

Property Concepts in Complex Predicates in Telugu

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1. Introduction

Adjectival meanings in Telugu are typically expressed by composing Property Concept (PC) nouns or roots (Dixon 1982) with the entities they modify using possessive morphology and a copula to form stative predicates. PCs also compose with a variety of light verbs (LV), to form causative and non-causative change-of-state (CoS) predicates, based on the type of the LV. There are no deadjectival verbs in Telugu, instead PC-LV complex predicates are productively employed to express these meanings.

The restrictions on which PC nouns and roots can occur with which LVs reveal more about both the PC noun or root denotations and the LV argument structures.

2. LVs that take PC roots – *paDu* & *peTTu*

The equivalent of the English intransitive CoS *-en* form in Telugu is PC-*paDu*, with the LV *paDu* ‘fall’, as shown in (1). *paDu* is also an experiencer LV, when it takes a psych PC, and a non-dative subject (cf. dative experiencer verbs typical of Dravidian, Jayaseelan & Amritavalli 2003), as shown in (2).

- | | | | | | | |
|-----|----|-----------------|------------------------------|----|------------------|--|
| (1) | a. | paanakam tiyy-a | paDi-ndi | b. | maTTi err/mett-a | paDi-ndi |
| | | syrup | √ <i>sweet</i> -a fell-3FSG | | earth | √ <i>red</i> /√ <i>soft</i> -a fell-3FSG |
| | | | ‘The syrup sweetened.’ | | | ‘The earth reddened/softened.’ |
| (2) | a. | siita bay-a | paDi-ndi | b. | siita aascary-a | paDi-ndi |
| | | Sita | √ <i>fright</i> -a fell-3FSG | | Sita | √ <i>surprise</i> -a fell-3FSG |
| | | | ‘Sita got frightened.’ | | | ‘Sita got surprised.’ |

The main verb version of *paDu* that this LV corresponds to, in argument selection, is the RHEME-GROUND unaccusative frame, with a mass noun as GROUND, i.e. the PC-LV frames in (1)-(2) have the event schema of (3). The suffix *-a* here is a PATH element meaning ‘into’, as shown in (4).

- (3) a. siita burada-loo paDi-ndi b. siita aaloocana-loo paDi-ndi
 Sita mud-into fell-3FSG Sita thought-into fell-3FSG
 ‘Sita fell into mud.’ ‘Sita fell into thought.’
- (4) a. siita baiT/enak-a paDi-ndi b. siita kind/miid-a paDi-ndi
 Sita $\sqrt{\text{out}}/\sqrt{\text{back}}$ -a fell-3FSG Sita $\sqrt{\text{under}}/\sqrt{\text{top}}$ -a fell-3FSG
 ‘Sita fell outside/behind.’ ‘Sita fell under/over.’

The First Phase (Ramchand 2008) decomposition of this event schema is shown in (5)-(7), with mass nouns, locative roots and PC roots, respectively. The PC root has mass-like substance denotation (Francez & Koontz-Garboden 2013), and together with the PATH *-a* is the GROUND where the result obtains. A parallel for this construction in a language like English is ‘Sita fell into fear/pain/sadness.’ The PC roots denote substances as given in (8), following Francez & Koontz-Garboden 2013 (here *p* is a variable over portions of abstract matter, and **fear**, **redness**, etc., are constants naming the substance of fear and redness in the model).

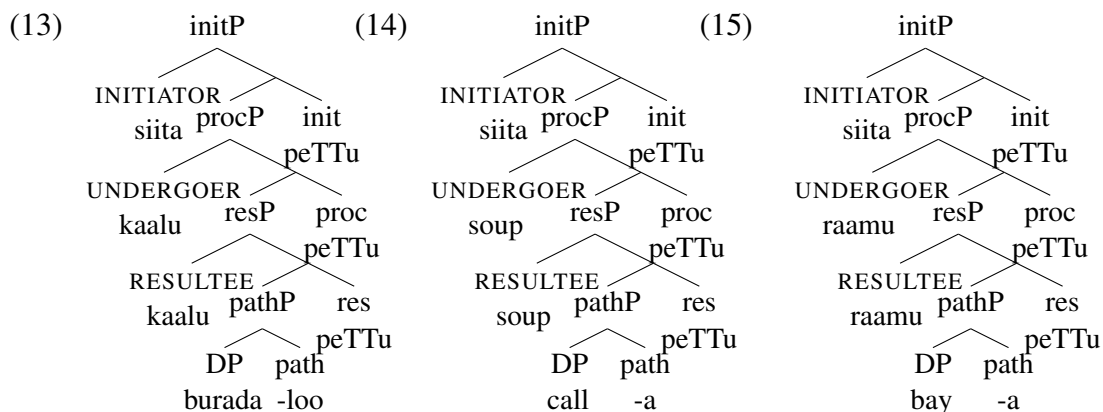
- (5)
- (6)
- (7)
- (8) $[[mett]] = \lambda p[\mathbf{softness}(p)]$ $[[bay]] = \lambda p[\mathbf{fear}(p)]$ $[[err]] = \lambda p[\mathbf{redness}(p)]$

The transitive CoS version of this frame is PC-*peTTu*, with the LV *peTTu* ‘put’, as shown in (9)-(10). The event schema that this PC-LV frame is based on is that of the directional ‘main’ verb, given in (11)-(12). The First Phase decomposition is shown in (13)-(15), and differs from the intransitive schema in (5)-(7), only in having an [init] projection, which adds causation.

- (9) a. siita soup-ni call-a peTTi-ndi b. siita shirt-ni tell-a peTTi-ndi
 Sita soup-ACC $\sqrt{\text{cool}}$ -a put-3FSG Sita shirt-ACC $\sqrt{\text{white}}$ -a put-3FSG
 ‘Sita cooled the soup.’ ‘Sita whitened the shirt.’
- (10) a. siita nannu bay-a peTTi-ndi b. siita nannu aavees-a peTTi-ndi
 Sita I-ACC $\sqrt{\text{fright}}$ -a put-3FSG Sita I-ACC $\sqrt{\text{impulse}}$ -a put-3FSG
 ‘Sita frightened me.’ ‘Sita made me impulsive.’

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- (11) a. siita kaalu-ni burada-loo peTTi-ndi b. siita nannu aaloocana-loo peTTi-ndi
 Sita leg-ACC mud-in put-3FSG Sita I-ACC thought-in put-3FSG
 ‘Sita put the leg into mud.’ ‘Sita put me into thought.’
- (12) a. siita kaaru-ni baiT-a peTTi-ndi b. siita kurci-ni miid-a peTTi-ndi
 Sita car-ACC $\sqrt{\text{out}}$ -a put-3FSG Sita chair-ACC $\sqrt{\text{top}}$ -a put-3FSG
 ‘Sita put the car outside.’ ‘Sita put the chair on top.’



3. Transitive LVs that are non-causative – veyyi & vaccu

Two other non-causative CoS LVs are *veyyi* ‘throw’ and *vaccu* ‘come’. Their PC frames are given in (16)-(17). Unlike the *paDu* –*peTTu* pair of LVs which take PC roots, this pair of LVs compose with PC nouns.

- (16) a. siita-ki bayam veesi-ndi b. siita-ki aascaryam veesi-ndi
 Sita-DAT fear threw-3FSG Sita-DAT surprise threw-3FSG
 ‘Sita got afraid.’ ‘Sita got surprised.’
- (17) a. siita-ki koopam vacci-ndi b. siita-ki aavesam vacci-ndi
 Sita-DAT anger came-3FSG Sita-DAT impulse came-3FSG
 ‘Sita got angry.’ ‘Sita got impulsive.’

But aspectual modification of these predicates, given in (18)-(19), shows that these LVs have an [init] feature in the event schema, because aspectual LVs only compose with ‘like’ predicates –unaccusative completive *poo* ‘go’ with unaccusatives, and transitive completive *veyyi* ‘throw’ with transitives.

- (18) a. Sita-ki bayam vees-ees-indi b. *Sita-ki bayam vees-poo-indi
 Sita-DAT fear threw-threw-3FSG Sita-DAT fear threw-go-3FSG
 ‘Sita got afraid (fully).’ ‘Sita got afraid (fully).’

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- (19) a. Sita-ki bayam vacc-ees-indi b. *Sita-ki bayam vacc-poo-indi
 Sita-DAT fear came-threw-3FSG Sita-DAT fear came-go-3FSG
 ‘Sita got afraid (fully).’ ‘Sita got afraid (fully).’

That aspectual light verbs show selectional restrictions, imposing a ‘matching’ requirement on the argument structure of the main verb that they compose with, has been first observed by Ramchand (2008) for Bangla and what she has termed the *Light Verb Constraint*, and is robustly attested in Telugu (Balusu 2014), with [init]-less light verbs composing only with [init]-less unaccusative main verbs, and light verbs with an [init] head composing only with [init] bearing transitive or unergative main verbs, as shown in (20)-(21).

- (20) a. mancu karig-i-poo-indi b. *siita cadiv-i-poo-indi
 snow melt-PERF-go-3FSG Sita read-PERF-go-3FSG
 ‘The snow melted.’ Intended: ‘Sita read.’
- (21) a. *icu karig-i-vees-indi b. siita navv-(i)-vees-indi
 ice melt-PERF-throw-3FSG Sita laugh-PERF-throw-3FSG
 Intended: ‘The ice melted.’ Sita laughed.

In fact, the cause can be expressed with *veyyi* ‘throw’, as shown in (22), but not with *vaccu* ‘come’, as shown in (23). This is because the RESULTEE is self-initiated for *vaccu* ‘come’, like in its ‘main’ frames, prototypically a motion verb like English *come* or *arrive*, as given in (24).

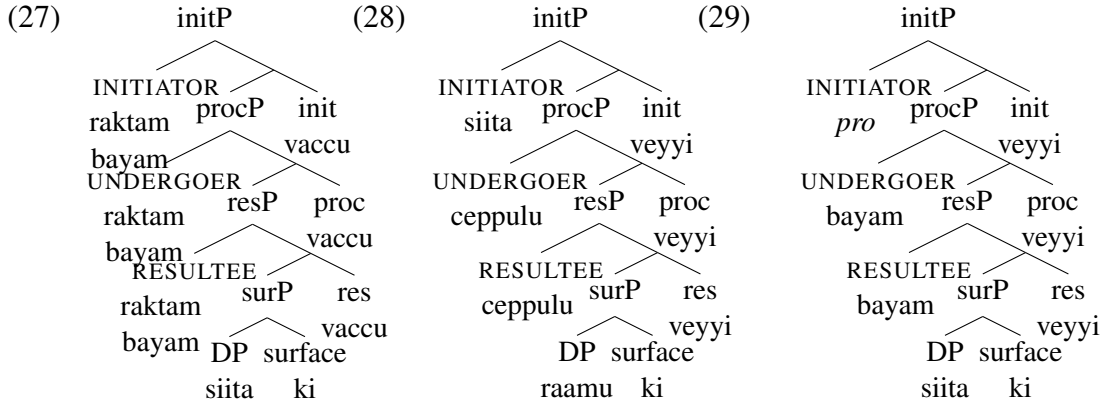
- (22) a. siita-ki adi bayam veesi-ndi b. siita-ki avi noppi veesi-niyyi
 Sita-DAT that fear threw-3FSG Sita-DAT those pain threw-3FPL
 ‘Sita got afraid of that.’ ‘Sita got pain from those (objects).’
- (23) *siita-ki adi bayam vacci-ndi (24) Sita-ki uttaram vaccindi
 Sita-DAT that fear came-3FSG Sita-DAT letter came
 Intended: ‘Sita got afraid of that.’ ‘Sita got a letter.’

The PC-LV versions of *veyyi* and *vaccu* are ‘appearance’ verbs, with ‘main’ verb counterparts as given in (25)-(26). Here again, the PC denotations are substances, akin to the mass terms in the ‘main’ frames, with self-initiated motion from within to the surface for *vaccu* -(17), (26); and from without to the surface for *veyyi* -(16),(25). Like AxPartP (Svenonius 2006), there is a Sur(face)P in these structures. It is the location of the result, and the dative here is a spell out of that projection. The event schema are shown in (27)-(29), with a self-initiated experience/result, for *vaccu* -(27); and an overt agent -(28), or a generic null INITIATOR -(29), for *veyyi*.

- (25) a. siita raamu-ki powder vees-indi b. siita raamu-ki ceppulu veesindi
 Sita Ramu-DAT powder threw-3FSG Sita Ramu-DAT slippers threw-3FSG
 ‘Sita put powder on Ramu.’ ‘Sita put slippers on Ramu.’

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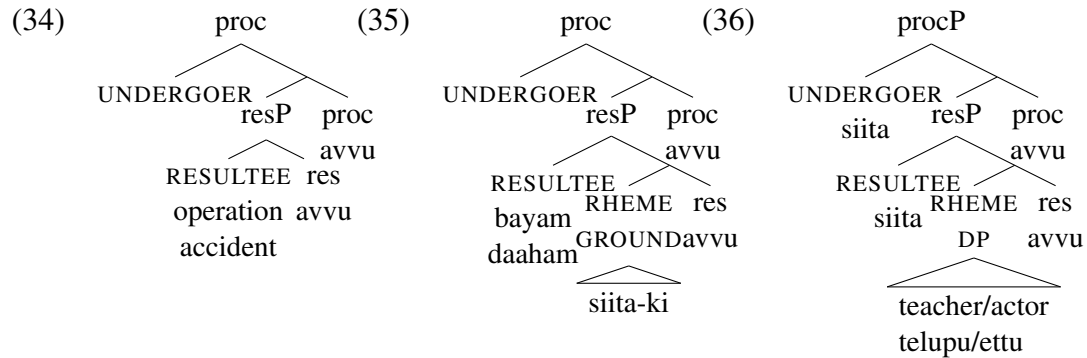
- (26) a. ceTTu-ki puvvulu vacci-niyyi b. siita-ki raktam vacc-indi
 tree-DAT flowers came-3FPL Sita-DAT blood came-3FSG
 ‘Flowers appeared on the tree.’ ‘Blood appeared on Sita.’



4. LVs that show Possessive/Predicative asymmetry – *avvu* & *ceyyi*

Another non-causative –causative CoS pair of LVs is *avvu*–*ceyyi*, ‘happen / become’–‘do / make’. Like the *veyyi*–*vaccu* pair of LVs, and unlike the *paDu*–*peTTu* pair of LVs which take PC roots, this pair of LVs compose with PC nouns. The PC-LV frames with *avvu* are shown in (30)-(31). The corresponding ‘main’ verb frames and the event schemas are shown in (32)-(33) and (34)-(36) respectively. The ‘happen’ reading is possessive and has a dative RHEME-GROUND schema –(35), and the ‘become’ reading is predicative and has an NP RHEME-RESULT schema –(36) (like in Kannada, Amritavalli 2014).

- | | |
|--|--|
| <p>(30) a. siita-ki aakali ayyi-ndi
 Sita-DAT hunger happened-3FSG
 ‘Sita became hungry.’</p> | <p>b. siita-ki bayam ayyi-ndi
 Sita-DAT fear happened-3FSG
 ‘Sita became afraid.’</p> |
| <p>(31) a. siita telupu ayyi-ndi
 Sita whiteness became-3FSG
 ‘Sita became fair.’</p> | <p>b. siita ettu ayyi-ndi
 Sita height became-3FSG
 ‘Sita became tall.’</p> |
| <p>(32) a. (siita-ki) operation ayyi-ndi
 Sita-DAT operation happened-3FSG
 ‘An operation happened (to Sita).’</p> | <p>b. (siita-ki) accident ayyi-ndi
 Sita-DAT accident happened-3FSG
 ‘An accident happened (to Sita).’</p> |
| <p>(33) a. siita Teacher ayyi-ndi
 Sita Teacher became-3FSG
 ‘Sita became a teacher.’</p> | <p>b. siita actor ayyi-ndi
 Sita actor became-3FSG
 ‘Sita became an actor.’</p> |



5. PC noun classes and asymmetry in predication

The restriction on which PC nouns can occur in which of the two structures with *avvu* –possessive or predicative, (30) & (31) respectively –parallels the restrictions on PC nouns in predicative structures. Based on morphosyntactic properties, Telugu PC nouns can be divided into 3 classes, given in (37). ClassM nouns can't occur in nominative predicate nominals, but only in dative predicate nominals. ClassA nouns can occur only in nominative predicate nominals, and not dative. ClassU nouns can occur in both nominative and dative predicate nominals. This is shown in (38)-(39). The dative predicative construction is possessive, whereas the nominative predicative construction is non-possessive, as shown in (40)-(42), a paradigm of Dravidian (Jayaseelan & Amritavalli 2003).

- (37) ClassM *psych/somatic*: bayam ‘fear’, aascaryam ‘surprise’, daaham ‘thirst’
 ClassU *dimension*: ettu ‘height’, baruvu ‘weight’, veDalpu ‘width’
 ClassA *color/physical*: mettana ‘softness’, callana ‘coolness’, erupu ‘redness’

- (38) Sita erupu/ettu/*koopam/*aakali (39) Sita-ki *erupu/ettu/bayam/aakali
 Sita redness/height/anger/hunger Sita-DAT redness/height/fear/hunger
 ‘Sita is red/tall/angry/hungry.’ ‘Sita is red/tall/afraid/hungry.’

- (40) siita Teaceru (41) idi biyyamu (42) siita-ki iddaru pillalu
 Sita teacher this rice Sita-DAT two kids
 ‘Sita is a teacher.’ ‘This is rice.’ ‘Sita has two kids.’

6. Proposal: PC noun classes differ in denotation

Following Francez and Koontz-Garboden (2013) and Jenks *et al.* (2013), I take this contrast as diagnostic of a difference in the lexical semantics of the PC nouns between: (i) abstract mass or substance denotations, and (ii) denotations which characterize individuals that have the substance in question. ClassM nouns are substance denoting and possession is semantically required for them to achieve truth conditions when predicated of an entity. ClassA nouns characterize the individuals that have a property and therefore need non-

possessive morphosyntax. ClassU nouns have both types of denotations (via a type-shift operation). ClassM nouns are derived from roots as shown in (43). They are derived without any change in denotation, as shown in (44).

(43) bay -am
 $\sqrt{\text{fear}}$ -am
 ‘fear’

(44) $\llbracket \text{bay} \rrbracket = \llbracket \text{bayam} \rrbracket = \lambda p[\mathbf{fear}(p)]$

(45) err -pu
 $\sqrt{\text{red}}$ -ness
 ‘redness’

(46) a. $\llbracket \text{err} \rrbracket = \lambda p[\mathbf{redness}(p)]$

b. $\llbracket \text{erupu} \rrbracket = \lambda x \lambda D. \exists^D z [\pi(x, z) \wedge \mathbf{redness}(z)]$

(47) a. gurra-pu banDi
 horse-pu cart
 ‘horse cart’

b. gunDra-pu balla
 round-pu table
 ‘round table’

c. bangara-pu golusu
 gold-pu chain
 ‘gold chain’

ClassA nouns are derived from roots as shown in (45), with their denotations given in (46). ClassA nouns denote relations between individuals and portions of substance to which they stand in the possessive relation, following Jenks *et al.* (2013). The roots they are derived from denote substances, as shown in (46a). The nominalization with *-pu* packs in the possessive relation between the substance and individuals who have it as shown in (47), and results in the denotation of these nouns as given in (46b). Here D is a variable over sets of portions, and \exists^D is used to express restriction of the existential quantifier only to elements of D.

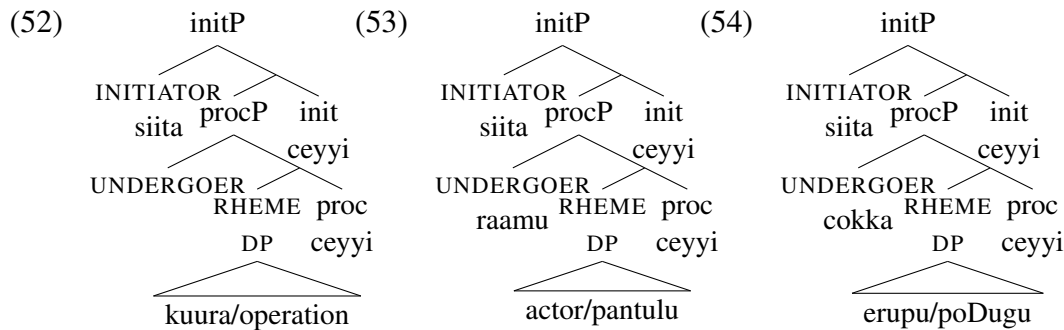
7. Restrictions on PC noun classes in LV event schema

ClassM nouns occur in the possessive frame of *avvu*, as given in (30) and (35), because it is the dative RHEME-GROUND schema and achieves the right truth conditions with this noun class. ClassA and ClassU nouns occur in the predicate ‘become’ frame of *avvu*, as shown in (31) and (36), because it is the NP RHEME-RESULT schema and derives the right truth conditions with these noun classes.

Only ClassA and ClassU PC nouns occur with *ceyyi* ‘make / do’. The PC-LV frame with *ceyyi* is shown in (48). The ‘main’ verb frames and event schemes for this verb are shown in (49)-(50) and (52)-(53), respectively. It has two event schemas, with and without an explicit experiential argument as UNDERGOER. Unlike *avvu* which is a [proc, res] verb, *ceyyi* is an [init, proc] verb, which always takes a DP PROCESS-RHEME. In the frame in (50) and the corresponding schema in (52), the DP can be either eventive (accident/operation) – ‘do’ reading, or non-eventive (curry/cake) – ‘make’ reading. The dative case benefactive is an adjunct here. In the predicative frame in (49) and the corresponding schema in (53), the DP can only be non-eventive – ‘make’ reading. The substance denoting ClassM PC nouns which require possessive predication cannot occur with *ceyyi*, as shown in (51), because the event schema does not allow a RHEME-GROUND projection, unlike *avvu* (see (30) and

(35)), which does. As *ceyyi* only allows the NP RHEME-RESULT schema and this derives the right truth conditions for the ClassA and ClassU PC nouns, they can occur in this event schema as shown in (54) .

- (48) a. siita cokka-ni erupu ceesindi
Sita shirt-ACC redness made
'Sita made the shirt red.'
b. siita cokka-ni poDugu ceesindi
Sita shirt-ACC length made
'Sita made the shirt long.'
- (49) a. siita raamu-ni actor ceesindi
Sita Ramu-ACC actor made
'Sita made Ramu an actor.'
b. siita raamu-ni pantulu ceesindi
Sita Ramu-ACC teacher made
'Sita made Ramu a teacher.'
- (50) a. siita (raamu-ki) kuura ceesindi
Sita Ramu-DAT curry made
'Sita made a curry for Ramu.'
b. siita (raamu-ki) operation ceesindi
Sita Ramu-DAT operation made
'Sita did an operation on Ramu.'
- (51) *siita (raamu-ki) bayam ceesindi
Sita Ramu-DAT fear made
'Sita made Ramu afraid.'



8. Loan words with LVs

Loan words productively compose with the PC taking LVs as shown in (55) - (58). The category of the loan words in the source language that can compose with each of the LVs depends on the event schema of the LV. Predicative loan verbs from English occur in the predicate nominal frames of *ceyyi* and *avvu*, as shown in (55) and (56). Eventive nominal loan words from English occur in the dative RHEME-GROUND schemas of *avvu* and *vaccu*, as shown in (57) - (58).

- (55) a. siita raamu-ni confuse cees-indi
Sita Ramu-ACC confuse made-3FSG
'Sita made Ramu confused.'
b. siita raamu-ni irritate cees-indi
Sita Ramu-ACC irritate made-3FSG
'Sita made Ramu irritated.'

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- (56) a. siita confuse ayyi-indi
Sita confuse became-3FSG
'Sita became confused.'
- b. siita irritate ayyi-indi
Sita irritate became-3FSG
'Sita became irritated.'
- (57) a. siita-ki confusion vacc-indi
Sita-DAT confusion came-3FSG
'Sita got confused.'
- b. siita-ki irritation vacc-indi
Sita-DAT irritation came-3FSG
'Sita got irritated.'
- (58) a. siita-ki confusion ayy-indi
Sita-DAT confusion happen-3FSG
'Sita got confused.'
- b. siita-ki irritation ayy-indi
Sita-DAT irritation happen-3FSG
'Sita got irritated.'

9. Conclusion

The restrictions on which PC nouns and roots can occur with which LVs reveal more about both the PC noun and root denotations and the LV structures. The LVs *paDu* and *peTTu* always compose with substance denoting roots and a suffix that denotes PATH. When these LVs compose with ClassM (psych PCs), the experiencer is not dative because the semantics is not possession, but 'into the substance'. With other LVs, ClassM nouns always take a dative experiencer, as the semantics is that of possession.

ClassM in fact needs to be sub-divided into M1 –psychological and M2 –somatic. ClassM2 cannot occur with *paDu* or *peTTu*, neither can ClassU, as these two LVs select only root forms of the PCs to compose with the PATH suffix, and ClassU and ClassM2 only occur as nouns, not roots. With the LVs *vaccu* and *veyyi*, the dative marking is a spell-out of Sur(face)P. These LVs only compose with ClassM, and don't allow ClassA or U, as the latter two PC noun classes are not substance denoting. Even though the two LVs, *vaccu* and *veyyi*, are non-causative CoS predicates, they show evidence of an [init] head in their argument structure, based on diagnostics involving composition with aspectual LVs. Their argument structure requirements are satisfied by a generic *pro* in the INITIATOR position for *veyyi* and a self-initiated RESULTEE for *vaccu*. The LV *avvu* takes all classes of PC nouns, but ClassA and ClassU are restricted to its predicate nominal frame, and ClassM to the dative frame of *avvu*, an asymmetry mirroring the asymmetry in predication observed with these PC nouns classes. The LV *ceyyi* takes ClassA and ClassU in its predicate nominal frame, like *avvu*. But no PC can occur in the dative frame of *ceyyi*, as this frame only takes PROCESS- RHEMES, PC nouns differ from mass nouns, in not occurring here.

All PC roots in Telugu are substance denoting, but PC nouns differ from one another in their denotation. One class of PC nouns do not change denotation on being derived from roots and remain substance denoting. But another class of PC nouns change denotation from substance denoting roots to denoting the set of individuals that have portions of the substance, when the root gets suffixed with the nominalizer. The nominalizer *-pu* has a possessive semantics.

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