specificational copular clause subjects are semantically concealed questions, then the need for modification in (37b) is not accounted for. Apart from indefinites, the concealed question analysis also does not account for all possible definite subjects of specificational copular clauses.

38) a   *They knew/ guessed/ announced <u>the {doctor/ assistant/ teacher}</u>.
    b.   <u>The {doctor/ assistant/ teacher}</u> is John.

(38a) shows that definites indicating occupations do not give rise to a concealed question interpretation. Nonetheless, these phrases can occur as specificational copular clause subjects as seen in (38b). The same applies to possessives as seen in (39).

39) a.   *They knew/ guessed/ announced <u>your {friend/ brother}</u>
    b.   <u>Your {friend/ brother}</u> is John.

(39a) shows that a possessive like *your friend* does not allow a concealed question reading. Yet, these are perfectly fine as specificational copular clause subjects as seen in (39b). Schlenker (2003) suggests that certain structural positions always allow a concealed question interpretation and the subject of a specificational copular clause is one such position, even if this meaning is not detectable in other contexts in which a

concealed question reading is usually available. Even if this was true, this would only potentially account for (38) and (39) but the contrast in (37b) remains unaddressed.[21]

6.3.1.3   Anti-Connectivity Effects

A serious criticism of QDT approaches is the presence of anti-connectivity effects (Sharvit 1999, Cecchetto 2000 etc) in which there is no base-clause counterpart of the specificational copular clause.

40) a.　　The one person John$_i$ said Mary likes is himself$_i$.
　　b.　　*John said Mary likes himself.
　　c.　　The one person John$_i$ said Mary likes is ~~John said Mary likes~~ himself$_i$

(40a) is a specificational copular clause exhibiting reflexive connectivity, but the putative base clause counterpart is not grammatical, as seen in (40b). (40c) shows that the ungrammatical sentence would have to be posited as the pivot of the specificational copular clause if the QDT is correct. However, Schlenker (2003) notes that A'-movement configurations can often lead to binding of a reflexive by an antecedent which is non-local as seen in (43a) (as argued by Barss 1986).

41) a.　　[Which stories about himself$_i$]$_j$ did John$_i$ think Mary told t$_j$?
　　b.　　Who John$_i$ said Mary likes is [himself [$_{IP}$ ~~John said Mary likes himself~~]].

In (41b), if *himself* is A'-moved to the periphery of the clause and the IP is deleted at PF, then it may not be surprising for the QDT analysis that there is a non-local antecedent for the reflexive in (41a). Therefore, such data may actually provide support for the QDT analysis, as Schlenker (2003) notes, although as we will see shortly that this is not quite

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[21] See Chapter 3 for an analysis of this contrast wherein I claim that modification of an indefinite makes it not-at-issue with respect to existence, and this allows it to function as the topic of the specificational copular clause.

the whole story. Suggestive evidence that indicates that A'-movement may be involved in how ellipsis is licensed comes from the following contrast.

42) a.   What John$_i$ said Mary likes is that picture of himself$_i$.
    b.   *What John$_i$ said Mary is is proud of himself$_i$.

In (42a), the reflexive in the picture-NP that serves as the pivot can have *John* as the antecedent but when the reflexive is in an adjectival predicate, the matrix subject *John* cannot be the antecedent. This matches closely with what happens in overt wh-movement.

43) a.   Which pictures of himself$_i$ did John$_i$ say Mary like?
    b.   *How proud of himself$_i$ did John$_i$ saw Mary was.

This well-known contrast has been discussed in Barss (1986), Huang (1993) and Heycock (1995) among others. While the reflexive within the wh-moved picture NP can be construed with the matrix antecedent, the reflexive in the moved adjectival phrase cannot. If wh-movement is the first step in how ellipsis occurs in the pivot, then such facts actually provide evidence for the QDT approach.

However, things are not as straightforward as Schlenker suggests. It is true that the wh-movement facts in (43) mirror the reflexive connectivity in the specificational copular clauses in (42). Where a reflexive can have a matrix subject as an antecedent with wh-movement, a reflexive can also have a matrix subject as an antecedent in a specificational copular clause. However, this parallelism breaks down when the pivot contains just the reflexive. It is not possible to wh-move a reflexive by itself in English, but we can see the relevant facts in topicalization.

44) a.   *Himself$_i$, John$_i$ said Mary likes[22].

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[22] There may be variation to this judgment. Ken Safir (p.c) points out that examples such as (44a) improve if the tenses match. Thus, the following is grammatical at least for some speakers.

> b.   Himself$_i$, Mary said John$_i$ likes.

(44a) shows a topicalization structure where the only possible antecedent is the matrix subject while (44b) shows topicalization where the only possible subject is the embedded subject. If A'-movement cannot license a higher subject as the antecedent of a moved reflexive in (46a), how does this become possible in (41b)? It is also not possible to argue that the type of A'-movement that *himself* undergoes in (41b) is different from the type of movement that topicalization entails.

45) a.   Pictures of himself$_i$, John$_i$ said Mary likes. Pictures of Sally, not so much.
    b.   *Proud of himself$_i$, John$_i$ said Mary is.

The topicalization structures where a reflexive is embedded in the topicalized phrase pattern exactly as their wh-movement counterparts in (45). All thing being equal, we have to conclude that A'-movement of an unembedded reflexive does not lead to a higher, non-local subject being an antecedent. The reflexive connectivity in (40a) is thus a problem for the QDT approach, as Sharvit (1999) originally notes.[23]

We have thus seen that in specificational copular clauses, an unembedded reflexive when occurring as the pivot can be construed with an antecedent that it normally cannot be construed with. We also saw that this cannot be reduced entirely to

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a) Himself, John says Mary likes.

Even then, the specificational copular clause variants of these do not appear to require tense matching. Thus, (40a) is fully acceptable even if there is no tense matching.

[23] Also consider sentences like the following (Sharvit 1999: 323).

a) The person that [every professor]$_i$ thinks ___ should get a raise is himself$_i$.

b) *Every professor thinks himself should get a raise.

(a) shows that a reflexive is construed in a position in which it is otherwise never found in the simple clause (b). In order for reconstruction to be possible here, *himself* has to A'-move to a periphery position where it can be bound by *every professor*. However, this type of licensing, as mentioned above, is not justified independently.

reconstruction effects where A'-movement can lead to new binding possibilities for reflexives embedded in picture-NPs.

Summing up, we see that the QDT analysis of English specificational copular clauses has problems. The explanation of cumulative readings, analyzing the DP subject as a concealed question, and some aspects of reflexive connectivity remain problematic. I now turn to Sharvit's semantic analysis of connectivity effects to see how it can account for the various connectivity effects in English.

6.3.2   Semantic Equation

The main proponents of the semantic equation approach are Jacobson (1994), Partee (2000), and Sharvit (1999, 2011) (among others). The central premise of their analyses is as follows: specificational copular clause connectivity is not licensed by an abstract configuration where c-command and/ or (anti-)locality is achieved. Instead, it is semantic equation that licenses connectivity. In this analysis, the explanation of BV connectivity in specificational copular clauses is as follows following Sharvit (1999).

46) a.   What every boy likes is his toy truck.

b.   Max ($\lambda g_{\langle e, e\rangle}$ [$\forall x(boy'(x)\rightarrow like'(x, g(x))]$) =
$$\lambda y[Max(\lambda z[toy.truck\text{-}of'(z, y)])]$$

c.   The unique function, g, that maps a boy to the thing he likes is the
function that maps individuals to their toy truck.

The main idea is to analyze both the precopular and post-copular phrases as type <e,e> functions that apply to individuals and return an individual. *What* in the precopular phrase is analyzed as the maximality operator (Link 1983, Landman 1989). Thus, the precopular phrase in (48a) denotes the unique function that maps boys to the individual that they like. The post-copular phrase is also a function of type <e, e> that maps boys to their toy.

The licensing of reflexive connectivity follows from a function equation analysis along the lines proposed for BV connectivity (Jacobson 1994). As is characteristic of this approach to connectivity, reflexive licensing is again proposed to arise not as a result of syntactic c-command but rather from equation. As we saw earlier, reflexive licensing, unlike variable binding, does seem to generally require a c-commanding antecedent. In Tamil, this was the case even if the antecedent is a long-distance one, as is possible with the simple reflexive *taan*. Thus, the claim that reflexive connectivity can be derived from semantic equation should be considered a controversial one. The main piece of evidence that is often offered to show that reflexive licensing is not determined by syntactic c-command is also not a convincing one. Jacobson (1994: 15) cites the following examples attributing it to Pollard & Sag (1982).

47)   John was upset. That picture of himself in the museum was mutilated.

However, it is well known that the so-called picture NPs behave differently from reflexives in other contexts (Reinhart & Reuland 1993). For a recent example, Safir (2014) excludes reflexives in such contexts from his formal account of reflexive licensing. However, our earlier discussion of reflexive connectivity in English indicates that even non-picture NP reflexives may occur in contexts in which there is no relevant syntactic configuration on the surface, i.e, specificational copular clauses.

Sharvit (1999) proposes, following Jacobson (1994), that the reflexive is an identity function which can be equated with another function much like the analysis of BV connectivity. Thus, a specificational copular clause like (48a) would have the analysis in (48b).

48) a.   What John shaved was himself.
     b.   Max $(\lambda g_{\langle e, e \rangle} [\text{ shave' } (j, g(j))]) = \lambda y[y]$

    c.   The unique function, g, that maps John to the person that John shaved
is   the identity function.

(48b) equates the function that maps *John* onto the individual that he shaved with the

identity function, thereby deriving the reflexive meaning. When the reflexive is

embedded in a predicate, the predicate is combined with the identity function.

49) a.   What John is is a nuisance to himself.
    b. $\text{Max} (\lambda P_{\langle e, t \rangle} [\text{John-is } (P)]) = \lambda y[\text{nuisance-to'}(y,y)]$
    c.   The unique property that John has is the *nuisance-to-self* property.

Here, the equation is between the unique property that John has and the function that

maps an individual to themselves just in case they are nuisances to themselves.[24]

Ultimately reflexive connectivity in this system is explained the same way as BV

connectivity. Although the semantic type of the phrases can be different, these

connectivity effects are all derived by positing equation.

The semantic equation analysis also fares better in explaining the following

contrast.

50) a.   The one that John$_i$ hopes his wife likes best is himself$_i$.
    b.   *The one thing that John$_i$ hopes his wife is is proud of himself$_i$.

Recall from above that the QDT approach could not explain this contrast. While the

impossibility of *John* as an antecedent in (50b) is possible to explain in the QDT,

explaining the possibility of the matrix subject *John* as an antecedent in (50a) was shown

to be difficult. The semantic equation analysis explains these facts with relative ease. In

the semantic equation analysis from Sharvit, (50a) has an analysis where two functions

are equated. The precopular phrase is a function which maps John to the person that he

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[24] The pivot in (49b) is semantically composed following Sharvit (1999: 313). The predicate *nuisance* is analyzed as a function from functions of type <e, e> to functions of type <e,t>. The reflexive which denotes the identity function (of type <e, e>) saturates the first argument resulting in a predicate of type <e, t>.

hopes his wife likes. The post-copular phrase is the identity function. Thus, reflexive connectivity is achieved here. In (50b), on the other hand, the precopular phrase is the unique property that John hopes his wife has. The post-copular phrase is the reflexive predicate that denotes the set that has individuals that are proud of themselves. The following shows the respective meanings in Sharvit's analysis.

51) a.   The unique function that maps John to the person that John hopes his wife like best is the identity function.
   b.   The unique property that John hopes his wife has is the *proud-of-self* property.

(51a) shows the meaning of (50a) and here the function that maps John to the person that John hopes his wife likes is equated with the identity function. Thus, *John* maps to *John* in the precopular phrase and the required reflexive reading is achieved.[25] In (51b), which is the meaning of (50b), the unique property that John hopes his wife has is equated with the *proud-of-self* predicate. This can only mean that John hopes that his wife is proud of herself, which is equivalent to the reading where the reflexive has the embedded subject as its antecedent. In fact, once we form the *proud-of* predicate, it is not possible to get the indicated long-distance reading in (50b) when there is an equation of properties. This is a positive result for the semantic equation analysis. Recall that the QDT is unable to explain this distinction satisfactorily, particularly how the reflexive in (50a) is able to have a matrix subject as its antecedent.

The somewhat surprising result, then, is that the reflexive connectivity facts in English specificational copular clauses have a better explanation in the semantic analysis

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[25] Note that it is also possible to form the following specificational copular clause, a variant of (53a) with a local antecedent.

a)   Who John hopes his wife$_i$ likes best is herself$_i$.

b)   The unique function that maps John's wife to the person that John hopes his wife like best is the identity function.

rather than the QDT. This is surprising because the usual take on reflexives in the syntactic literature is that, apart from reflexives embedded in picture-NPs, reflexives always have a strict syntactic licensing condition. What English specificational copular clauses such as (56a) show us is that a reflexive (even one that is not embedded in a picture NP) can be licensed in a position that does not always meet these strict licensing conditions. Crucially, in such contexts, the reflexive is interpreted as an identity function.

6.4 The QDT and Semantic Equation applied to the IC

In this section, we evaluate how these approaches that have been proposed for English fare against the sub-extraction and remnant movement analysis that I have proposed for the IC in this dissertation. First, recall the overall pattern of connectivity effects.

	-aa	Case	Reflexive	BV
IC	Yes	Yes	Yes	Yes
AC	No	No	No	Yes

This table is reproduced from above. Note that the IC and AC are both specificational copular clauses but only the IC shows the full set of connectivity effects. Based on the derivations proposed for the IC and AC, this was taken to mean that -*aa*, case, and reflexive connectivity have a syntactic licensing source, whereas BV connectivity can have a semantic licensing source. The conclusion drawn for reflexive connectivity in Tamil is thus at odds with the conclusion drawn for reflexive connectivity in English. What I take this to mean is that Tamil reflexives are different from English reflexives in that the latter can be licensed if the right semantic conditions are met. If reflexive connectivity in Tamil could also be licensed semantically, then we expect the AC to show

reflexive connectivity too, which is not the case. What is the difference between English and Tamil reflexives?

Before I address this question, consider first whether the QDT can explain the connectivity properties of the IC. If this is possible, then we could analyze the IC as a disguised question and attribute the connectivity in the AC to some other source. In order to accept this as the right analysis of the IC, we need to evaluate whether the QDT analysis is superior to the proposed solution of the IC, that there is a copy of the pivot in the subject phrase of the IC. Prima facie, it does not seem viable to analyze the subject phrase of an IC as a concealed question. Nonetheless, the QDT can explain the connectivity effects quite simply. In addition, the data that were given in Chapter 5 that motivated the extraction and remnant analysis for the IC may also be explainable under a QDT approach. I now outline how the QDT could conceivably be applied to the IC.

6.4.1   The QDT and the IC

Let's first see what an IC might look like under the QDT.

52) a.   [Mala-ve   paatt-adu]   Balan   IC
Mala-acc   saw-ADU   Balan
'The one that saw Mala is Balan.'

b.   [Mala-ve   paatt-adu]   Balan$_i$ [t$_i$ Mala-ve   paatt-adu]
Mala-acc   saw-ADU   Balan   Mala-acc saw-ADU
'The one that saw Mala is Balan.'

(52b) shows the representation of the IC in (52a) in a QDT-style analysis. Here, *Balan* is scrambled to the clause edge and the remnant TP is elided. In this analysis, any morphological properties of the extracted phrase remain on it. Thus, case and *-aa* connectivity can be explained in this analysis. Since the first step in extracting the phrase is scrambling, this also predicts that the pivot can be of any category. The obligatory

argument interpretation of bare nominal pivots also falls out from this analysis. So far so good for the QDT, but this only puts the QDT on par with the remnant movement analysis that I proposed for the IC in chapter 5. Once we consider whether a concealed question interpretation is possible for the subject phrase in the IC, the QDT falls off. In English, it is possible in some cases to have the specificational copular clause subject occur as a concealed question.

53) a.   <u>The person that Susan likes</u> is herself.
    b.   Paul knows the person that Susan likes.

(53a) shows that there are contexts where the specificational copular clause subject can have a concealed question interpretation as seen in (53b).[26] However, the subject phrase of an IC in Tamil cannot be construed as a concealed question.

54) a.   Balan-ikki   [Malave   paatavan]-e   teriy-um
           Balan-dat   Mala-acc   saw-AVAN-acc   know-3sneut
           'Balan knows who saw Mala.'

    b.   *Balanikki   [Malave   paatad]-e   teriyum
           Balan-dat   Mala-acc   saw-ADU-acc   know-3sneut
           For: 'Balan knows who saw Mala.'

(54) shows that Tamil DPs can have a concealed question with the phrase that can occur as the subject phrase of an AC. If we follow Schlnker (2003)'s line of reasoning, we have to conclude that it is the AC that has a concealed question as its subject phrase. However, if this is correct, then we predict wrongly that the AC should show the full range of the connectivity effects, contrary to the fact. In addition, the fact that the phrase that can occur as the subject of an IC cannot occur in a position where a concealed question is otherwise possible also indicates that the subject phrase of an IC cannot be a concealed

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[26] Although see Chapter 2 and this chapter for why the concealed question analysis does not work even for English.

question. Having already seen the problems that the QDT has in accounting for the English facts, we now have to reject the QDT analysis for Tamil as well.

6.4.2   Semantic Equation and the IC

The semantic equation analysis does not fare any better in accounting for all the Tamil facts. While BV connectivity may be accounted for by appealing to semantic equation, this will not help accounting for case, -aa or reflexive connectivity. Let's start with case connectivity. Heller (2002, 2005) argues that a semantic equation analysis can account for case connectivity in Hebrew specificational copular clauses. The relevant data is shown below.

> 55) a.   [ma e-kaninu ba-uk]   ze *(et) ha-sveder   ha-kaxol
>   what that-we-bought in-the-market Z(n) Acc   the-sweater the-blue
>   'What we bought in the market was the blue sweater.'
>
>   b.   [ma e nafal alay] ze (*et)   ha-sveder   ha-kaxol
>   what that fell on-me Z(n) Acc   the-sweater   the-blue
>   'What fell on me was the blue sweater.'

In Hebrew, it is possible to form specificational copular clauses with a copula form *ze* (Heller 2002: 264). (55) shows that the accusative case marking on the post-copular phrase is required just in case this phrase corresponds to the direct object in the subject phrase (in square brackets). Thus, accusative case is obligatory in (55a) but cannot be present in (55b). This is in line with the fact that subjects in Hebrew are unmarked for case while direct objects are accusative marked. Hebrew thus shows case connectivity as well. Heller (2002, 2005) proposes that semantic equation can account for this fact. There are two important assumptions that are required to make this work. The first is that the entire subject phrase has the same case marking as the case of the gap in the subject phrase. In (55a), the gap in the subject phrase is a direct object which receives accusative

case and as such the entire subject phrase has accusative case as well. In (55b), the subject phrase will have nominative case as the gap in the free relative has nominative case. The second assumption is that the two phrases on either side of the copula must have the same case marking. Thus, in (55a) the pivot must have accusative case while in (55b), the pivot cannot have accusative case.

The first of these assumptions is based on the so-called matching effects (Groos & Riemsdijk 1981), which are well attested in free relatives in some languages. For example in German, the case of the relative pronoun must match the case that the free relative receives from the clause it is in.

56) a.   Ich   folge   [FR   wem   ich   vertraue]
         I   follow   wh.dat   I   trust
         'I follow who I trust.'
    b.   *Ich folge   [FR   wem/ wen   ich   bewundere]
         I   follow   wh.dat/ wh.acc   I   adore
         'I follow who I adore.'

(56) is from Vogel (2001: 902). In (56a), the embedded verb assigns dative case to its complement and the matrix verb also assigns dative case to its complement. Thus, there is case matching and the sentence is grammatical. In (56b), however, neither dative nor accusative case is possible on the relative pronoun because of a mismatch: the matrix verb assigns dative case, but the embedded verb assigns accusative case in German. This mismatch rules out this construction. It is this type of matching effect that Heller relies on in developing her analysis. However, to make this argument work, Heller has to show independently that Hebrew is a language like German that does have a case matching restriction on its free relatives. This is not something that is clear. For example, English is not a language that exhibits case matching in that the following examples are possible.

57) a.   [What John bought] fell on me.
    b   I discarded [what tripped John].

In (57a), the gap of the free relative would have accusative case while the whole free relative occurs in a position where nominative case is assigned. In (57b), the gap in the relative clause has nominative case but the whole free relative occurs in a position which is assigned accusative case. Thus, English free relatives do not exhibit case matching.[27] Thus, it cannot be taken for granted that Hebrew is like German and not English, but this is not something that Heller demonstrates.

Even if her first assumption can be justified, her second assumption that equatives require two phrases of the same case does not work. First, note that this assumption implies that accusative case marking is a last-resort mechanism. In Heller's analysis, the case marking of the pivot has to match whatever the case of the free relative is. Thus, once the case marking of the free relative is determined based on the case of the gap inside it, the pivot also has to have the same case. Failure to have the same case leads to ungrammaticality. But it is not clear where this accusative case comes from. Heller (2002: 265) claims, following Danon (2001), that accusative case is a type shifter but even then she says that 'analzying *et* as a type-shifting operator does not replace the syntactic feature analysis for Case connectivity'. But what the syntactic feature analysis is is ultimately left unsaid. More damaging to Heller's second assumption is that even German, which does require case matching in its free relatives (as seen in (56)), does not require case matching in a copular clause.

58) a. [was   er   schon immer kaufen wollte] ist   ein**en** Audi
         what   he   PRT   always buy   wanted is   a(acc) Audi
         'What he always wanted to buy is an Audi.'

    b.   [was   er   schon immer kaufen wollte] ist   ein   Audi
         what   he   PRT   always buy   wanted is   a(nom) Audi

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[27] However, English free relatives do exhibit category matching (Bhatt 1997, see earlier references therein).

'What he always wanted to buy is an Audi.'

(58) shows two ways to form specificational copular clauses in German, taken from den Dikken, Wilder & Meinunger (2001: 73). According to them, when accusative case is present on the pivot as in (58a), only the specificational copular clause reading is possible. However, when there is nominative case on the pivot as in (58b), both specificational and predicational copular clause readings are possible. Note that under Heller's assumptions, the free relative in (58a) has accusative case as the gap is a direct object. However, a specificational copular clause reading is possible for (58b) even though there would be a clear case mismatch. Ultimately, this shows that Heller's second assumption is not sustainable. Given these considerations, I conclude that semantic equation cannot account for case connectivity in general[28] and we will not consider it further as a possible account of case connectivity in the IC.

We will now move on to see how the semantic equation analysis fares with respect to -aa connectivity. Given that -aa connectivity shares several traits with case connectivity, in that -aa is only realized in a morphologically well-defined circumstance, it is also surprising that the semantic equation analysis cannot account for this type of connectivity in Tamil either. In earlier chapters, we have shown that -aa only occurs in copular clause contexts when the copula verb is overtly present.

59) a.　　Balan　mukiyam
　　　　　Balan　important
　　　　　'Balan is important.'

　　 b.　　Balan　mukiyam-*(aa)　　　iruk-aan
　　　　　Balan　important-AA　　　　be-3sm
　　　　　'Balan is important.'

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[28] This leaves open what the potential analysis of case connectivity is in Hebrew, but see Shirtz (2012) for an analysis quite similar to what I propose for Tamil.

c.   Balan mukiyam-aa   *(iruk-aan)
     Balan important-AA   be-3sm
     'Balan is important.'

(59) shows a simple predicational copular clause which does not have overt copula morphology. (59b) and (59c) shows that when the copula morphology is present, both the -aa suffix and the copula verb must be present. It is not possible for either to occur without the other. In this light, -aa connectivity shows a context where the -aa suffix can apparently occur without a following copular verb.

60) a.   Balan irukir-adu   mukiyam-aa
         Balan be-ADU   important-AA
         'The thing that Balan is is important.'

   b.   Balan irukir-adu   mukiyam
         Balan be-ADU   important
         'The thing that Balan is is important.'

As mentioned in Chapter 5, the specificational copular clause reading is only possible when the -aa suffix is present. When it is not present as in (60b), only the predicational copular clause reading is possible. The correspondence of -aa connectivity with a specificational copular clause reading is not easily accounted for in a semantic equation analysis. One plausible way could be to argue that -aa here is a type shifter which makes the property into the right type to be equatable. Perhaps, it is a nominalizer, along the lines of Chierchia (1998). However, this cannot be right as we can see in the following uses of color terms.

61) a.   kaadi sivap-aa   irund-icci
         car   red-AA   be-PST.3snetu
         'The car was red.'

   b.   Sivappu(*aa) ennakku   pidik-um
         Red   me.dat   like-3sneut
         'I like red.'

In (61a), the predicative use of *sivappu* 'red' requires -aa but the nominal use of *sivappu* 'red' cannot have -aa. (61) shows exactly the opposite of what we expect if *-aa* is a nominalizer in (60a). We cannot analyze *-aa* as a type shifter in the opposite direction either, as something that changes a nominal into a property, because the property interpretation of *mukiyam* 'important' is readily available without the *-aa* suffix in (60b). We, thus, conclude that the semantic equation analysis cannot account for -aa connectivity either.

We can now turn to reflexive connectivity, which is probably the most interesting case when we compare Tamil to what has been proposed for English. Recall that I concluded above that reflexive connectivity in English is better explained through the semantic equation analysis than through the QDT. This came down crucially to the availability of reflexive connectivity in examples like the following seen above.

62) a.   Who John$_i$ hopes his wife likes best is himself$_i$.
    b.   The person that every professor$_i$ hopes will get a raise is himself$_i$.

(62) is reproduced from above. Both were argued to show that the QDT cannot easily account for the possibility of reflexive connectivity in full generality. Nonetheless, the facts require us to conclude that semantic equation cannot license reflexive connectivity in Tamil. The first reason is quite straightforward. If semantic equation can license reflexive connectivity in Tamil, we would expect both the IC and the AC to show this type of connectivity as we have seen in Chapter 5 that they both have equative semantics. However, this is not the case. The second reason is that it is not possible to construct anti-connectivity examples like in English for either the simple or the complex reflexive *taan*. The distribution and interpretation of the simple *taan* and complex *tanne taane* as a specificational copular clause pivot matches what happens in a normal non-copular

context (See section 1.2.3 for the details). In fact, analyzing the complex form as a identity function like what is done for English *himself* wrongly predicts that long-distance antecedents are possible for the complex form in specificational copular clauses (see examples (25)-(27)). We thus have to conclude that the semantic equation analysis cannot account for reflexive connectivity in the IC either.

6.4.3 Summing Up

In this sub-section, we have looked at how the QDT and the semantic equation analysis could explain the range of connectivity effects exhibited by the IC. While the QDT can in principle explain the connectivity facts, it is problematic to analyze the subject phrase of an IC as a concealed question. In fact, Sharvit (1999), Heller (2002, 2005) and Shirtz (2012) level similar arguments against the QDT for Hebrew specificational copular clauses. At the same time, the semantic equation analysis cannot account for case connectivity, *-aa* connectivity, or reflexive connectivity in the IC. We can thus conclude with some confidence that the reason why the IC shows these connectivity effects is due to the extraction and remnant movement analysis proposed for the IC in chapter 5. This is a different way of establishing connectivity from what has been proposed before.[29] In the next section, I turn to some of the main consequences of this fact about Tamil, especially in comparison to English.

6.5 Implications for reflexive licensing and bound variable phenomenon

In this section, we pursue two questions that arise from our investigation of connectivity effects in Tamil. 1) Why is semantic equation sufficient to license a reflexive in English

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[29] Although see Shirtz (2012) for a similar analysis for what she calls a 'cleftoid' construction in Hebrew.

but not in Tamil?, and 2) Why is semantic equation sufficient to license bound

variable connectivity but not reflexive connectivity in Tamil?

6.5.1 Reflexives in English and Tamil

One of the key differences between English and Tamil with respect to

connectivity is with reflexive connectivity, specifically with respect to English *himself*

and the complex Tamil reflexive *tanne taane* seen below.[30]

63) a.   The person John$_i$ said Mary likes is himself$_i$.

b.   *[[Mala-vikki pidid-kum   ni]   Balan$_i$ conn-adu]   tanne taane$_i$
       Mala-dat   like-3sneut   comp Balan say-ADU   self.acc self
       For: ' Who Balan$_i$ said Mala likes is himself$_i$.'

(63a) shows that English *himself* is possible as a specificational copular clause pivot even

though the possible reading cannot be obtained in the base clause. (63b) shows the Tamil

equivalent of this sentence where the complex reflexive is the IC pivot. Here, this reading

is ruled out in the same way it is ruled out in the base clause.

64) a.   *John$_i$ said Mary likes himself$_i$

b.   *[Mala-vikki tanne taane$_i$ pidid-kum   ni]   Balan$_i$ conn-aan
       Mala-dat   self.acc self   like-3sneut   comp Balan say-PST.3sm
       For: Balan$_i$ said Mala likes himself$_i$

The base clause counterparts of the specificational copular clauses are shown in (64).

Based on data like this, I concluded above that English *himself* can be licensed through

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[30] In the ensuing discussion, I will only focus on the complex reflexive as this is where the parallel with English *himself* is argued to be since both require a local antecedent. For an analysis of the simple reflexive, *taan*, see Sundaresan (2012) where it is argued that the simple reflexive is similar to a logophor in that the perspective holder in a given context has to be the antecedent. Nonetheless, Sundaresan argues that local c-command is still necessary in such constructions which she achieves by implementing the notion of perspective holder in the narrow syntax. I also leave the simple reflexive *taan* out of the discussion because it has distinct licensing conditions from both *himself* and the complex *tanne taane*. For example, in base non-copular clauses, *taan* can have a long-distance antecedent, something that neither *himself* nor the Tamil complex form can have.

semantic equation, while Tamil reflexives cannot. This is why reflexive connectivity

is not seen in (63b). Why is there a difference between English *himself* and Tamil *tanne*

taane?

Based on these facts, it appears that one should not have the same analysis for

himself and *tanne taane*. If both were always anaphors as defined by traditional Binding

Theory, then we would not expect the difference in (63). The same objection can be

raised to an analysis where both are analyzed as reflexivizers in the sense of Reinhart &

Reuland (1993). I propose an ambiguity for English *himself*, an ambiguity which does not

exist for *tanne taane*. Specifically, I claim that *himself* is ambiguous between expressing

an identity function (Reinhart & Reuland 1993, Jacobson 1994, Sharvit 1999, Heller

2002) and functioning as a pure variable that has reflexive morphological shape due to

local spell-out (Kratzer 2009, Safir 2014). In contrast, Tamil complex reflexives are

unambiguously pure variables and do not have the identity function meaning. We have

already seen what the identity function analysis of *himself* looks like. Here, I focus on

how reflexives can be simple variables that have a certain morphological shape due to

local antecedence.

6.5.1.1   Safir (2014): One True Anaphor

I focus on Safir (2014) as it is developed from Kratzer (2009) and recaptures the

complementary distribution between Condition C obviation and reflexive licensing first

noted by Reinhart (1983). In Safir's theory, local and long-distance anaphors are the same

variable, the only difference being in whether the A-binder (i.e an argument that c-

commands it and has a referential dependency with it) of this variable is found within the

same phase as the variable. He calls this type of variable "D-bound", and is to be

distinguished from other types of variables. To see how this theory works, consider

how the analysis accounts for the following sentences.

65) a.　　　John$_i$ praised himself$_i$.
 b.　　　John$_i$ said that Mary praised him$_i$.

The derivation of (65a) is proposed to be the following, taken from Safir (2014: 95).

66) a.　　　　　　　　　　　[$_{VP}$　　praise　　　　D-bound+3sg]
 b.　　[$_{vP}$ John [v　[$_{VP}$　praise　　　　D-bound+3sg]
 c.　　[$_{vP}$ John [v　[$_{VP}$　praise　　　　*himself*]

(66a) shows the first step in the derivation of (65a). The VP is built with the verb taking

the D-bound variable as its complement. Safir assumes that this variable is merged with

the requisite phi features. In the second step in (66b), the vP is built; this includes

merging v with the external argument in Spec, vP, *John*. Since *John* is in the phase edge

and the next element to be merged is a head, i.e. T, the vP phase is capped and the

complement of v is sent to Spell Out. Crucially, since the A-binder of D-bound is in the

same phase as D-bound, D-bound takes on reflexive morphology, which in the case of

English is *himself*. In this analysis, the reflexive morphology is not what *leads* to a

reflexive meaning. Instead, the reflexive morphology is simply a result of D-bound

finding its antecedent within the phase. The derivation in (65b) on the reading where

John and the pronoun are conconstrued follows straightforwardly. Here, the embedded

direct object is also the same variable as that found in (65a), i.e. D-bound. The difference

is that this D-bound variable does not have a suitable antecedent for it within the vP

phase in which it is base-generated, presumably due to feature mismatch. Thus, D-bound

is sent to Spell Out with the form it has when it has a non-local antecedent, namely *him*.

Safir (2014) notes that one of the advantages of this approach is to retain Reinhart (1983)'s original observation that the contexts where Condition C obviations take place and where reflexives are licensed are complementary.

67) **Reinhart's Generalization** (Safir 2014: 100)
Wherever a pronoun Y can be interpreted as a variable bound by X, X cannot be coconstrued (are obviative) with Z, a non-pronoun that replaces Y.

(67) captures this complementarity which is clear in the following cases.

68) a. Every boy$_i$ thinks that he$_i$ is a genius.
b. *He$_i$ thinks that John$_i$ is a genius.

In (68a), the quantifier in the matrix subject position binds a variable in the embedded subject position. The embedded subject position is thus, according to (67), not a position in which a non-pronoun can be used to establish co-construal between the phrases in the matrix subject and embedded subject positions. According to Safir, this provides a non-stipulative account of Principle C. But (67) does not capture all the relevant facts. Consider, for example, Hornstein (1995)'s almost c-command cases.

69) a. Every boy$_i$'s mother thinks he$_i$ is a genius.
b. His$_i$ mother thinks that John$_i$ is a genius.

(69a) shows that the embedded possessor within the matrix subject position can bind the embedded subject. However, (69b) shows that Condition C is not violated in the same environment. This refutes (67) as currently stated. In Safir's analysis, (67) is revised to the following.

70) **Syntax-Induced Obviation** (Safir 2014: 102)
If X can be a binder for D-bound in position Y and Y is not D-bound, then X and Y are not expected to be coconstrued (i.e., they are obviative).

Safir makes a distinction between variables that are D-bound and others. Thus, a Condition C violation is not seen in (69b) because the variable in (69a) is not D-bound.

The reason why it is not D-bound is because D-bound requires an A-binder and the quantifier in (69a) is not an A-binder of the variable. Since D-bound is not possible as the embedded subject here, this position is also not expected to show obviation for Condition C.

6.5.1.2 The Tamil complex reflexives as locally bound D-bound

Here, I propose that the complex *tanne taane* is a spell-out form of D-bound. This can be seen in the fact that this complex reflexive is found only as the direct and the indirect object (see section 1.2.3.3). This extends to it being able to occur as the complement of an ECM verb as well as expected under Safir (2014)'s assumptions.

71) a.　　Balan　tanne　　　　taane　mukiyam-aa　karudi-naan
　　　　　Balan　self-acc　　　self　important-AA　consider-PST.3sm
　　　　　'Balan considered himself important.'

　　 b.　　[$_{vP}$ Balan [$_{VP}$ [$_{TP}$ *D-bound* [$_{SC}$ *<D-bound>* important]] *consider*] *v*]

(71b) shows the relevant aspects of the derivation. In this structure, D-bound is merged as the subject of the embedded small clause. D-bound then moves to the embedded Spec, TP. *karudu* 'consider' is the matrix verb and it has its own vP shell in which the external argument *Balan* is merged. D-bound is spelled out with local spell out form as the complex reflexive because there is no phase boundary between the embedded Spec, TP and the matrix vP (assuming that only vP and CP are phases and that ECM verbs embed a TP or some smaller phrase). Since D-bound has an A-binder within the first phase that contains it, it spells out as *tanne taane*. The explanation of (71) thus follows Safir (2014)'s account of *John expects himself to win* in English. In addition, all three contexts where the complex reflexive is possible are also contexts where Condition C obviation is

observed, in line with (70). For example, Condition C violation in ECM contexts is shown in (72).

72)   *avan_i Balan-e_j   mukiyam-aa   karudi-naan
         Balan self-acc   self   important-AA consider-PST.3sm
         'Balan considered himself important.'

In a nutshell, the possibility of (71) rules out (72).

If the complex reflexive can only be a D-bound that has local spell-out shape, this accounts for why it can only occur as a pivot in an IC and show reflexive connectivity.

73)   [Balan_i   <tanne taane> adicikit-adu]   tan-ne   taane_i   IC
         Balan   beat.koL-ADU   self-acc self
         'The one thing Balan beat was himself.'

In the derivation of (73), D-bound is base generated as a complement of the verb *adi* 'beat'. When *Balan* is merged in Spec, vP, D-bound finds a local A-binder and thus has to have the morphological shape that is indicative of the availability of a local A-binder. Subsequently, D-bound is merged to Spec, vP as well in order to be extracted to its surface position without violating the Phase Impenetrability Condition but this does not affect how it is spelled out.[31] Since the complex reflexive is unambiguously the local spell out of D-bound, it has no identity function meaning. This implies that it cannot occur as the pivot of an AC. Recall that the gap position in the subject phrase of the AC contains a copy of a null operator and not the pivot itself. Thus, there is never a point in the derivation of the AC where the pivot is in the same phase as its required antecedent. This means that the D-bound that occurs as the AC pivot never has an A-binder, local or long-distance.

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[31] This merger can be an adjunction position to vP which would be higher than Spec, vP or a tucking in position below the external argument (Richards 1999).

74) a. *[Balan   adicikit-avan]   taan   taane$_i$ AC
        Balan   beat.koL-ADU   self   self
        'The one thing Balan beat was himself.'

   b.   What John$_i$ beat was himself$_i$.

(74a) is reproduced from above and shows that the complex form cannot occur as the pivot of an AC because no DP binds it. This is in contrast to the English specificational copular clause in (74b) which does allow equation. In Jacobson (1994)'s analysis, this is because English *himself* is an identity function which gives rise to the possibility of equating functions in (74b). The meaning of (74b) in this analysis would be 'the function that maps *Balan* to the person he shaved is the identity function'.

6.5.2   BV Connectivity versus D-bound

Tamil allows us to discern more directly a distinction between D-bound and other types of variables. D-bound is a specific type of variable which requires an A-binder and takes on different morphological shapes depending on whether its antecedent is found locally or non-locally. This says nothing about the bound variable phenomenon in other contexts such as BV connectivity in the AC.

75) a. [ellarum$_i$ adic-adu]   avenode$_i$ tambi-ye   IC
        everone   beat-ADU   3rd.sg.m.POSS   brother -acc
        'The one that everyone beat is his brother.'

   b. [ellarum$_i$ adic-avan]   avenode$_i$ tambi   AC
        everone   beat-AVAN   3rd.sg.m.POSS   brother
        'The one that everyone beat is his brother.'

(75a) shows BV connectivity in the IC and (75b) shows that BV connectivity is possible in the AC as well. Now if the bound variable in (74a) is the same bound variable that occurs in (75), then we do not have an account for why BV connectivity is possible in the AC but reflexive connectivity is not. But if we distinguish between D-bound and other

types of bound variable interpretations, then this difference can be accounted for. In other words, *tanne taane* is D-bound with local spell out, so it (or its lowest copy) must have an A-binder. However, the bound variable in (75b) is not D-bound, as it does not have a local A-binder at any point in the derivation (given our analysis of the AC). It is most plausibly analyzed as a function from individuals to their brothers as Jacobson (1994) and Sharvit (1999) have argued.

Note that the possibility of a bound variable reading in (75b) cannot be explained by scoping out the quantifier to a position from which it c-commands the variable in the pivot. For one, this type of movement would violate an island condition, namely the Subject Island. Second this leads to predicting the possibility of a reading that is not possible as Dahl (1981) first observed. Sharvit (1999: 311) presents the argument in the following form.

76) a.   [The woman that no man likes] is his mother.
    b.   [no man [[The woman that t_i likes] is his mother].

(76a) shows the bound variable reading with the *no* quantifier. This quantifier clearly does not c-command the bound pronoun on the surface in this example. This sentence on the bound variable reading presupposes that for every man x, there is some woman that x does not like. If we were to analyze the possibility of the bound variable reading in (76a) with (76b) where the quantifier is raised to a position where it can bind the pronoun, we end up with the wrong presupposition. In (76b), the presupposition is that for every man x, there is a unique woman that x likes. This presupposition does not exist in (76a). For these reasons, an analysis of (75b) where the quantifier is scoped out is also rejected.[32]

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[32] Marcel den Dikken (pc) brings up the possibility that a derivation in which the quantifier is adjoined to the DP like the one below can subvert a subject condition violation.

What this means is that the most plausible reason for the bound variable reading in the Tamil sentence in (75b) has to be the fact that the bound variable here is not D-bound (as it does not even have a local A-binder) but rather because it is a function from individuals to their brothers.

This distinction between D-bound variables and functions can also be seen in long-distance bound D-bound. In so far as the arguments here are correct, this provides support for Safir (2014)'s claim that D-bound can be local or long-distance bound with the only difference being in morphological shape. First observe (77).

77) $ellarum_i$ [$avan_i$ buk-ke   padic-aan   ni]   conn-aan.
        everyone   he   book-acc   read-PST.3sm comp   say-PST.3sm
        'Everyone said that he read the book.'

(77) is a sentence with an embedded clause which has the bound variable reading in which the embedded subject is bound by the matrix subject quantifier (For all x, x said x read a book). In Safir's theory, the embedded pronoun is D-bound which takes pronominal form because its A-binder is not found locally. In addition, note that unlike a phrase like *his brother*, the stand-alone pronoun does not have a functional meaning. The embedded subject pronoun is thus unambiguously D-bound. Now, consider the IC and AC variants of (77) where the embedded subject is the pivot.

78) a.   [$ellarum_i$ [buk-ke   padic-aan   ni]   conn-adu] $avan_i$
          everyone   book-acc   read-PST.3sm comp   say-ADU   he
          'The one that everyone said read the book is he/ him.'

    b.   *[$ellarum_i$ [buk-ke   padic-aan   ni]   conn-avan] $avan_i$
          everyone   book-acc   read-PST.3sm comp   say-ADU   he

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a) [[no man]$_i$ [The woman [$_{CP}$ t$_i$ likes]]]$_{DP}$ is his$_i$ mother.

From this position, an almost c-command configuration obtains which allows the quantifer to bind the pronoun. It can potentially also avert the interpretation problem with respect to possible presuppositions. But the Adjunct Island Condition is still violated as *no man* still has to raise out of the adjunct relative clause CP. This type of movement should not be possible either.

'The (male) one that everyone said read the book is he/ him.'

(78a) shows the IC version and (78b) shows the AC version. Crucially for us, only the IC allows the bound variable reading.[33] The AC in (78b) is only possible on the free variable reading where the pronoun picks out some salient individual from the discourse. This difference between the IC and AC again shows us that there is a difference between D-bound, which requires an A-binder, and other types of phrases that appear as if they contain bound variables but actually receive functional readings. In (78a), the IC allows the bound variable reading as D-bound has an A-binder at some point in the derivation. In (78b), the AC does not allow the bound variable reading as the pivot pronoun cannot be D-bound, nor can it express a function. Thus, it can only be a free variable that is interpreted as some contextually salient referent. Crucially, the possibility of a complex reflexive only in the IC as well as the availability of the bound variable reading in (78a) receives a uniform analysis in Safir's analysis. Both the complex reflexive and the pronoun in (81a) are D-bound; they differ only in whether their A-binder is found locally or long-distance in the pre-movement configuration.

The English counterpart of (78) shows a predicted difference as well. These sentences are based on Sharvit (1999: 323) but I have changed them to be parallel to the Tamil sentences above.

79) a.   *The person that everyone$_i$ said read the book is him$_i$.
    b.   The person that everyone$_i$ said read the book is himself$_i$.

If it is true that English reflexives have an identity function meaning distinct from a D-bound reading, then the facts in (79) follow as well. First note that (79a) allows neither

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[33] The bound variable reading in the IC in (78a) becomes quite apparent when we use an emphatic marker *daan* after the pivot pronoun. The bound variable reading is still not possible with the emphatic marker after the pivot pronoun in the AC in (78b).

functional equivalence or a D-bound reading of *him*. Functional equivalence is not possible because *him* does not have a functional meaning as it is neither an identity function nor a function mapping individuals to other distinct individuals. A D-bound reading of *him* is also not possible because *him* is not syntactically c-commanded by *everyone* at any point in the derivation of the sentence in (79a) assuming this has a structure like Tamil's AC. Since neither option is possible, (79a) is only grammatical under a free variable interpretation of *him*. While a D-bound interpretation of *him* in (79) is ruled out syntactically, it is possible to introduce semantic functional equivalence by replacing *him* with *himself*. (79b) shows that doing so makes the sentence grammatical. (79b) means that the function that maps all individuals, x, to the person y, such that x said that y read the book is the identity function.[34]

Now consider the following data that Ken Safir (p.c.) attributes to original observations of James Higginbotham. These are at first surprising.

80) a.   Q: Who does John$_i$ think Mary like best?
A: Himself/ *Him$_i$.

b.   Q: Which person does every professor$_i$ think should get a raise?
A: Himself/ *He$_i$/ *Him$_i$.

In (80), the answers are stand alone reflexives that are construed with the matrix subject in the question. Notably, the pronouns are ungrammatical as answers here. These Q-A

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[34] Another implication of this is that replacing the pronoun in (78b) with a possessive phrase makes binding possible.

a)   [ellarum$_i$ [buk-ke   padic-aan   ni]   conn-avan]   avanode$_i$ tambi
everyone   book-acc read-PST.3sm comp   say-ADU   his   brother
'The (male) one that everyone said read the book is his brother.'

While (78b) where the pivot is a pronoun is not possible with a bound variable construal, replacing the pivot with a possessive phrase containing a pronoun possessor allows the bound variable to reemerge. This is because the pivot can now be construed as a function. This is further evidence that simple pronouns unlike possessive phrases in Tamil do not have a functional reading.

pairs are puzzling because the null hypothesis suggests that the answers in (80) are elided counterparts of the following sentences.

81) a.   John$_i$ thinks that Mary likes *himself/ him$_i$ the best.
    b.   Every professor$_i$ thinks that *himself/ he should get a raise.

However, (80) shows that the possible elided answers allow exactly the opposite of what is allowed in (81). However, if as Ken Safir suggests, the answers in (80) are actually elided forms of their specificational copular clause counterparts (shown in 82), (80) reduces to the explanation I have given for (79).[35]

82) a.   The person that John thinks Mary likes best is himself/ *him.
    b.   The person that every professor thinks should get a raise is himself/ *him.

If the answers in (80) are elided forms of the clauses in (82), the required use of the reflexive as opposed to the pronoun receives a simple explanation. Such Q-A pairs have to be equations of functions since there is no A-binder for the dependent form in the pivot. This lack of an A-binder rules out *him* as *him* does not have a functional meaning. Thus, *himself* which has the identity function interpretation is required.

Based on the discussion above, I conclude that the Tamil reflexives do not have an identity function meaning whereas English reflexives do. This explains why reflexive connectivity is not attested in the AC but only the IC. This also accounts for why English reflexives but not pronouns can occur as the pivot of specificational copular clause where the antecedent is found long-distance[36].

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[35] In order for this analysis of the Q-A pairs in (80) to be complete, it also has to be shown that (82) is the only source from which ellipsis can occur as Mark Baker (pc) suggests. I leave this task for future research.

[36] Ken Safir (pc) and Mark Baker (pc) independently suggest that the distinction between variables that are D-bound and variables, if real, may be morphologically realized in languages that have richer morphology. Scandinavian is a prime target. I leave this question to future research, however, there are some promising initial results. Norwegian has three different reflexive forms: Pronoun+Self, *seg*, and *seg*+Self. As it turns out, only the Pronoun+Self form is allowed in specificational copular clause connectivity.

Before concluding this section, I offer some independent evidence that suggests that the Tamil reflexive forms do not have identity function meanings whereas English *himself* does. One of the contexts where English allows the *self*-form in is compounds such as the following.[37]

83) a.   Self praise
    b.   Self motivation

I propose that such compounds are possible in English because *self* expresses the identity function. These cannot be D-bound forms since these types of compounds can occur without any kind of local A-binder.

84) a.   John does not like self-praise.
    b.   Self-motivation is hard to come by.

In (84a), note that what *John* does not like can be praise that is self-given by anyone. Thus, *John* is not the A-binder for *self* in *self-praise* in (84a). The lack of an A-binder for *self-motivation* in (84b) is also quite apparent. Under an identity function meaning, I propose that these are identity functions that lead to the following meanings for the compounds in (85).[38]

85) a. $\lambda x[\text{praise } (x, x)]$
    b. $\lambda x[\text{motivation } (x, x)]$

If this analysis, is correct, then the possibility to form such compounds with a reflexive form depends on there being a identity function meaning of the reflexive. Since I have

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a) Den personen (som) John sier hver jente skulle rose   er ?ham selv / *seg selv/ *seg
  'The person   (that) John$_j$ says every girl   should praise is pronoun+self$_i$/ *seg+self$_i$/ *seg$_j$.

If Norwegian specificational copular clauses are like their English counterparts, then this suggests that *ham selv* is an identity function unlike *seg selv* and *seg* which are possibly D-bound variables. Further research is need to confirm these findings.

[37] Thanks to Mark Baker for this suggestion.

[38] These are semantically composed following the analysis by Sharvit (1999) which is also adopted here. See footnote 24.

argued that Tamil reflexives are never identity functions, this suggests that compounds of the type that are seen in (85) should not be possible. This is correct.

86) a.   kore   collu
            mistake   say
            'find fault'

    b.   pon   paataaa
            girl   see
            'see a bride prospect'

(86) (from Vijayakrishnan 1994: 270) shows that it is possible to form Noun-Verb compounds in Tamil like in English. However, it is not possible to from compounds which have either the simple or the complex reflexive forms. It is, in general, difficult to show evidence for the lack of a particular construction but the following aims to show that the Tamil equivalents of (85a) are not possible.

87) a.   Balan tanne   (taane) paaratin-aan
            Balan self   self   praise-PST.3sm
            'Balan praised himself.'

    b.   *Balan-ikki   [tan   paaraatu]   pidik-aathu
            Balan-dat   self   praise   like-NEG
            'Balan does not like self-praise.'

    c.   *Balan-ikki   [tanne taane paaraatu]   pidik-aathu
            Balan-dat   self   self   praise   like-NEG
            'Balan does not like self-praise.'

(87a) shows that either the simple or the complex form can occur with the verb 'praise' when the reflexives occur as the direct object of the clause. (87b) and (87c) aim to show that it is not possible to form a compound of *praise* by attaching either the simple or the complex form to it. The lack of this option in Tamil, as opposed to English, can be explained if English reflexives have a identity function meaning which is distinct from its D-bound meaning, but Tamil reflexives do not.

Summing up, I conclude that the reflexive and BV connectivity facts in Tamil specificational copular clauses provide support for Safir's (2014) distinction between variables that require an A-binder (D-bound) and variables that do not. In Tamil, the complex reflexive is argued to be D-bound, which explains why it must have a local antecedent at some point in its derivation. This is only possible in the IC and as such only the IC allows a complex reflexive as its pivot. In contrast, the AC does not allow D-bound as its pivot but does allow certain items that look like bound variables but are actually functions. I argued further that long-distance bound variables that cannot be construed as functions (simple pronouns) provide further support for D-bound. In such contexts, only the IC but not the AC allows the bound variable reading. The English reflexive, on the other hand, is able to occur as the pivot of a specificational copular clause even though there is no derivation in English like that of an IC in Tamil, because English reflexives can be construed as identity functions. This is an option that Tamil does not make use of.

6.6   Conclusion

In this chapter, we have seen the connectivity effects exhibited by Tamil specificational copular clauses. I proposed that although the English connectivity facts are better explained in the semantic equation analysis, neither the semantic equation nor the QDT analysis can explain the Tamil facts. The connectivity facts in Tamil, especially with respect to reflexive connectivity, also show by way of contrast that English reflexives can have an identity function meaning, a meaning that is not possible in Tamil. In Tamil, the complex reflexive can only be a variable. The Tamil connectivity facts also indicate that

not all bound variable phenomenon have the same source. This was evident in the fact

that the Tamil AC exhibits BV connectivity but not reflexive connectivity.

Chapter 7 Conclusion

In this dissertation, I have argued for a syntax and semantics of specificational copular clauses which is primarily based on novel data from Tamil. I have also used the investigation into specificational copular clause as a springboard into issues of general theoretical interest. The following summarizes the main findings of this dissertation:

- Specificational copular clauses are syntactically inverted predications. They are underlyingly the same as predicational copular clauses but have a different surface form due to fronting of a small clause predicate.

- Specificational copular clauses are semantically equations. The reason why predicational and specificational copular clauses appear to have different semantic properties (with respect to presuppositions and equativity) is argued to be due to the fact that nominal predicates are inherently ambiguous. Both meanings are allows in a post-copular position but only the meaning which is not-at-issue with respect to existence is allowed in a pre-copular position due to the fact that only such nominals can serve as topics. This applies to specificational copular clauses with definite, possessive and indefinite subjects.

- Specificational copular clauses are similar to other types of inversion structures, such as SVO → OVS reversal in Kirundi. This pertains not only to the discourse profile of inversion structures, but also to the position that the pivot has to move to in such reversals. In this regard, Kirundi was shown to provide strong evidence that fulfils the predictions of the Labeling algorithm (Chomsky 2013, 2014).

- Tamil, unlike English, has two different ways to form complex specificational copular clauses. These are only minimally different morphologically and semantically, but they have substantially different syntactic derivations.

- Specificational copular clause connectivity reveals the nature of reflexive formation in English and Tamil. Specifically, it shows that while English reflexives can be identity functions, Tamil reflexives are always syntactically bound variables.

Nonetheless, there is much more to be discovered about the nature of specificational copular clause. The following is just a small sample of the questions that I have to leave to future research.

- Where do equatives like *Cicero is Tully* fit into the paradigm, especially given the fact that Tamil equative copular clauses (we saw briefly in Chapter 2) also have the same morphology that is seen in predicational and specificational copular clauses.

- In Chapter 4, the bulk of the data shown to support the Labeling algorithm was from Kirundi OVS reversal. Are there unrelated languages which show similar support for the Labeling algorithm? I alluded to the fact that locative inversion in Russian and Italian are also governed by the same principles underlying locative inversion in Kirundi. A deeper investigation into this is required. In particular, it remains a puzzle as to why Italian does not allow a direct object to move to Spec, TP whereas Kirundi does. This is despite the fact that both languages allow the external argument to remain in a low position.

- In Chapter 6, I argued that Tamil reflexives are always D-bound variables whereas English reflexives can be D-bound or an identity function. This suggests

that this ambiguity in English may be disambiguated in languages which have richer morphology. The Scandinavian languages are a prime target for such an investigation and I leave to future research what my proposal can tell us about Scandinavian reflexives.

- I did not delve much into NPI connectivity in Tamil. den Dikken, Wilder & Meinunger (2001) argue that NPI connectivity is the one type of connectivity in English that depends solely on syntactic licensing. However, Tamil seems to suggest that NPIs can be semantically licensed in Tamil since the AC shows NPI connectivity as well. Another difference between English and Tamil NPIs is that the latter can occur in a subject position. I want to investigate why Tamil and English NPIs behave differently in future work.

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