

Reflexive Connectivity in Copular Clauses and Identity Functions*

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1. Introduction

1.1 Background and objective(s)

In this paper, I discuss reflexive connectivity in specificational copular clauses (Higgins 1973) specifically that in Tamil (Dravidian). The main motivation for this is to show that (non-logophoric) natural language reflexives can come in two types – simple type e variables and identity functions.

Specificational copular clauses are a specific type of copular clause where the subject of the clause delimits a domain and the pivot picks out a member from that domain (Higgins 1973: 132). Such clauses exhibit connectivity wherein an element that otherwise appears to require certain syntactic licensing conditions does not require the same when occurring as a specificational copular clause pivot. Some examples are shown below.

- (1) *Reflexive Connectivity*
 - a. The person that John _{i} likes the most is himself _{i} .
 - b. John _{i} likes himself _{i} the most.

- (2) *Quantifier Binding Connectivity*
 - a. The person that every boy _{i} likes is his _{i} mother.
 - b. Every boy _{i} likes his _{i} mother.

(1) shows reflexive connectivity and (2) shows quantifier binding connectivity.¹ The (b) sentences show the normal syntactic configuration in which reflexives and quantifier binding is attested, i.e. with a c-commanding binder. The (a) sentences show that reflexives and quantifier bound variables are possible as the copular clause pivot even when the understood antecedent does not (on the surface) c-command the pivot.

* I would like to thank Mark Baker, Ken Safir, Veneeta Dayal, Marcel den Dikken, and the reviewers and participants of CLS 51 and NELS 47 where earlier versions of this paper were presented. All errors are mine.

¹ See Sharvit (1999) for a list of other types of connectivity that specificational copular clauses show.

In this paper, I focus on reflexive connectivity in English and Tamil, particularly with English *himself* and the Tamil complex reflexive *tanne taane*.² I use this comparison to show that non-logophoric reflexives can come in two varieties; an identity function and a type *e* variable requiring syntactic binding.

The outline of the paper is as follows. In the next section, I discuss specificational copular clauses and reflexive connectivity in English, paying attention to anti-connectivity. In section 3, I discuss reflexive connectivity in Tamil specificational clauses. In section 4, I discuss alternative explanations of Tamil reflexive connectivity and show that they fail. I, then, conclude.

2. Reflexive connectivity in English

2.1 Ellipsis vs. equation

English specificational connectivity has two general approaches; the ellipsis approach and the equation analysis. In the ellipsis approach (Ross 1972, Schlenker 2003), the post-copular phrase is analyzed as an elided clause and as such the post-copular phrase in (1a) has the following representation.

(3) ... is [himself_i [John_i likes ~~himself~~ the most]].

As seen in (3), the post-copular phrase has an elided clause and *himself* is actually syntactically bound by the elided binder *John*. In this analysis, it is possible to maintain that *himself* is a simple variable that is semantically of type *e*.

The equation analysis (Jacobson 1994, Sharvit 1999 a.o), on the other hand, eschews syntactic binding of *himself* in favor of an analysis of *himself* as an identity function (cf. Reinhart & Reuland 1993). Coupled together with the assumption that specificational copular clauses are equations, (1a) has the following representation.

(4) $\text{tf}_{\langle e, e \rangle} [\text{like}(j, f(j))] = \lambda z[z]$

As seen in (4), the pre-copular phrase is the unique function that maps *John* to the person he likes and the post-copular phrase is an identity function.

The two theories make very different claims about how specificational copular clause connectivity is achieved and while the ellipsis analysis is compatible with the analysis of *himself* as an identity function, the ellipsis analysis requires *himself* to be analyzed as an identity function. In what follows, I discuss anti-connectivity which is used to argue that the equation analysis is correct and as such *himself* in specificational copular clause contexts has to be an identity function.

2.2 Anti-connectivity

² Tamil also has a simplex reflexive form *taan*, which has more recently been analyzed as a logophoric form (Sundaresan 2012). My claim only pertains to non-logophoric reflexives, which is why I discuss only the reduplicated reflexive *tanne taane*.

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Anti-connectivity refers to the phenomenon whereby binding configurations that are not possible in the base clause are possible in specificational clauses. Consider the following.

- (5) a. John_i said Mary likes *himself_i/ him_i.
b. What John_i said Mary likes was himself_i/ *him_i.

(5) shows that the dependent variable in the embedded clause has to be a pronoun not a reflexive, yet in a specificational clause, the pivot that corresponds to a gap in the same position has to be a reflexive. See Sharvit (1999: 323) for more such examples.

Sharvit (1999) argues that anti-connectivity follows from the equation analysis as the specificational clause in (b) sentences would have the corresponding LFs shown below.

$$(6) \quad t_{\langle e, e \rangle}[\text{said_M_likes}(j, f(j))] = \lambda x [x]$$

In (6), what is being equated is two functions, where *himself* crucially is analyzed as one.

Schlenker (2003), however, proposes that anti-connectivity can be reconciled with the ellipsis analysis. He proposes a derivation like the following for (5).

$$(7) \quad \dots \text{himself} [\text{John said } \langle \text{himself} \rangle \text{ Mary likes } \langle \text{himself} \rangle].$$

(7) shows the post-copular phrase being extracted from the clause with the remnant TP being deleted (Schlenker 2003: fn 35). Along the lines of Barrs (1986) who proposes that a reflexive chain can be licensed if any of its copies are local to a suitable antecedent, *himself* is licensed in (7) in the ellipsis analysis because, there is an intermediate copy of *himself* local to *John*.

However, it is not clear if this line of reasoning is correct. The primary reason being that it is unclear if intermediate licensing of a reflexive as in (7) is a mechanism that even exists. The main type of data that is shown in support of such intermediate licensing is with the use of picture-NPs, but such uses are probably logophoric.

- (8) a. Which pictures of himself_i/ him_i did Paul_i say Mary like?
b. Paul_i said that Mary liked those pictures of himself_i/ him_i.

(8) shows that an A'-moved picture NP allows not only the reflexive but also the pronoun. In fact, (8) in which the picture-NP has not even A'-moved allows both the reflexive and the pronoun. There is thus a clear contrast between (5) and (8).

Another reason to doubt that this type of intermediate licensing of a reflexive exists comes from reflexives that occur in certain types of PPs.

- (9) a. John_i bought a present [for himself/ *him_i].
b. John_i said that Mary bought a present [for *himself_i/ him_i].

(9) shows that a PP is transparent for the purposes of binding theory. Thus, the reflexive is possible in (9) only if its antecedent is within the same finite clause as the PP. If intermediate licensing of a reflexive is possible, then we expect A'-moving the PP in (9) to license *himself*. However, this does not appear to be the case as seen in the following.

- (10) a. For *himself_i/ him_i, John_i said Mary bought a present.
 b. With *himself_i/ him_i, John_i said Mary bought a present.
 c. To *himself_i/ him_i, John_i said Mary ran quickly.

(10) shows topicalization of various PPs. Here, the judgment is quite robust in that it is the pronoun and not the reflexive that is possible. This is not expected under intermediate licensing as there should be a copy of the PP local to *John* in all three cases.^{3,4} The fact that these sentences are still ungrammatical casts further doubt on the notion of intermediate licensing of a reflexive altogether.

Given these problems with the intermediate licensing theory, I conclude that anti-connectivity cannot be accounted for through the ellipsis analysis which means that the equation analysis fares better in accounting for the facts. Crucially, this means that *himself* in specificational clause connectivity such as (1) must be an identity function.⁵

3. Reflexive connectivity in Tamil specificational clauses

Having argued that *himself* can be an identity function, in the rest of the paper, I will show that the Tamil complex reflexive *tanne taane* is never an identity function, but a type e variable that requires syntactic binding.

³ Interestingly, there are certain types of PPs that appear to allow this type of intermediate licensing.

- a) On himself_i/ him_i, John_i said that Mary sat down.

In contrast to (10), the PP *on himself* in (a) appears to be licensed in the intermediate position. The following are based on Reeve (2011: 167). (cf. Pinkham & Hankamer 1975).

- b) *It is for himself **who/ where/ which** John said that Mary bought a present.
 c) *It is with himself **who/ where/ which** John said Mary bought a present.
 c) *It is to himself **who/ where/ which** John said Mary ran quickly.
 d) ?It is on himself **where** John said Mary sat down.

(b-d) shows the PPs in a clefted position with a wh-operator. While the first three PPs do not have any corresponding wh-operator, *on himself* does. This is also the PP that shows intermediate licensing as seen in **Error! Reference source not found.** Based on these, I claim that whether intermediate licensing is possible is a consequence of whether there is a wh-operator corresponding to the moved phrase rather than actual syntactic licensing of a reflexive by a higher antecedent. I will have to leave further exploration of this point to future research.

⁴ On the basis of fn 3, one may contend that perhaps topicalized *for/with/to*-PPs are base-generated in the surface position while topicalized *on*-PPs can be moved successive cyclically to the surface position. If this was the case, we would expect topicalization of *for/with/to*-PPs to not violate islands, whereas topicalization of *on*-PPs does. However, all of them violate islands indicating that all of them are moved.

- a) *For Paul_i, John saw the cake that Mary baked t_i.
 b) *With Paul_i, John saw the short film that Mary made t_i.
 c) *To Paul_i, John bought the present that Mary showed t_i.
 d) *On Paul_i, John threw the hat that Mary put t_i.

⁵ Note that this does not mean that *himself* can never be a type e variable that requires syntactic binding as suggested by several previous accounts of *himself*, Safir (2014) being a prominent recent advocate.

3.1 The basic clauses

The following shows the two ways to form specificational copular clauses in Tamil.

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

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

(11) shows what I call the Invariant Construction (IC) and (12) shows the Agreeing Construction (AC) for the fact that the verbal morphology appears to 'agree' with the pivot *Balan* which is a masculine name. The portion shown in square brackets in the Tamil sentences correspond to their English translations. The verbal morphology is a nominalizer that is homophonous with 3rd person pronouns. Important for our purposes, note the crucial difference in the derivations of the IC and AC shown below.

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

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

The IC in (13) has a derivation where the pivot is extracted from within the subject phrase but the AC in (14) has a null operator. Evidence for this difference between the IC and AC comes from case connectivity which only the IC shows, null operator restrictions which only the AC shows, and interpretational ambiguities that arise with bare nouns.

Semantically, both are equations (Jacobson 1994, Sharvit 1999). The verbal morphemes *-adu* and *-avan* are analyzed as definite determiners.

(15) [[11]] = 1, iff, $\exists x. x \text{ saw } m = b$ IC

(16) [[12]] = 1, iff, $\exists x. x \text{ saw } m \text{ and } x \text{ is male} = b$ AC

(15) and (16) show the proposed denotations of the IC and AC. I refer the reader to Selvanathan (2016) for detailed support for these derivations and semantics.

3.2 Reflexive connectivity in Tamil

The following show the reflexive connectivity facts in Tamil.

- (17) [[Balan_i — adicikit]-**adu**] tan-ne.taane_i IC
 Balan beat.koL-**ADU** self-acc.self
 'The one Balan beat was himself.'
- (18) *[[Balan_j — adicikit]-**avan**] taan.taane_j AC
 Balan beat.koL-**AVAN** self.self
 'The one thing Balan beat was himself.'

(17) shows that the IC shows reflexive connectivity whereas the AC in (18) does not. Given the derivations of the IC and AC in (13) and (14), this means that the subject phrase in the IC contains a copy of the reflexive where the gap is whereas the subject phrase in the AC does not. These are shown below.

- (19) [Balan_i <tan-ne.taane> adicikit-**adu**] tan-ne.taane_i IC
 Balan beat.koL-**ADU** self-acc.self
 'The one Balan beat was himself.'
- (20) *[Op_i [Balan_j <Op> adicikit]-**avan**] taan.taane_j AC
 Balan beat.koL-**AVAN** self.self
 For: 'The one Balan beat was himself.'

I offer these derivations as the explanation for why only the IC shows reflexive connectivity. I claim that the complex reflexive in Tamil is a variable that must be licensed by a syntactic A-binder (eg. Safir 2014). Since the antecedent *Balan* only A-binds the reflexive (or some copy of it) in the IC and not the AC, only the IC shows reflexive connectivity (cf. Belletti & Rizzi 1988). If this is correct, then the Tamil IC and AC provide clear evidence that *tanne taane* is a different type of reflexive than *himself*. While *himself* can be an identity function as we have seen earlier, *tanne taane* cannot be. It can only be a syntactically bound variable, probably of type e.

In the remainder of this paper, I will consider alternate explanations of the facts in (17) and (18) and reject them, thus supporting my characterization of the facts which further substantiates the distinction between *himself* and *tanne taane*.⁶

4. Alternative Explanations

4.1 The *-avan* verbal affix and Principle C

One alternative explanation of (17)/ (18) lies in the differences between the affixes, *-adu* and *-avan*, which are homophonous with 3rd person neuter and 3rd person masculine pronouns. Given this, one may suppose that *avan* is a pronoun which gives rise to a Principle C violation. If this is correct, then the reason why (18) is ungrammatical is because *-avan* c-commands *Balan* which is c-construed with the reflexive. But, there are problems with treating the *-avan* verbal suffix as a pronoun.

⁶ Several points in this section are inspired by reviewers and commentators. I extend my thanks to them.

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First, under this explanation, it is not clear why a similar Principle C violation does not obtain in (17). Second, it is possible to construct examples where one may expect a Principle C violation but none arise. Consider (21).

- (21) Balan-ee-daan Balan-e adic-aan
 Balan-emph-FOC Balan-acc beat-3sm
 Lit: It is Balan himself that beat Balan.

In (21), the subject is emphasized with the emphatic marker as well as a focus marker. In such constructions, it is possible to have what appears to be an obviation of a Principle C violation.⁷ Crucially for us, it is possible to construct an AC from such a sentence where the subject occurs as the pivot.

- (22) [___ Balan-e adic-**adu/ -avan**] Balan-ee-daan
 Balan-acc beat-**ADU/ AVAN** Balan-emph-FOC
 Lit: The one (masc) that beat Balan is Balan himself.

(22) is grammatical with the indicated meaning as an IC and an AC. This shows that the verbal affix *-avan* patterns with the *-adu*, in not leading to a Principle C violation. The ungrammaticality of (18) cannot be explained by treating *-avan* as a pronoun.

4.2 Incompatibility between *koL* and *-avan*

It is plausible that *koL*, a verbal affix which commonly occurs in reflexive contexts,⁸ is incompatible with the *-avan* affix. If so, then the IC should result in reflexive connectivity and the AC should not. The first obvious problem with this approach is that it is not clear why *koL* is compatible with *-adu* but not *-avan*. Even overlooking this, we can show that reflexive connectivity does not obtain in the AC even when there is no *koL* in the clause.

First, note that like in Kannda (Lidz 2001), *koL* does not appear when the antecedent of the complex reflexive is a non-subject in Tamil.

- (23) a. Balan Mala-vikki_i tanne.taane_i kaati(*kit)-aan
 Balan Mala-dat self.self showed-(**koL*)-3sm
 'Balan showed Mala to herself.'
- b. [Balan Mala-vikki_i ___ kaatin-*adu*] tanne.taane_i IC
 Balan Mala-dat showed-ADU self.self
 'The one that Balan showed Mala to is herself.'
- c. **[*Balan Mala-vikki_i ___ kaatin-*aval*]*]* taan.taane_i AC

⁷ It is possible that this construction has a different structure from a typical transitive in which case the Principle C violation is only apparent. But this still does not affect the point being made, namely that the *-avan* suffix in an AC is not a pronoun. See the surrounding discussion.

⁸ Although it should be noted that the occurrence of *koL* in non-reflexive contexts has been well-documented. See Sundaresan (2012) for a recent treatment of this affix in Tamil.

Balan Mala-dat showed-AVAL self.self
 'The one that Balan showed Mala to is herself.'

(23) shows that when the indirect object is the antecedent of the direct object complex reflexive, there cannot be *koL* on the verb. Given this, we can see that the corresponding IC but not the corresponding AC shows reflexive connectivity. If the lack of reflexive connectivity in (18) was due to an incompatibility of *-avan* and *koL*, then we expect (23) to be grammatical. Thus, we can conclude that the absence/ presence of *koL* cannot be the reason why the AC does not show reflexive connectivity.

4.3 Other possible issues

In the data that we have seen, we have only seen the complex anaphor, so one may wonder if the problem here is the complex anaphor itself. Perhaps the complex anaphor has a set of unknown licensing conditions. One way we may check to see if there is any credence to this idea is to see what happens with simple reflexives.

- (24) a. [Balan_i ___ adicikit-**adu**] tan-ne_i IC
 Balan beat.koL-ADU self-acc
 'The one Balan beat was himself.'
- b. *[Balan_i ___ adicikit-**avan**] taan_i AC
 Balan beat.koL-AVAN self
 For: 'The one thing Balan beat was himself.'

(24) shows an IC and AC with a simple reflexive pivot and we find that only the IC allows reflexive connectivity. What (24) indicates is that whether the pivot is a complex or simple reflexive, only the IC shows reflexive connectivity. Thus, the difference in reflexive connectivity cannot be attributed to the complexity of the reflexive itself.⁹

One may also wonder if the reason why the complex reflexive does not occur as the pivot of an AC is because the complex reflexive requires accusative case which it cannot receive in the AC pivot position. If true, this would be an unusual claim as this would be in effect arguing that certain types of reflexive forms have case restrictions distinct from

⁹ There is one way in which the simple and complex reflexives differ in these contexts. Since the simple reflexive can have long-distance antecedents (Sundaresan 2012), it is possible to supply a matrix antecedent for the simple reflexive by embedding the AC in (24). See (a). However, similar embedding still cannot rescue the AC with a complex reflexive as its pivot, since a complex reflexive cannot have long distance antecedents. See (b).

- a) [Balan ___ adic-avan taan_i ni] Somu_i conn-aan Embedded AC
 Balan beat-AVAN self comp Somu said-3sm (+ simple refl)
 'Somu said that the person Balan beat was self.' (self = Somu)
- b) *[Balan ___ adic-avan taan.taane_i ni] Somu_i conn-aan Embedded AC
 Balan beat-AVAN self.self comp Somu said-3sm (+complex refl)
 'Somu said that the person Balan beat was self.' (self = Somu)

other DP-types. The closest claim that has been made along these lines is the Anaphor Agreement Effect (Rizzi 1990 a.o) where a reflexive is argued to be banned from a position in which it can agree. But that cannot be relevant in the IC and AC because the pivot positions of these constructions are not ones in which agreement takes place anyway. In any case, this ban on a complex reflexive as an AC pivot appears to be part of a more general pattern as simple reflexives which require syntactic binding in order to receive a bound reading (cf. Sundaresan 2012), also only shows reflexive connectivity in the IC but not the AC (see (24)).

4.4 Summary

Based on the data above, I conclude that the most plausible account of the lack of reflexive connectivity in the AC is the one that I have proposed. That is, *tanne taane* requires syntactic binding by its antecedent and this is only possible in the IC not the AC. Ultimately, this means that the equational semantics of the IC and AC is not sufficient to license the complex reflexive as the pivot of the AC. This is to be contrasted with the English case where the equational semantics is sufficient to license *himself* as a specificational pivot. This distinction between English *himself* and Tamil *tanne taane* can be accounted for if the former can be an identity function whereas the latter can only be a variable that requires syntactic binding in order to be licensed. The implication of this is that natural language reflexives come in at least two types.

5. Extensions and Conclusion

In this paper, I have argued using specificational copular clause data from English and Tamil that natural language reflexives can be either identity functions or syntactically bound variables. In this concluding section, I explore some consequences of this.

The first is that if it is true *himself* is an identity function and *tanne taane* is a bound variable, we would expect that a single language may have both types. And there is evidence that this prediction is fulfilled. For example, Norwegian (like other Scandinavian languages) has a number of reflexive types: *hamselv*, *seg selv*, and *seg*. Interestingly, Not all of these exhibit specificational copular clause connectivity.

- (25) Den personen (som) John sier hver jente skulle rose er **?ham selv / *seg selv/**
***seg**
'The person (that) John says every girl should praise is **?pronoun+self/ *seg+self/**
***seg.'**

(25) shows that *hamselv* is the only form that can be used that exhibits reflexive connectivity. This suggests that whereas *hamselv* (like its English cognate *himself*) can be an identity function, the other forms being more like *tanne taane*.^{10,11}

¹⁰ This is assuming that the Norwegian specificational copular clause in (25) does not have a derivation like the IC.

¹¹ Further suggestive evidence for this comes from the fact that my Norwegian informant tells me that *hamselv* also exhibits anti-connectivity.

Another interesting implication comes from the fact that the Tamil data shows that a type e variable (like *tanne taane*) can only exhibit connectivity if it has a syntactically bound copy. If this is true also for English, then this would explain the following.

(26) [The person that every boy_i said Mary likes] is {himself_i/ *him_{i/j}}

(26) shows that a quantifier bound pivot cannot be the simple pronoun *him* even though this is the only form possible in the non-copular version. If *him* can only be a type e variable and not a function (cf. Sharvit 1999), then the ungrammaticality of *him* in (26) can be attributed to the fact that the quantifier does not bind the pronoun here. On the other hand, syntactic binding is not required for *himself* as it has a functional meaning. If this is correct, then this shows that quantifier binding even in English requires syntactic binding in (at least) this one context. This is contrary to recent claims (eg. Barker 2012) that syntactic binding is never required for English quantifier binding interpretations.

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