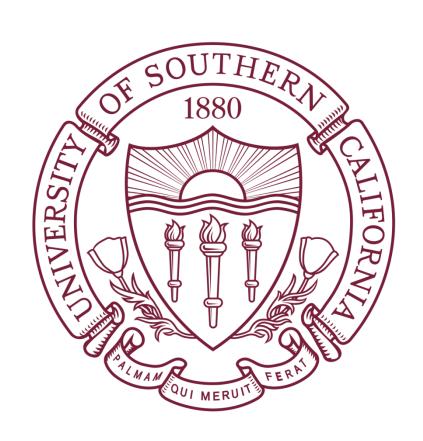


# On the Syntax and Semantics of Measuring: The View from Malayalam



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#### 1. The Puzzle

- The problem: Asymmetry in prenominal vs postnominal occurrences of numerals.
- Two ways of expressing amount in count NPs. Number marking can optionally co-occur with a classifier like element.
  - When numeral is prenominal (Num + NP + pl)

(1) a. muunə kutti-kal

b. muunə puuča-kal

three children

three cats

'three children'

'three cats'

 When numeral is postnominal (NP + pl + Num + CL) (2) a. kuţţi-kal muunə per

b. puuča-kal muunə ennam

children three CL

three CL cats

'three children'

'three cats'

- Presence of number and classifier-like element is problematic since crosslinguistically number marking languages lack classifiers (Borer 2005)
- Main claims: 1) Malayalam has a small set of emerging classifiers. 2) They behave like individuating classifiers that require their complements to be a completed semi-lattice. 3) The structure in (2) is derived from (1) through movement.

### 2. Properties of Amount phrases

Malayalam has a small set of emerging classifiers and massifiers as in (3). These words are nominals that can host plural morphology (kal). The nature of these is linked to animacy.

(3) a. **Count CL** 

b. Mass CL

*per* - person (+animate)

*kettə*- bundle

*eηηαm* - number (-animate)

*tari*- grain

*ka∫ηam*- piece (- animate)

*tulli-* drop

*kuppi*- bottle

(4) kaʃna-ŋŋal,

piece-PL

tari-ka|,

enna-nnal

plural morphology

pinch-PL number-PL

#### **OBSERVATION:** Absence of a measure reading in Malayalam

In English mass nouns, these classifier measure phrases display an ambiguity between an individuating and a measure reading (Doetjes 1997, Chierchia 1998, Landman 2004).

(5) Two glasses of water

Reading 1: There are two glasses of water.

Individuated reading

Reading 2: The amount of water is equal to two glasses. Measure reading

In Malayalam, only the individuated reading is available for the NP+Num +CL construction. In the *Num+CL+NP*, both readings are available.

(6) Num + CL + NP

[rantu kuppi vellam] kontu var-uu

water bottle bring come-PAST

Bring two bottles of water.'

Reading 1: There are two bottles of water.

Individuated reading

Reading 2: The amount of water is equal to two bottles.

Measure reading

(7) NP + Num + CL

a. [vellam raηtu kuppi] kontu var-uu water two bottle bring come-PAST Individuated reading

'Bring two bottles of water.'

kuppi] thayir-il-ekkə b. #[ve||am rantu water two

cherkk-uu

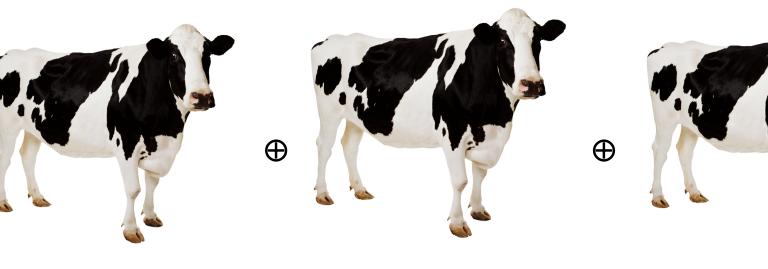
#Measure reading

kuppi curd-Loc-DIR add-PAST

'Add two bottles of water to the curd.' (Only reading available is to literally put 'two bottles' of water into the curd).

### 3. Classifiers as measure nouns

- The small set of classifiers in (3) behave as individuating classifiers that require their complements to be interpreted as a complete semi-lattice (Link 1983, Gillon 1989).
- In a complete semi-lattice, individuals, groups, or portions are combined using the sum operator (Bale and Khanjian 2010).
- The plural marking fulfills this requirement and thus plural marked nouns form completed semilattices.



= paşukkal muunə ennam 'three cows'

- Deriving the Num + NP + pl and NP + pl + Num + CL structure
- Both the structures are derived from the same underlying base structure.

(8) [<sub>DP</sub>[#P two [ -kal nP [ book [<sub>NP</sub> [<sub>N</sub> CL]]]]]] 'Тwo воок(s)'

The classifier is the head noun of the DP as seen by compounding data, where gemination is taken as evidence for compounding.

(9) a. rotiikka∫ηam 'a piece of bread' b. vellakkuppi ' a bottle of water'

## 4. Analysis

- The classifier is present in the base structure and rendered lexically silent (similar to Kayne 2006).
- When the noun vacates the nP head and moves to the left periphery, the CL element is rendered overt.
- The semi-lattice requirement of the classifier requires number to co-occur with the classifier.

(10) NP+PL + NUM+CL order:  $\begin{bmatrix} DP & book-kal_i \end{bmatrix}$  [#P two  $\begin{bmatrix} t_i t_i & DP \end{bmatrix}$  [  $t_i \begin{bmatrix} DP & CL \end{bmatrix}$ ]]]]] 'BOOKS TWO CL'

- Once movement has taken place, the measure reading is disallowed.
- The classifier is also responsible for bringing about the distributivity reading.

(11) [kutti-kal mupattu per] cake muzhuvan kazhicc-u child-PL thirty CL cake whole eat-PL 'Thirty children ate a whole cake'

- True in a scenario where thirty children shared one and only one cake and it isn't the case that any thirty children each ate a cake. [VCOLLECTIVE]
- False in a scenario where thirty children each ate a cake and none of them shared a cake. [VDISTRIBUTIVE]
- In the order where the CL is lexically silent, only the collective reading obtains.

### 5. Conclusion

- In Malayalam, classifiers can co-occur with number due to the complete semi-lattice requirement of the classifiers.
- The structures involving classifiers are derived from one another through movement. These classifiers are individuating classifiers disallowing a measure reading of the numeral classifier phrases.
- The classifier is responsible for distributivity.

#### Further questions:

Consequences of number and classifier on the mass/count distinction.

#### References

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