

Reevaluating Standard Analyses of Comparison: The View from Malayalam

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ABSTRACT

In this paper, I will argue for an alternative analysis where both the standard marker *than* and the comparative marker *more* encode comparative semantics. The evidence for this comes from Malayalam comparatives. Malayalam lacks an adjectival category and uses complex property concept expressions to encode adjectival meaning (Menon 2013, Menon and Pancheva forthcoming). In the absence of adjectives, nominal and verbal comparatives are formed using two different kinds of comparatives. The comparative marker is an adnominal degree modifier along the lines of ‘in addition to’, ‘in excess of’. The comparative semantics is encoded in the semantically non-vacuous *than* which functions as a quantifier domain adverbial (similar in spirit to Schwarzschild 2014) whereby it restricts the domain of the degree quantifier *more*.

1. Introduction

Under the standard analysis, gradable adjectives denote relations between individuals and degrees (Seuren 1973, Cresswell 1979 a.o). A gradable predicate, such as *tall*, incorporates the measure function *height*, which when applied to an individual, yields the degree *d* of *height* of that individual.

$$(1) \quad \llbracket \text{tall} \rrbracket = \lambda d \lambda x. \mathbf{height}(x) \geq d$$

In the degree analysis of adjectives, functional morphology such as, measure phrases (‘two feet’), positive morphemes (POS), or the comparative morpheme *more* saturate the degree argument. In comparatives, such as (2) the semantics of comparison is encoded in the comparative morpheme (3) and the standard marker *than* is taken to be semantically vacuous. The degree morpheme is a quantifier that undergoes quantifier raising along with the standard phrase.

- (2) a. John is taller than Bill (is).
b. John is [_{AP}[_{DegP} -er than Bill] tall]
c. [_{DegP} -er than Bill]_i John is [_{AP} t_i tall]

$$(3) \quad \llbracket \text{-er/more} \rrbracket = \lambda D. \lambda D'. \max D' > \max D \quad (\text{Heim 2000})$$

In the absence of lexical adjectives, Malayalam uses property concept expressions (often lexicalized as adjectives in languages that have them). The semantics of these expressions differ considerably from the standard semantics. This paper extends the semantics to understand how comparison works in languages without lexical adjectives.

2. Malayalam comparatives: The basic data

There are two types of comparatives in Malayalam, depending on the standard marker: *kaal-um* and *il-um* (4). They both show clausal comparison and phrasal comparison (see Menon 2012 for some diagnostics). The *kaal-um* is similar to a particle comparative and is unique to Malayalam among other Dravidian languages. *kaal* is a dedicated *than* morpheme found only in comparatives. The comparative marker *kuuttal* is optional with *kaal-um* comparatives.

- (4) a. the *kaal-um* comparative: phrasal
Anil-inə [*Komalan-e kaal-um*] (kuuttal) pokkam unʃə
Anil-DAT Komalan-ACC than-UM more tallness POSS V
‘Anil is taller than Komalan.’ (Lit. ‘To Anil there is (more) tallness than Komalan.’)

- b. the *kaal-um* comparative: clausal

Anil-inə [Komalanə pokkam u[[a-t-ine] kaa]-um (kuuṭuttal)
 Anil-DAT Komalan-DAT tallness EX.COP_{nonfinite}-REL-NOML-ACC than-UM more
 pokkam uṅṅə
 tallness POSS V
 ‘Anil is taller than Komalan.’ (Lit. ‘To Anil there is (more) tallness than Komalan has tallness.’)

The second type of comparison, called the *il-um* comparative is the common strategy employed by all other Dravidian languages. It uses a locative postposition *il*, which is attached directly to the standard. Thus, there is a case marking difference between the two comparatives. The standard in the *kaa]-um* comparative is accusative case marked while the standard in the *il-um* comparative is locative case marked.

(5) a. the *il-um* comparative: phrasal

Anil-inə [Komalan-il-um] *(kuuṭuttal) pokkam uṅṅə
 Anil-DAT Komalan-LOC-UM more tallness POSS V
 ‘Anil is taller than Komalan.’ (Lit. ‘To Anil from Komalan there is tallness.’)

b. the *il-um* comparative: clausal

Anil-inə [Komalanə pokkam u[[a-t-il-um] *(kuuṭuttal)
 Anil-DAT Komalan-DAT tallness EX.COP_{nonfinite}-REL-NOML-LOC-UM more
 pokkam uṅṅə
 tallness POSS V
 ‘Anil is taller than Komalan.’ (Lit. ‘To Anil from Komalan there is tallness.’)

There are two generalizations from the above data. The comparative marker behaves differently in *kaa]-um* and *il-um* comparatives. In the case of *il-um* comparatives, the comparative marker *kuuṭuttal* is obligatory.

3. Distribution of the comparative marker *more*

The comparative marker in Malayalam *kuuṭuttal* has a peculiar distribution. Depending on different expressions it can combine with, there is an asymmetry in the distribution.

3.1. NP comparatives are conditioned by possession

The comparative marker is obligatory when the NP is encoded in a non-possessive construction. When the NP is encoded in a possessive construction (the existential copula), the comparative marker is optional.

(6) NP comparative: obligatory *more* outside of possession

- a. Anil [Komalan-e kaa]-um] *(kuuṭuttal) pazham kazhicc-u
 Anil Komalan-ACC than-UM more bananaseat-PAST
 ‘Anil ate more bananas than Komalan.’
 b. *(kuuṭuttal) vellam kuṭiccu ‘drank more water’
 c. *(kuuṭuttal) kaatu vizhingi ‘ate more air’

(7) NP comparative: optional *more* with possession

- a. Anil-inə [Komalan-e kaa]-um] (kuuṭuttal) vellam uṅṅə
 Anil-DAT Komalan-ACC than-UM more water POSS V
 ‘Anil has more water than Komalan.’
 b. (kuuṭuttal) paṅam uṅṅə ‘has more money’

Crucially, possession plays a role in determining the presence of the comparative marker. In the case of *il-um* comparative, as I noted in the previous section, the comparative marker is always obligatory.

3.2. Verbal comparatives: obligatory more

In the case of verbal comparatives, the comparative marker seems to be obligatorily required.

- (8) a. Anil [*Komalan-e* kaa[-um] *(kuuṭṭal) ooṭi
 Anil Komalan-ACC than-UM more ran
 ‘Anil ran more than Komalan.
 b. *(kuuṭṭal) nadannu ‘walked more’
 c. *(kuuṭṭal) mala kerī ‘climbed more hills’

The same obligatory requirement holds of verbal comparatives formed using the *il-um* comparative.

3.3. Class 1 property concept expressions prohibit the comparative marker

In previous work, I have analyzed Malayalam has having two classes of property concept (PC) expressions (for more details, see Menon 2013, Menon and Pancheva 2014, Menon and Pancheva forthcoming). There are no semantic differences between the two types of roots. The distinction is morpho-syntactic (based on etymology), and the morpho-syntactic class determines the type of structures the roots can appear in.

- (9) a. [[√nall]] = the property of goodness (Class 1)
 b. [[√santosh]] = the property of happiness (Class 2)

A covert possessive *v* categorizes Class 1 roots. Class 2 roots are categorized with a non possessive *v*, and they enter further PC predication as complements of possessive predicates. Correspondingly, all PC predication is possession-based.

- (10) Class 1 PC root (-a ending, relativized root)

- a. [[[√nall + \varnothing_{v_poss}]_v + POS]_v -a]_{rel}
 Lit. ‘having an instance of goodness measuring to a degree that exceeds the standard’
 b. [[\varnothing_{v_poss}]] = $\lambda II \lambda d \lambda x \exists y [y \text{ is an instance of } II \ \& \ x \text{ has } y \ \& \ \mu(y) \geq d]$
 c. [[POS]] = $\lambda g_{<d, <e, t>}. \lambda x. \exists d [g(d)(x) \ \& \ d > d_s]$
 d. [[nalla]] = $\lambda x. \exists d \exists y [y \text{ is an instance of goodness} \ \& \ x \text{ has } y \ \& \ \mu(y) \geq d \ \& \ d > d_s]$
 $\approx \lambda x. \exists d [x\text{'s goodness} \geq d \ \& \ d > d_s]$

Thus, Class 1 PC expressions encode covert possession and they are gradable. These Class 1 PC expressions such as *big*, *good*, *new* never appear with the comparative marker.

- (11) Class1 PC comparatives: *more* is prohibited

- a. Anil [*Komalan-e* kaa[-um] (*kuuṭṭal) nalla-van aaṇṇ
 Anil Komalan-ACC than-UM more good-M.SG PRED V
 ‘Anil is good than Komalan.’ (Lit. ‘Anil is one having goodness than Komalan’)
 b. (*kuuṭṭal) pazhayatə ‘more old’
 c. (*kuuṭṭal) valippam ‘more big’

Class 1 PC expressions only appear with *kaa[-um]* comparative due to the prohibition against the comparative marker.

3.4. Class 2 property concept expressions optionally allow the comparative marker

Class 2 PC roots are non-gradable and they are categorized using a non possessive verbal head.

- (12) Class 2 property concept root (-am ending, nominalized root)

- a. $[[\sqrt{\text{pokk}} + \varnothing_v]_v + \text{-am}]_n$
Lit. ‘being an instance of height’
- b. $[[\varnothing_v]] = \lambda I I \lambda x [x \text{ is an instance of } I]$
- c. $[[\text{pokkam}]] = \lambda x. [x \text{ is an instance of height}]$

The possessive relation is expressed at the level of the word, through a covert possessive verbal morpheme, with Class 1 roots, and at the phrasal level, through an overt possessive verb, with Class 2 roots. Gradability is directly related to property possession. Only Class 1 roots are gradable.

Class 2 PC expressions such as *happiness*, *tallness*, *smartness* optionally appears with the comparative marker.

(13) Class 2 PC comparatives: *more* is optional

- a. Anil-inə [Komalan-e kaa[-um] (kuuṭuttal) pokkam uṅṭə
Anil-DAT Komalan-ACC than-UM more tallness POSS V
‘Anil is taller than Komalan.’ (Lit. ‘Anil has more tallness than Komalan.’)
- b. (kuuṭuttal) santosham ‘more happiness’
- c. (kuuṭuttal) dukkam ‘more sadness’

A question regarding the comparative marker emerges at this point. Why is *more* obligatory with NP comparatives outside of possession, optional with possessive predicates including those appearing with Class 2 expressions, and disallowed with Class 1 expressions? The answer lies rooted in the semantics of the standard marker, often assumed semantically vacuous in standard analyses as we will see in Section 5.

In this section, we have seen that the behavior of *more* is quite distinct from the English *-er/more*. It has a varied distribution depending on the standard marker and the kind of expression it combines with. The next section examines the distribution of the standard marker *than*.

4. Distribution of *than*

It is well known that in English, the standard phrase in a comparative construction can be optionally omitted. These type of constructions are called as implicit comparatives.

(14) {Come out onto the porch.} It’s cooler here. (Sheldon 1945)

- (15) a. John has 3 pens. I have more.
- b. John is 6 ft tall. I am taller.

4.1. *Than* is always obligatory in Malayalam

Unlike English comparatives, the standard marker in Malayalam comparatives can never be omitted and these comparatives are disallowed.

- (16) a. Anil-inə muunə pena uṅṭə. enikkə [atin-e kaa[um] kuuṭuttal uṅṭə.
Anil-DAT three pens EX COP I-DAT that-ACC than more POSS V
‘Anil has three pens. I have more than that.
- b. Anil-inə aarə aṭi pokkam uṅṭə. enikkə [atin-e kaa[um] kuuṭuttal uṅṭə
Anil-DAT three feet tallness EX COP I-DAT that-ACC than more POSSV
‘Anil is 6 feet tall. I have more than that.

Thus, another generalization that comes forth from this data is regarding the nature of the comparative marker *more* in Malayalam, it behaves differently from English *more*. Schwarzschild 2014, analyses Hebrew as having a semantically meaningful *than*, based on the way the language forms differentials.

Malayalam differs from English and Hebrew in forming comparatives from property concept expressions. Hebrew and Malayalam allow bare comparatives, formed only using the standard phrase headed by *than*. English and Hebrew, to the exclusion of Malayalam, allow an incomplete comparative where the standard phrase is omitted. Thus, the Malayalam *than* is special and the behavior of *than* and *more* in Malayalam is different from that of English or Hebrew.

5. Toward an analysis

There are three viable options for accounting for the variable behavior of the comparative marker. I will show that only one of these options is tenable for the data presented from the Malayalam comparatives. The first option is to assume the standard semantics for the comparative marker as in the standard literature. In this case, the comparative marker *more* encodes the comparative semantics. However, this analysis will provide no explanation for the varied distribution of the comparative marker. Why is it that the *more* is disallowed with Class 1 property concept expressions, optional with Class 2 property concept expressions, and obligatory with NP and VP comparatives, if indeed the comparative marker encodes comparative semantics uniformly?

The second option is to assume a silent degree head as is seen postulated for Hindi (Bhatt and Takahashi 2011). However, if indeed there was a silent head mediating the semantics, we expect to see systematic distinctions between the degree head *-er* and the comparative marker, yet we don't.

The final option is to assume that the standard phrase is not semantically vacuous and in addition to the comparative marker encodes the comparative marker. This is the analysis I will be pursuing in the following sections.

5.1. Is the *more* actually *more*?

Before laying out the analysis, looking at the nature of the comparative marker, one could ask whether it is indeed a comparative marker. I will offer a morphological decomposition account suggesting that the comparative marker is a dedicated morpheme seen only in comparative uses.

$\sqrt{\text{kur}}$ is the root for quantity predicates. The same root can be seen in comparatives of superiority (*more*) as well as comparatives of inferiority (*less*). Moreover, *kuuṭuttal* 'more' is only used in comparatives.

- | | | | |
|------|----|---|---------------------------|
| (17) | a. | $\sqrt{\text{kur}}$ + <i>-ee</i> = <i>kuree</i> | 'a lot, many, much' |
| | b. | $\sqrt{\text{kur}}$ + <i>-avə</i> = <i>kuravə</i> | 'less' |
| | c. | $\sqrt{\text{kur}}$ + <i>-uka</i> = <i>kuuṭuka</i> | 'to increase' |
| | d. | $\sqrt{\text{kur}}$ + <i>uṭ</i> + <i>-al</i> = <i>kuuṭuttal</i> | 'many/much + er' ~ 'more' |

5.2. A semantics for *than*

It is not altogether implausible to assume a semantics for the standard marker. Cross-linguistically, it has been shown that the standard marker determines the semantics of comparison by selecting for a phrasal vs. clausal standard of comparison (Kennedy 2009). As seen in Schwarzschild 2014 for Hebrew and earlier in this paper in Section 3, comparative marker is not always necessary in comparative constructions. Comparative markers are also cross-linguistically rarer than standard markers (Stassen 1985).

5.3. *Than* is not semantically vacuous and encodes comparison¹

My main proposal is regarding the semantic content of the standard marker *than*. The semantics for the standard marker is given in (18). It takes two individuals and gives an ordering between the property possessed by the individual *x* and the property possessed by the individual *y*. Thus, the standard marker establishes an ordering relation and also compares the property possession. However, there needs to be a notion of maximality, which is given by the characteristic function supremum *sup*. This function gives the

¹ This analysis supersedes the analysis in Menon (forthcoming).

least upper bound reading. The *sup* function is adapted from Alrenga et al (2013). *Π* is a meta variable on property concept expressions.

$$(18) \quad \text{than:} \quad \llbracket \text{kaa}\{-um\} \rrbracket = \lambda P_{\langle e, t \rangle}. \lambda y. \exists \Pi [\text{sup } \Pi (y) > \text{sup } \Pi (P)]$$

Than first takes the standard clause as its argument and relates the target of comparison with the standard of comparison. One evidence pertaining to the claim that the standard marker is not a degree quantifier comes from the inability of the *than* phrase to host a degree denoting expression such as a measure phrase or degree descriptions such as ‘more than three’.

$$(19) \quad \text{a.} \quad \begin{array}{llllll} * \text{Anilin}\bar{a} & \text{aar}\bar{a} & \text{a}\bar{t}\bar{i}\text{-e} & \text{kaa}\{\text{um}\} & \text{pokkam} & \text{u}\bar{n}\bar{t}\bar{a} \\ \text{Anil-DAT} & \text{six} & \text{feet-ACC} & \text{than} & \text{tallness} & \text{EX COP} \end{array}$$

‘Anil is more than 6 feet tall.’

$$\text{b.} \quad \begin{array}{llllll} \text{Anilin}\bar{a} & \text{aar}\bar{a} & \text{a}\bar{t}\bar{i}\text{-il-um} & \text{pokkam} & \text{u}\bar{n}\bar{t}\bar{a} \\ \text{Anil-DAT} & \text{six} & \text{feet-LOC-UM} & \text{tallness} & \text{EX COP} \end{array}$$

‘Anil is more than 6 feet tall.’

$$(20) \quad \text{a.} \quad \begin{array}{llllll} * \text{Anilin}\bar{a} & \text{muun-ine} & \text{kaa}\{\text{um}\} & \text{kuu}\bar{t}\bar{t}\bar{a} & \text{pustakam} & \text{u}\bar{n}\bar{t}\bar{a} \\ \text{Anil-dat} & \text{six-DAT} & \text{than} & \text{more} & \text{books} & \text{EX COP} \end{array}$$

‘Anil has more than three books.’

Given this semantics, in the next sections I develop how comparatives are formed in the different classes of property concept expressions in Malayalam.

5.4. *Than* alone encodes comparison- Class 1

Class 1 property concept expressions are *-a* ending relativized property concept expressions and they never allow an overt comparative marker *more*. The internal composition of these Class 1 expressions encode covert possession, through merge in the Spec of a functional head \varnothing_{v_poss} . The positive morpheme (POS) can saturate the degree argument and the *-a*, which is the relative clause marker in Proto-Dravidian attaches next. The role of this marker is only syntactic and it does not change the semantic type of the property concept expression.

$$(21) \quad \llbracket [[\sqrt{\text{null}} + \varnothing_{v_poss}]_v + \text{POS}]_v -a \rrbracket_{\text{rel}}$$

Lit. ‘having an instance of goodness measuring to a degree that exceeds the standard’

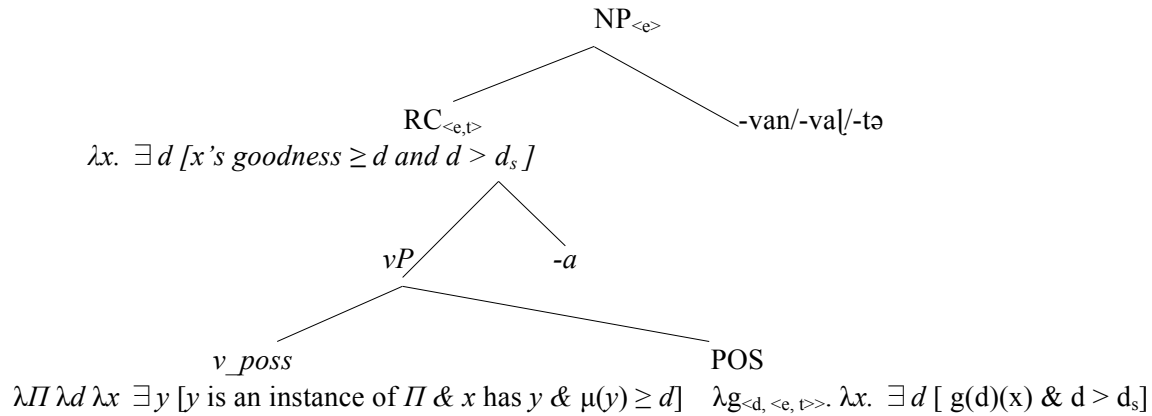
$$(22) \quad \text{a.} \quad \begin{array}{c} \text{RC} \\ \lambda x. \exists d [x\text{'s goodness} \geq d \text{ and } d > d_s] \\ \swarrow \quad \searrow \\ \text{vP} \quad \quad \quad -a \\ \swarrow \quad \searrow \\ \text{v_poss} \quad \quad \quad \text{POS} \end{array}$$

$$\lambda \Pi \lambda d \lambda x \exists y [y \text{ is an instance of } \Pi \ \& \ x \text{ has } y \ \& \ \mu(y) \geq d] \quad \lambda g_{\langle d, \langle e, t \rangle \rangle}. \lambda x. \exists d [g(d)(x) \ \& \ d > d_s]$$

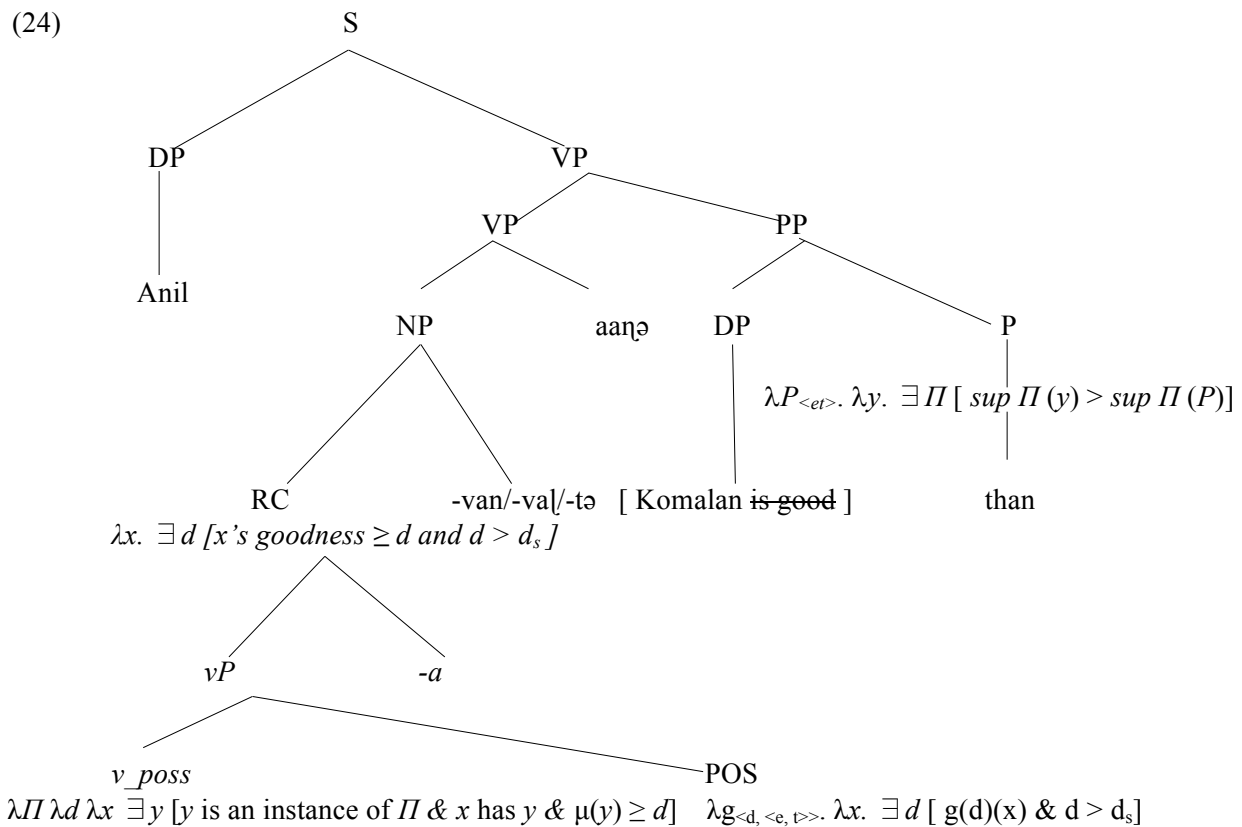
The role of the standard marker, *than*, which is a PP adjunct that can adjoin to the vP, is to combine with a Class 1 expression and restrict the POS, essentially set the context. It also introduces an ordering relation

between the property possessions. This structure is then turned into a resumptive one by the addition of resumptive pronouns that turn the relative clause into a free relative.

(23) b. A pronoun makes the relative clause in (22a) into a free relative.



The PP adjunct is then right adjoined to the VP. I will assume that comparative clause is unpronounced following VP ellipsis at the PF interface. The reason for assuming a clausal standard and not a phrasal standard is due to the fact that the clause can be pronounced fully, optionally (cf. (4b)).



The PP adjunct then obligatorily extraposes to the left of the VP to derive the correct word order, as in the classical analysis of comparative syntax (Bresnan 1973). Comparative semantics is entirely encoded in

than. Syntactically as well as semantically the comparative marker has no role. Thus in some sense, this is similar to an implicit comparison (compared to) in English, although the *kaaɭum* comparative is an explicit comparative.

(25) Compared to John, Bill is tall.

This analysis also accounts for how the distribution of *kaaɭum* is less restricted than that of *than* phrases. The comparative marker cannot appear on its own since its role is to introduce a measure function.

(26) a. *Than John, I love Paris.

b. Anil-ine **kaaɭum** enikkə Paris iɟtam aaŋə
 Anil-DAT than I-DAT Paris love PRED V
 ‘I love Paris than Anil.’

c. Anil-ine **kaaɭum** Komalanə pustakam uŋtə
 Anil-DAT than Komalan-DAT books EX.COP
 ‘Komalan has more books than Anil.’

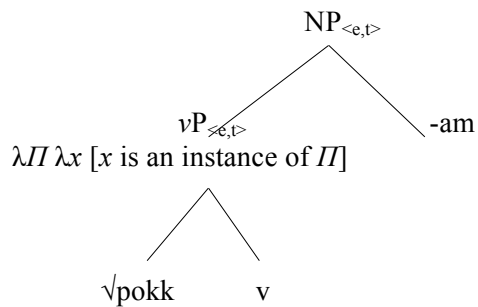
In Class 1 property concept expressions, the comparative semantics is wholly achieved by the semantics of the standard marker.

4.7.3.3. *Than* alone encodes comparison- Class 2

Class 2 property concept expressions are different from Class 1 property concept expressions in that they are nominalized with the *-am* marker. They merge in the Spec of a non possessive \emptyset_v . Thus in these cases, the possession is encoded overtly by combining with the possessive verb *uŋtə*. The possessive verb together contributes a degree for comparison. This verb also mandatorily requires dative marking.

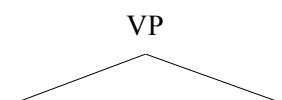
(27) $[[\sqrt{\text{pokk}} + \emptyset_v]_v + \text{-am}]_n$
 Lit. ‘being an instance of height’

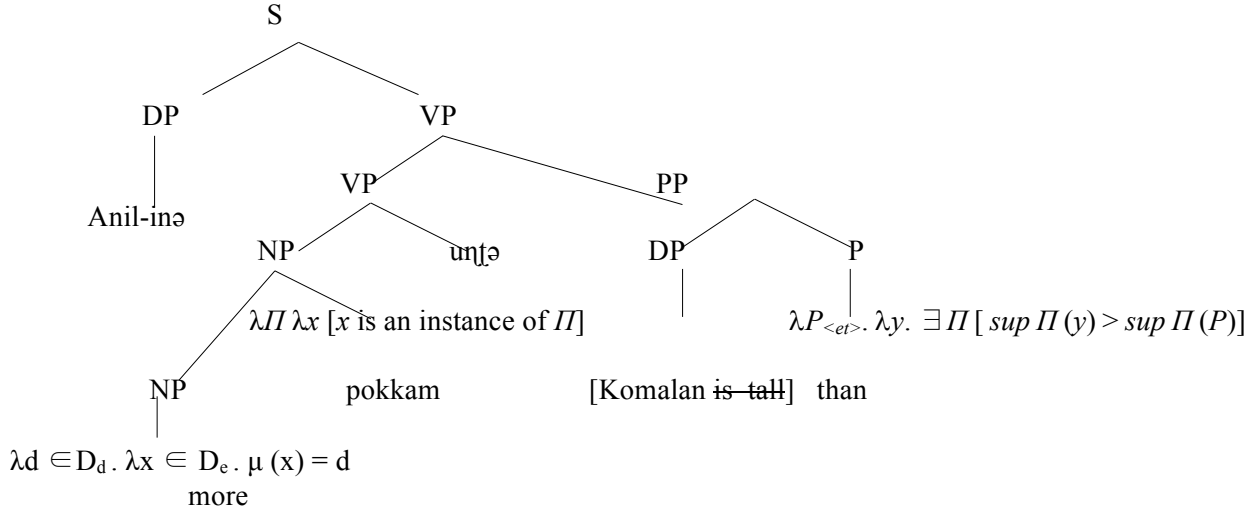
(28)



The nominal formed in (28) merges with a vP hosting the Poss V. Thus possession makes the predicate gradable. The standard marker *than* saturates the degree argument of the have predicate + dative construction.

(29)





Thus, NP and VP comparatives need to be made gradable overtly by the addition of the degree morphology, the comparative adnominal marker *more* which introduces the measure function.

6. Conclusion

We have seen there is a maximally transparent mapping from surface syntax to meaning by showing that both the comparative morpheme (*more*) and the standard morpheme (*than*) contribute to the semantics of comparison. The *than* can never be omitted from comparative constructions. The *than* phrase can bind the degree argument in the matrix clause in bare comparatives or can act as a quantifier domain adverbial in the presence of *more*. This division of labor can be seen in other instances of grammar, time and tense adverbials, modality and negation, numerals and plurals.

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