

A unified semantic analysis of classifiers and reduplication across nominal and verbal domains

Goal: This paper discusses two cross-categorical phenomena in Cantonese: (i) classifiers and (ii) reduplication. We propose a unified account for the syntax-semantics in both N(ominal) and V(erbal) domains based on the two functional layers, individuation and quantification, which provide the common structure.

Data: (1) and (2) show that these two semantic functions cross-cut the N and V domains.

Classifiers individuate both entities and events. In the N domain (1a), where classifiers are most common, they individuate nouns to make them countable (Rothstein, 2010). In the V domain (1b), classifiers individuate events. Atelic VPs like *cung1 loeng4* ‘take shower’ without a classifier is unindividuated.

(2a) shows that such VPs without classifier are unacceptable with *in-PP modification* test of telicity. (2b) further confirms with *for-PP* that the VP *cung1 loeng4* is atelic.

Similarly, reduplication is manifested as plurality of entities (3a), pluractionality in punctual/individuated predicates (3c), or durativity for atelic/unindividuated predicates (3b).

Hypothesis: Quantification and individuation are two distinct cross-categorical functional levels.

Definition-1: $[[\text{Clf}(X)_K]] = \text{COUNT}_K(X_{\text{root}} \cap Q)$ (Rothstein 2010)

Definition-2: $[[\text{every}]] = \lambda f \in D. \forall x \in D \rightarrow f(x) = 1$ (Heim & Kratzer 1998)

In definition-1, we extend Rothstein (2010)’s analysis of $[[\text{Clf}]]$ to lexical roots (X_{root}). Given context K , the classifier turns either objects or events into bounded, countable arguments, which explains the interpretations in (1). In definition-2, the denotation of $[[\text{every}]]$ represents reduplication in Cantonese, showing that the function f is applied to all elements x (objects or events) in the domain D in question.

These functions predict that all *unbounded* elements undergoing reduplication must denote measuring, not counting (Rothstein, 2010). This is borne out, as (3b) has reduplication but not individuation; the predicate ‘take shower’ applies to multiple unbounded subevents. The durative reading (not the iterative) is predicted because unbounded events are cumulative (Krifka, 1998).

Our analysis also predicts the contrast in (4). With the reduplicated verb, (4a) is interpreted as multiple knocking. Whereas reduplicated Clf (4b) is necessarily interpreted as doors-plural.

Implication: The proposal demonstrates an abstract semantics that handles the interaction between classifiers and reduplication without reference to syntactic categories. Quantification (reduplication) and individuation (classifier) can be treated as generic semantic functions that subsume category-specific functions, such as Num^0 and Clf^0 in the N domain, which are often assumed for Cantonese nominals. The current analysis provides the semantics that supports the spell-out driven syntax in current literature on nominals (Cheng 2012) and extends the analysis to the various interpretations in the V domain. By separating quantification and individuation, the analysis also provides a natural explanation to durative readings of reduplicated unbounded events as ‘measuring’. In sum, the proposed syntax-semantics provides a principled account that makes testable predictions.

(458 words)

Examples:

- (1) a. *loeng5 zek1 gau2*
two Clf dog
'two dogs'
- b. *cung1 go3 loeng4*
wash Clf cool
'take a shower'¹
- (2) a. *zek3 zek3 gau2*
Clf Clf dog
'every dog'
- b. *cung1 cung1 ha5 loeng4*
wash wash Dur cool
'taking shower'
- c. *haau1 haau1 ha5 mun4*
knock knock Dur door
'knocking on the door'
- (3) a. *keoi5 hai2 saam1 fan1zung1 zilnoi6 cung1 *(zo2 go3) loeng4*
3sg in three minute within wash Perf Clf cool
'S/he took a shower in three minutes.' (*unacceptable without classifier*)
- b. *keoi5 cung1 loeng4 cung1 zo2 saam1 fan1zung1*
3sg wash cool wash Perf three minute
'S/he took shower for three minutes.'
- (4) a. *ngo5 haau1 haau1 ha5 dou6 mun4 keoi5 zau6 ceot1 lai4*
1sg knock knock Asp Clf door 3sg then out come
'He came out while I was knocking on the door.' (*multiple knocking*)
- b. *ngo5 haau1 dou6 dou6 mun4 dou1 mou5 jan4*
1sg knock Clf Clf door all Neg person
'I knock on every door and no one (answered).' (*multiple doors*)

References:

- Cheng, L. (2012). Counting and classifiers. In D. Massam (Ed.), *Count and Mass across languages*. Oxford University Press.
- Heim, I., & Kratzer, A. (1998). *Semantics in generative grammar*. Wiley-Blackwell.
- Krifka, M. (1998). The origins of telicity. In S. Rothstein (Ed.), *Events and grammar*, 197-235. Kluwer.
- Rothstein, S. (2010). Counting and the mass/count distinction. *Journal of Semantics*, 27(3), 343-397.

¹ Separately, the words *cung1* and *loeng4* means 'wash' and 'cool', they mean 'to take shower' only when they co-occur as a verb phrase.