The grammatical life of property concept roots in Malayalam[1]

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Abstract. We provide an account of the morpho-syntax and semantics of property concept denoting expressions in Malayalam. We suggest that property concepts are lexicalized as uncategorized roots. Depending on the category of the functional heads they merge with, they participate in two types of predication. Both types are based on possession, overtly or covertly expressed. Our results add to recent work by Francez and Koontz-Garboden (2013) concerning variation in the lexicalization and grammar of property concepts cross-linguistically.

Keywords: property concepts, adjectives, possession, predication.

1. Property concepts

Property concepts are notions that are consistently lexicalized as adjectives across languages (Dixon 1982) – an affinity between meaning and category that is of interest to semantic theory, particularly in light of questions concerning universality and variation in the lexicon and the consequences for grammar. Addressing these issues, Francez and Koontz-Garboden (2013) have put forth the *Lexical Semantic Variation Hypothesis*, suggesting that property concepts can lexicalize as adjectives or as nouns (e.g., *intelligent* or *intelligence*), across languages or within one and the same language. The lexical semantics of the two categories differ: adjectival property concept lexemes have the usual semantics attributed to adjectives (e.g., relations between degrees and individuals, or measure functions that are then embedded in degree functional structure, etc.), whereas nominal property concept lexemes denote mass substances. Furthermore, the syntactic category and the associated lexical semantics of property concept lexemes determine what kind of predication these lexemes can participate in: adjectives participate in canonical predication, employing the morpho-syntax used with predicate nominals (e.g., *John is intelligent* / *a doctor*), whereas nouns participate in possessive predication, employing possessive morpho-syntax (e.g., *John has intelligence* / *a child*).

In this paper we investigate the structure and semantics of expressions that make reference to property concepts in Malayalam, a language that has no category of adjectives. We provide further evidence for the link between the nominal category of property concept lexemes and possessive predication. However, we also show that, in the absence of lexical adjectives, canonical predication involving property-concept lexemes is accomplished with an expression that includes a covert possessive. Thus, we argue that property concept predication in Malayalam is always based on possession, covert or overt. The analysis of Malayalam raises the possibility that property concepts universally lexicalize as roots, rather than as adjectives or nominals, and

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that all property concept roots, rather than only nominal property concept lexemes, denote substance-like individuals, requiring possessive predication. Adjectives, in the languages that have them, can be treated as syntactically derived categories that too use a possessive strategy of predication, a covert one. Even more generally, cross-linguistic variation is not located in the lexicon; rather variation in morpho-syntax and logical semantics of property concepts is encoded at the level of the functional vocabulary that categorizes property concept roots.

2. Two types of roots denoting property concepts in Malayalam

The descriptive grammar of Asher & Kumari (1997:116-117, 350) notes that Malayalam has a class of 'pure', 'morphologically simple' adjectives, as in (1). However, Amritavalli and Jayaseelan (2003), Jayaseelan (2007), and Menon (2013), have argued against the claim that these expressions are lexical adjectives, suggesting instead that they have complex structure that incorporates other categories.

(1) nalla 'good', valiya 'big', paẓaya 'old', čeriya 'small'

Amritavalli and Jayaseelan (2003) and Jayaseelan (2007) argue that expressions such as those in (1) are created by the incorporation of a noun into a preposition or a case-licensing head. Menon (2013) notes that these so-called 'pure adjectives' can be given an analysis as relative forms, *-a* being the relative verbal marker in the language. We follow this analysis. Thus we endorse the view that property concepts in Malayalam are always lexicalized as morphologically complex forms that, moreover, do not have an adjectival affix. Rather, such expressions are either a relative verbal form, as in (2a), or a nominalization, as in (2b).[2]

(2) a. Class 1 (native roots + *a*)
valiya 'having bigness', čeriya 'having smallness', puthiya 'having newness'
nalla 'having goodness', pačča 'having greenness,' niila 'having blueness'

b. Class 2 (borrowed roots + *am*)
santosham 'happiness', sankaṭam 'sadness', madhuram 'sweetness'
prayasam 'difficulty', santam 'quietness', pokkam 'tallness'

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.

Our analysis of Class 1 and Class 2 roots is as follows. We suggest that both Class 1 and Class 2 roots denote property concepts, as in (3). We follow Chierchia and Turner (1988) in treating the expressions denoting property concepts (for us, roots) as sorts of the type of entities.

[2] There is a small set of roots, also of Sanskrit origin, that take the ending *–i,* e.g. *bhaŋŋi* 'beauty', *vrithi* 'cleanliness', *buddhi* 'intelligence'. They behave like the Class 2 forms, i.e. they are nominals.

(3) a. $[\![\sqrt{nall}]\!]$ = the property of goodness (Class 1)
b. $[\![\sqrt{santosh}]\!]$ = the property of happiness (Class 2)

A covert possessive little *v* categorizes Class 1 roots, and the verbal expression is then relativized by the relative marker *-a*. Class 2 roots are categorized as nouns, and they enter further property concept predication as complements of overt possessive predicates, as in Francez and Koontz-Garboden (2013). Correspondingly, all property concept predication in Malayalam is possession-based.

3. Syntactic and semantic structures for property concept denoting roots

3.1 Class 1 roots

Let's start with the grammatical life of Class 1 roots. Recall that they are always lexicalized with an *a*-suffix. Our proposal is that these expressions have the syntax of reduced relative clauses. We know that *-a* is the independently attested relative verbal morpheme, as the following examples illustrate ((4a) is from Asher and Kumari 1997: 54)). The "__" in the examples below shows the position that has been relativized; as can be seen in (6), *-a* marks the verb in the highest clause that hosts the null relative operator.

(4) [__ aʈutta pariiksaykkə varunn-a] coodyaŋŋaḷ
next examination.DAT come.PRES.RP question.PL
'the questions that come in the next examination.'

(5) njaan [Anil Komalanə __ koʈutt-a] pustakam vayiccu
I Anil Komalan-DAT gave-REL book read-past
'I read the book that Anil gave to Komalan.'

(6) [[ɲaan __ kaɳʈ-u ennə] niŋal paɾayunn-a] kuʈʈi
I see-PAST COMP you say-REL child
'The child that you say that I saw.'

Importantly, the Class 1 roots must have been verbalized first, before the addition of the relative marker *-a*, since *-a* only merges with verbs. So we propose that Class 1 roots are turned into non-finite verbal expressions by the addition of a null *v,* with possessive semantics, as in (7). We use *Π* as a meta-variable over property-concept-denoting expressions (similarly to Koontz-Garboden and Francez' 2010 *p*).

(7) $[\![\varnothing_{\text{v\_poss}}]\!] = \lambda\Pi.\ \lambda x.\ [x \text{ has } \Pi]$ (to be modified)

The *v*Ps created by the merge of the null possessive *v* of (7) and Class 1 roots denote predicates of individuals. Semantically, they are of the appropriate type but syntactically they cannot be predicates or attributes just yet, they need to be further relativized by the verbal relative marker

-a. This changes the syntactic category, as the structure is now participial; the semantic type remains unchanged.

(8) a. [[$\sqrt{nall}$ + ∅ $_{v\_poss}$]$_v$ (Class1, to be modified)
Lit. 'have (the property of) goodness'
b. [[$\sqrt{nall}$ + ∅ $_{v\_poss}$]$_v$ + *-a*]$_{rel}$
Lit. 'having (the property of) goodness'
c. [[nalla]] = λ*x*. [*x* has (the property of) goodness]

The participial *-a*-forms can be used in attributive position – they have the appropriate participial syntax and <e,t>-type semantics to be interpreted through predicate modification.

(9) nalla kuṭṭi (Class 1)
having-goodness child
'a good child' (lit. 'having goodness child')

The participial *-a*-forms can also be used in predicative position, after they are turned into light-headed relatives, i.e., DPs, through the merge of bound pronouns (similar to the analysis in Jayaseelan and Amritavalli 2004, for whom these expressions are free relatives).

(10) a. nalla-vaḷ (Class 1)
having-goodness-F.SG
'one who has goodness' (lit. 'she having goodness')

b. nalla-van
having-goodness-M.SG
'one who has goodness' (lit. 'he having goodness')

The so-called equative (EQ) copula completes the predication structure, see (11). The EQ copula is the canonical predication strategy in Malayalam, as illustrated in (12) – it is the structure used with predicate nominals. The example in (12b) is particularly relevant, since it has the same structure as the property concept predicates in (11) – a verb ('to hear') is relativized by *-a* and turned into a participle; the pronominal then changes the participle into a light-headed relative – an appropriate nominal to be a complement to the EQ copula.

(11) a. avaḷ nalla-vaḷ aaṇə (Class 1)
she having-goodness-F.SG EQ-COP
'She is good.' (lit. 'She is one having goodness.')

b. avan nalla-van aaṇə
he having-goodness-M.SG EQ-COP
'He is good.' (lit. 'He is one having goodness.')

(12) a. avan kolayali aaɳə
he murderer EQ-COP
'He is a murderer.'

b. avaɭ keɭ̲kkun-a-vaɭ aaɳə
she hear-REL-F.SG EQ-COP
'She is one who can hear.' (lit. 'She is one hearing.')

An alternative account where the *-a* affix of Class 1 forms is a marker of adjectival category and thus different from the verbal relative affix *-a*, would additionally have to posit that adjectives too, not just relative participles, need to be nominalized before becoming the complement to the EQ copula – a complication to the grammar. Treating the Class 1 expressions as verbs that have been relativized to become syntactically good predicates, not only gives a uniform treatment to the *-a* affix, but also readily explains why the relative participles need to become light headed relatives in order to combine with the EQ copula.

We see that Class 1 property concept roots participate in canonical predication – with the EQ copula – just as predicted by the analysis of Francez and Koontz-Garboden (2013). But we also see that there is an analytical advantage in treating Class 1 forms as being verbal rather than adjectival – no two different morphemes *-a* need to be posited, and expressions incorporating pronouns are treating alike. If this analysis is indeed correct, then the null verb that is the input to *-a*-affixation needs to have possessive semantics. Thus, Class 1 property concept denoting roots use a covert possessive strategy.

3.2 Class 2 roots

Let's now look at the grammar of Class 2 roots. Class 2 roots combine with the *-am*-marker, and we thus treat them as nominals, *-am* being a productive nominal marker in Malayalam.

(13) a. chaaṯ-uka 'to jump' – chaaṯ-am 'a jump'
b. ooṯ-uka 'to run' – ooṯ-am 'a run'
c. sneh-ikk-uka 'to love' – sneh-am 'love'

The affix *-am* categorizes the property concept root as a nominal. Since *-am* also appears in nominals other than Class 2 forms, as in (13), we take it to be the spell-out of different nominalizing heads, with different semantics. The particular nominalizing head that combines with Class 2 roots – but not with the forms in (13) – has the semantics in (14): it turns the abstract property concept into a predicate of individuals that are instances of the property.

(14) $[\![\text{-}am_{\text{n}}]\!] = \lambda\Pi.\ \lambda x.\ [x \text{ is an instance of } \Pi]$ (to be modified)

(15) a. $[\sqrt{pokk} + am]_{\text{n}}$ (Class 2, to be modified)
Lit. 'being an instance of (the property of) tallness'
b. $[\![\text{pokkam}]\!] = \lambda x.\ [x \text{ is an instance of (the property of) tallness}]$

We have chosen to treat these Class 2 nominals as having just one affix added to the root – the nominal categorizing head – but an alternative account could say that Class 2 roots combine with a null verbal head, which has the semantics attributed to *-am* in (14), while *-am* performs just a syntactic function of nominalization, without contributing to a change in meaning. We have not endorsed this account because if *–am* could combine with verbs, then it should be able to apply to Class 1 forms – which, as we posited, contain a possessive little *v.* Yet, this does not happen, *-am* attaches only to Class 2 forms (though see also footnote 3).

Class 2 *-am*-marked forms can participate in predication over individuals with the help of the possessive (called existential, EX) copula. Existential quantification over the individual variable is supplied in ways similar to that in regular existential/possessive predication (e.g., (17)).

(16) avaɭkkə pokkam unʈə (Class 2)
she.DAT tallness EX-COP
'She is tall.' (lit. 'To her there is tallness.')

(17) avaɭkkə mookutthi unʈə
she.DAT nose-pin EX-COP
'She has a nose pin.' (lit. 'To her there is a nose pin.')

When further relativized by *-a*, non-finite predicative structures with Class 2 forms can occupy attributive positions as well, see (18)-(19), where *uḷḷ-* is the non-finite EX copula – we again have an overt possessive strategy applied to the nominal property concept expressions.

(18) $[[[\sqrt{pokk} + am]_n + uḷḷ\text{-}]_v + \text{-}a]_{rel}$ (Class 2)
Lit. 'tallness having'

(19) pokkam uḷḷa kutti (Class 2)
tallness having child
'tall child.' (lit. 'tallness having child.')

And of course, the relative structure in (18) can be turned into a light-headed relative, as in (20), similar to Class 1 forms in (10).

(20) a. pokkam uḷḷa-vaɭ (Class 2)
tallness having.F.SG
'tall one' (lit. 'she having tallness')

b. pokkam uḷḷa-van
tallness having-M.SG
'tall one' (lit. 'he having tallness')

The EQ-copula can then combine with these light-headed relatives, for canonical predication, as in (21), similarly to Class 1 forms in (11). This is a second strategy for predication for Class 2 forms, in addition to the strategy illustrated in (16).

(21) a. avaḷ pokkam uḷḷa-vaḷ aaṇə (Class 2)
she tallness having-F.SG EQ-COP
'She is tall.' (lit. 'She is one having tallness.')

b. avan pokkam uḷḷa-van aaṇə (Class 2)
he tallness having-M.SG EQ-COP
'He is tall.' (lit. 'He is one having tallness.')

We see that Class 2 property concept roots participate in overt possessive predication, as is to be expected from nominalizations on the account of Francez and Koontz-Garboden (2013). But we also see that with the help of the same syntactic mechanisms available to Class 1 forms – relativization with *-a,* and the creation of a light-headed relative with the help of pronouns – Class 2 forms can also participate in canonical predication. The structural similarity between (11) and (21) further supports the analysis of Class 1 forms as including a covert possessive verb. The type of copula – possessive or canonical – is determined by the category of the copula's complement, but the complement can vary in complexity itself, and include both covert and overt possessive predicates. The intricacy of syntactic structure and semantic composition that are behind property concept expressions in Malayalam highlight the link between property concept predication and possession.

3.3 Combinatorial possibilities for the categorizing affixes

We saw that each root class combines with a dedicated categorizing morpheme – the null possessive *v*, followed by *-a*, combines with Class 1 roots, and the nominalizing *-am* morpheme with Class 2 roots. Are the reverse combinations also possible? The answer seems to be 'no'. As far as we can tell, *-a* never combines with Class 2 roots; no evidence that the null possessive *v* does either; *-am* similarly is restricted to Class 2 roots.[3] To nominalize a Class 1 root, the light-headed relative strategy, with a NEUT.SG pronoun, is needed (the same strategy illustrated with F.SG and M.SG in (20)).

(22) a. valiy-a-tə (Class 1)
having-bigness-REL-NEUT
'big thing' (lit. 'that having bigness')

b. nall-a-tə (Class 1)
having-goodness-REL-NEUT
'good thing' (lit. 'that having goodness')

[3] *-am* can seemingly apply to some Class 1 forms, but judging by the extra morphology, it does not apply to the root directly:
(i) a. valiya 'having bigness', valippam 'bigness', valippə 'big space'
b. čeriya 'having smallness', čeruppam 'youth', čeruppə 'young age'

This pattern of distribution suggests that Class 1 roots are morphologically marked – they can only be categorized with the null possessive *v*, and the null possessive *v* itself can only combine further with the relative marker *-a*. Indeed, the limited number of such forms (Asher & Kumari 1997:116-117, 350), and their Old-Dravidian origin (Menon 2013) is consistent with such a characterization. Nominalization with *-am*, on the other hand, is productive. The reason it does not apply to Class 1 roots is because they have to combine with the null *v*, and as we discussed above, *-am* does not combine with *v*. Thus we can say that the default categorization of property concept roots in Malayalam is as nouns.

Given the non-productive nature of possessive null *v* suffixation, an alternative account would posit that the property concepts behind Class 1 forms first make contact with the lexicon as verbs, not as category-less roots. We don't have empirical arguments against such an account. We believe, however, that the account we suggested is to be preferred conceptually, since the lexicalization of property concepts can be treated in a uniform manner.

3.4 Intermediate summary and conclusions

The two classes of property concept roots undergo different syntactic derivations, but crucially start with, and end with, the same meaning. The derivations we proposed are summarized below.

(23) Class 1: native roots (to be modified)

a. $[[_{vP}\ \sqrt{1} + \varnothing_{v\_poss}\ ]\ + a_{rel}\ ]$ (attributive)
'having *Π*'

b. $[[_{DP}\ [[_{vP}\ \sqrt{1} + \varnothing_{v\_poss}\ ] + a_{rel}\ ]$ pron] EQ.COP] (predicative)
'be someone having *Π*'

(24) Class 2: borrowed roots (to be modified)

a. $[[_{vP}\ [_{DP}\ \sqrt{2} + am_{n}]$ EX.COP$_{non\text{-}finite}$] + a_{rel}] (attributive)
'having *Π*'

b. $[[_{DP}\ \sqrt{2} + am_{n}]$ EX.COP] (predicative)
'have *Π*'

c. $[[_{DP}\ [[_{vP}\ [_{DP}\ \sqrt{2} + am_{n}]$ EX.COP$_{non\text{-}finite}$]+ a_{rel}] pron] EQ.COP] (predicative)
'be someone having *Π*'

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. The results build on Francez and Koontz-Garboden (2013)'s proposal about the role of possession in the grammar of property concept expressions, and about constraints on variation in this domain, even within the same language. The results also confirm that Malayalam lacks the category of adjectives, suggesting that Dixon's (1982) typological observation needs to be understood at a deeper, more abstract level.

4. Introducing degrees

The above account of the morpho-syntax and semantics of Class 1 and Class 2 property concept expressions does not capture scalarity yet. We need to introduce degrees as arguments to the functional heads that combine with the property concept denoting roots. We turn to this task next. Here too we rely on insights in Francez and Koontz-Garboden (2013) that property concept lexemes (when nominal for these authors) denote mass substances; we extend this idea to all property concept roots. The core idea is that to be *Π* or to have *Π* means to be/have an instance, a certain amount, of *Π*.

4.1 Class 1 roots

We modify the meaning of the null possessive *v* as in (25). The function μ measures the instance of *Π* to the degree argument of the null *v*.

(25) $[\![\varnothing_{v\_poss}]\!] = \lambda\Pi.\ \lambda d.\ \lambda x.\ \exists y\ [y \text{ is an instance of } \Pi \text{ and } x \text{ has } y \text{ and } \mu(y) \geq d]$

The degree argument can be bound by POS, commonly assumed for gradable adjectives, (26)[4], or by a measure phrase, as in (27)-(28).

(26) $[\![\text{POS}]\!] = \lambda g_{<d,<e,t>>}.\ \lambda x.\ \exists d\ [g(d)(x) \text{ and } d > d_s]$

(27) aaɳə mupattu kilo valiy-a-tə aaɳə (Class 1)
elephant thirty kilo big-REL-NEUT EQ-COP
'The elephant weighs 30 kilos.' (lit. 'The elephant is one having thirty kilos bigness.')

(28) pustakam eʈʈə maasam puthiy-a-tə aaɳə (Class 1)
book eight months new-REL-NEUT EQ-COP
'The book is eight months old.' (lit. 'The book is one having eight months newness.')

The rest of the analysis of Class 1 forms is modified accordingly. The meaning of forms such as those in (29) is norm-related – they are interpreted as making reference to a standard, as would be expected if POS is binding the degree variable rather than a regular existential degree quantifier. The meaning given in (29b) is similar to the meaning assigned to positive gradable adjectives such as *good* in English by many semantic accounts.

(29) a. $[[[\sqrt{nall} + \varnothing_{v\_poss}]_v + \text{POS}]_v \text{-}a]_{rel}$ (Class1)
Lit. 'having an instance of goodness measuring to a degree that exceeds the standard'
b. $[\![nalla]\!] = \lambda x.\ \exists d\ \exists y\ [y \text{ is an instance of goodness and } x \text{ has } y \text{ and } \mu(y) \geq d \text{ and } d > d_s]$
$\approx \lambda x.\ \exists d\ [\text{x's goodness} \geq d \text{ and } d > d_s]$

[4] We put aside complications about comparison classes.

4.2 Class 2 roots

The modified semantics of the *n* head that categorizes Class 2 forms, and spells out as *–am*, is as in (30): it turns the abstract property into a measured instance of the property. POS (as in (26)) can apply next, saturating the degree argument, or alternatively, a measure phrase can, (31).

(30) $[\![\text{-}am_{\,n}]\!] = \lambda\Pi.\, \lambda d.\, \lambda x\, [x \text{ is an instance of } \Pi \text{ and } \mu(x) \geq d\,]$

(31) Anil-inə muunə aʈi pokkam unʈə (Class 2)
Anil-DAT three feet tallness EX-COP
'Anil is three feet tall.' (lit. 'To Anil there is three feet tallness.')

The degree argument can also be bound by an existential degree quantifier, without norm-related semantics (unlike the case of Class 1 forms, where, in the absence of a measure phrase, POS has to bind the degree argument).

(32) ente pokkam
me.GEN tallness
'my height' (no implication of the height exceeding the relevant standard)

The structure of Class 2 forms is in (33). Class 2 nouns denote predicates of individuals that are instances of Π, in contrast to Class 1 forms, which are predicates of individuals that possess instances of Π.

(33) a. $[[[\sqrt{pokk} + am_{\,n}]_n + \text{POS}]$ (Class 2)
Lit. 'being an instance of tallness measuring to a degree that exceeds the standard'
b. $[\![pokkam]\!] = \lambda x\, \exists d\, [x \text{ is an instance of tallness and } \mu(x) \geq d \text{ and } d > d_s\,]$

(34) a. $[[[\sqrt{pokk} + am_{\,n}]_n + \exists\text{D}]$ (Class 2)
Lit. 'being an instance of tallness measuring to some degree'
b. $[\![pokkam]\!] = \lambda x\, \exists d\, [x \text{ is an instance of tallness and } \mu(x) \geq d]$

The forms in (33) and (34) can be the complement to a finite or non-finite EX copula. The individual argument is existentially closed off, as in regular possessive/existential predication.

4.3 Asymmetry in comparison

We expect the different syntax of Class 1 and Class 2 forms to extend to comparatives as well. We don't offer here a detailed account of comparatives in Malayalam, but we note an asymmetry: the comparative marker *kuuʈuttal* 'more' has a variable distribution with NPs and

with property concept lexemes of the two classes, in both predicative and attributive positions.[5] Specifically, *kuuɽuttal* 'more' is obligatory with NP comparatives, see (35); it is disallowed with Class 1 forms, see (36)-(37); and it is optional with Class 2 forms, see (38)-(39), (40). The generalization holds whether the Class 1 and Class 2 forms are predicative or attributive, as the examples below show.

(35) a. anil komalan-e *kaaɭ-um* *(*kuuɽuttal*) pazham kazhicc-u (NP)
Anil Komalan-ACC than-UM more bananas eat-PAST
'Anil ate more bananas than Komalan.'
b. …*(*kuuɽuttal*) veḷḷam kuṭiccu '… drank more water'
c. …*(*kuuɽuttal*) kaatu vizhingi '… swallowed more air'
d. …*(*kuuɽuttal*) sneham labhiccu '… got more love'

(36) a. anil komalan-e *kaaɭ-um* (**kuuɽuttal*) nalla-van aaṇə (Class 1)
Anil Komalan-ACC than-UM more good-M.SG EQ.COP
'Anil is better than Komalan' (lit. 'Anil is one having goodness than Komalan.')
b. … (**kuuɽuttal*) valiya-van '… more big'
c. … (**kuuɽuttal*) ceriya-van '… more small'

(37) Anil komalan-e kaaḷum nalla vidhyarthi aaṇə (Class 1)
Anil komalan-ACC than-UM good student EQ-COP
'Anil is a better student than Komalan'
(Lit. 'Anil is a student having goodness than Komalan.')

(38) a. Anil-inə Komalan-e *kaaɭ-um* (*kuuɽuttal*) pokkam unʧə (Class 2)
Anil-DAT Komalan-ACC than-UM more tallness EX.COP
'Anil is taller than Komalan.' (lit. 'To Anil there is (more) tallness than to Komalan.')
b. ... (*kuuɽuttal*) madhuram unʧə '… more sweetness'
c. ... (*kuuɽuttal*) santhosham unʧə '… more happiness'

(39) Anil Komalan-e *kaaɭ-um* (*kuuɽuttal*) pokkam uḷḷa-van aaṇə (Class 2)
Anil Komalan-ACC than-UM more tallness having.M.SG EQ.COP
'Anil is taller than Komalan.' (lit. 'Anil is more tallness having than Komalan.')
b. ... (*kuuɽuttal*) madhuram uḷḷa-van aaṇə '… more sweetness'
c. ... (*kuuɽuttal*) santhosham uḷḷa-van aaṇə '… more happiness'

(40) Anil Komalan-e *kaaɭ-um* (*kuuɽuttal*) pokkam uḷḷa vidhyarthi aaṇə (Class 2)
Anil Komalan-ACC than-UM more tallness having student EQ.COP
'Anil is a taller student than Komalan.'
(Lit. 'Anil is a more tallness having student than Komalan.')

[5] There is dialectal variation in the use of the comparison marker, between speakers from North Malabar and South Kerala. *adhikam* 'excess' (from the Sanskrit *adhik*) or *otthiri* 'a lot' can be used instead of *kuuTuttal*.

The comparative marker *kuuṯuttal* should properly be treated as a comparative marker rather than a positive form of a degree adverbial 'many'/'much'. It is only used in comparatives, it cannot appear with positive forms.

One possible analysis of the comparative facts is that Class 1 forms are relative clauses in attributive position and light headed relatives in predicative position, and thus cannot combine with *kuuṯuttal*, whether it is nominal in nature (e.g., properly translated as 'excess') or adverbial (i.e., 'more', 'in excess'). However, the acceptability of *kuuṯuttal* with Class 2 forms, e.g., (39), suggests that there must be another position for *kuuṯuttal* to merge, so the syntactic explanation is likely not the right one. A more likely line of explanation is that Class 1 forms allow only POS and measure phrases to saturate the degree variable. Indeed, Class 1 comparatives are norm-related.

Although Class 2 forms are nominal they differ from regular NPs in that they have a degree argument. The degree argument can be saturated by an optional *more* or by POS; either can apply in either attributive or predicative position. As expected, unlike Class 1 comparatives, Class 2 comparatives are not norm-related. Regular NPs, on the other hand, do not have degree arguments. A degree-introducing determiner is needed, and *kuuṯuttal*, which contains a 'many'/'much' measure determiner, fulfils this role. Thus, *kuuṯuttal* is always necessary with NP comparatives.

We leave the actual account of comparison with property concept denoting expressions in Malayalam for another occasion. It suffices to say here that the facts presented above suggest that *kuuṯuttal* is not the sole element that introduces comparative semantics – if it was it would be obligatory in all comparatives, yet it is optional with Class 2 forms and Class 1 forms prohibit it altogether. Rather, the facts of Malayalam suggest that *kaaḷ-um* 'than' is not semantically vacuous but in fact encodes a comparative meaning, working in tandem with *kuuṯuttal* 'more' when it is overtly present. (cf. Alrenga, Kennedy & Merchant 2012, and Schwarzschild to appear, on attributing a role to *than* in comparative semantics).

5. Summary and conclusions

We give below an updated summary of the structures for positive Class 1 and Class 2 forms, incorporating scalarity. The conclusion remains the same as before: the two classes of property concept roots participate in different structures, but both start with, and end with, the same meaning.

(41) Class 1: native roots

a. $[[[_{vP}\ \sqrt{1} + \varnothing_{v\_poss}\ ] + \text{POS}\ ]\ + a_{rel}\ ]$ (attributive)
'having an instance of Π that exceeds the standard'

b. $[[_{DP}\ [[[_{vP}\ \sqrt{1} + \varnothing_{v\_poss}\ ] + \text{POS}\ ]\ + a_{rel}\ ]\ \text{pron}\ ]\ \text{EQ.COP}\ ]$ (predicative)
'be someone having an instance of Π that exceeds the standard'

(42) Class 2: borrowed roots

a. $[[_{vP}\ [[_{DP}\ \sqrt{2} + am_n]\ + \text{POS}\ ]\ \ \text{EX.COP}_{\text{non-finite}}\ ] + a_{rel}\ ]$ (attributive)
'having an instance of *Π* that exceeds the standard'

b. $[[[_{DP}\ \sqrt{2} + am_n] + \text{POS}]\ \ \text{EX.COP}\ ]$ (predicative)
'have an instance of *Π* that exceeds the standard'

c. $[[_{DP}\ [[_{vP}\ [[_{DP}\ \sqrt{2} + am_n] + \text{POS}]\ \ \text{EX.COP}_{\text{non-finite}}\ ] + a_{rel}\ ]\ \text{pron}\ ]\ \text{EQ.COP}\ ]$ (predicative)
'be someone having an instance of *Π* that exceeds the standard'

We demonstrated that in Malayalam, a language that does not have a category of adjectives, adjective-like meanings for attributive modification and predication are expressed by complex structures built from roots denoting property concepts. Our main contribution, apart from the detailed analysis of the attributive and predicative structures, is in suggesting that (i) possession, either covert or overt, is the basis for encoding property concept predication; (ii) property concepts universally lexicalize as roots, and they denote substance-like individuals, requiring possessive predication; (iii) variation in property concept predication is rooted in the morpho-syntax and semantics of the functional vocabulary that categorizes property concept roots; (iv) adjectives, in the languages that have them, are likely syntactically derived categories that too use a possessive strategy of predication, a covert one.

References

Amritavalli, R and K.A. Jayaseelan (2003). The genesis of syntactic categories and parametric *variation.* Proceedings of GLOW-in-Asia IV.

Alrenga, P., C. Kennedy & J. Merchant (2013). A new standard of comparison. In N. Arnett and R. Bennett (eds.) *Proceedings of WCCFL 30*, 32-42.

Asher, R.E. and T.C. Kumari (1997). *Malayalam.* Descriptive Grammars. Routledge.

Chierchia, G. and Turner (1988). Semantics and Property Theory. *Linguistics and Philosophy 11*, 261-302.

Dixon, R.M. W. (1982). *Where Have All the Adjectives Gone? and other Essays in Semantics and Syntax*. Berlin: Mouton de Gruyter.

Francez, I. and A. Koontz-Garboden (2013). Semantic variation and the grammar of property concepts" Ms. University of Chicago and University of Manchester.

Jayaseelan, K.A. 2007. "The argument structure of the dative construction". In E. Reuland, T. Bhattacharya, G. Spathas, eds. *Argument Structure*. John Benjamins Publishing Co.

Jayaseelan, K.A. and R. Amritavalli (2004). Scrambling in the cleft construction of Dravidian. In, J. Sabel, M. Saito (eds.) *The Free Word Order Phenomenon: Its Syntactic Sources and Diversity*. Berlin: Mouton de Gruyter.

Koontz-Garboden, A. and I. Francez (2010). Possessed properties in Ulwa. *Natural Language Semantics 18*, 197–240.

Menon, M. (2013). The apparent lack of adjectival category in Malayalam and other related languages. In N. Goto, K. Otaki, A. Sato, K. Takita (eds.). *Proceedings of GLOW-in-Asia IX 2012*, 157-171.

Schwarzschild, R. (to appear). Comparative markers or standard markers. MIT workshop on comparatives.