

## Bare nouns and classifier phrases – A comparative analysis Tue Trinh (MIT)

Specific proposals have been made regarding the difference between number marking languages and classifier languages (Chierchia 1998, 2009, Krifka 1995). The micro-variation among different number marking languages have also been subjected to detailed analysis (Chierchia 1998, 2009, Dayal 2004). To the best of our knowledge, however, discussion of the micro-variation among classifier languages have not been carried out with the same degree of explicitness, although the facts are well documented (cf. Cheng and Sybesma 1999, 2005). In this paper, we propose an account for an array of observations concerning the syntactic distribution and semantic interpretation of nominal arguments in Mandarin, Cantonese and Vietnamese, three closely related classifier languages. The empirical focus is on bare nouns and classifier phrases (CL+NP). Examples of from Mandarin (Cheng & Sybesma 1999: 510 – 511) are given in (1).

- (1) (a) **Gou** ai chi rou  
dog love eat meat  
(b) Wo xiang mai **ben shu**  
I like buy CL book

There are three interpretive options for nominal arguments of these two types. They can be generic (e.g. "dogs bark"), indefinite (e.g. "dogs are barking"/"a dog is barking") or definite (e.g. "the dog is barking"). For the three languages in question, interpretive options are constrained by the morphology of the nominal and its syntactic function. The following generalizations hold (cf. Cheng and Sybesma 1998, Cheng and Sybesma 2005, Rullman and You 2006).

- (2) In Mandarin, Cantonese, and Vietnamese  
(a) Only bare nouns can be generic  
(b) Only non-subjects can be indefinite  
(3) (a) In Cantonese and Vietnamese, only CL+NP can be definite  
(b) In Mandarin, only bare nouns can be definite

**Analysis.** We assume that bare nouns Mandarin, Cantonese and Vietnamese denote number-neutral properties as default (cf. Chierchia 1998, Rullman and You 2006). The classifier maps a number-neutral property into an atomic property, i.e. one which is true only of atomic individuals (Chierchia 1998: 347). Property-denoting expressions of type  $\langle e, t \rangle$  can be type-shifted into kind-denoting expressions of type  $e$  by means of the covert operator  $\hat{\cdot}$  (Chierchia 1998: 348 – 349). The domain of  $\hat{\cdot}$  is the set of expressions denoting number-neutral properties (Chierchia 1998: 348 – 353). The generic reading is attained by means of  $\hat{\cdot}$  and the generic operator GEN (cf. Chierchia 1998: 366 – 368). The VP in Mandarin, Cantonese and Vietnamese can be interpreted by Restrict (cf. Chung and Ladusaw 2003, Rullman and You 2006). Existential Closure ( $\exists$ ) applies at the VP level, binding all indices which are not bound by other elements above  $\exists$  (cf. Heim 1982, Diesing 1992, Tsai 1994). Lastly, subjects in Mandarin, Cantonese and Vietnamese generally do not reconstruct into VP (cf. Tsai 2001, Trinh 2006).

Here is how (2a) follows. Suppose  $\alpha$  is not a bare noun but a CL+NP. Then,  $\alpha$  must denote an atomic property. This means that  $\hat{\cdot}$  cannot apply to  $\alpha$ , which in turn means that a generic reading cannot be attained. However, if  $\alpha$  is a bare noun, then  $\hat{\cdot}$  can apply and a generic reading is always possible. (2b) also follows. Thus, if  $\alpha$  is indefinite, it must be bound by  $\exists$ . Consequently,  $\alpha$  must be VP-internal, since  $\exists$  applies at the VP level. This means that  $\alpha$  cannot be a subject, as subjects do not reconstruct into VP. On the other hand, if  $\alpha$  is not a subject, it can be bound by  $\exists$ , hence be interpreted as an indefinite.

We assume that Cantonese and Vietnamese have a covert type-shifting operator  $\iota$  which basically means the same thing as *the* in English (cf. Chierchia 1998, Partee 1987). Furthermore, we assume that  $\hat{\cdot}$  is the "preferred" type-shifter, i.e. that other type-shifters are used only when  $\hat{\cdot}$  cannot be used (cf. Chierchia 1998: 387). Thus,  $\iota$  can never be used to type-shift a bare noun  $\alpha$ , since  $[\hat{\cdot} \alpha]$  is always an option. However,  $\iota$  can be used to type-shift CL+NP, since  $[\hat{\cdot} [\text{CL+NP}]]$  is not an option. (3a) then follows: only CL+NP can be definite in Cantonese and Vietnamese. As for (3b), our starting point is what Chierchia (1998) says about  $\hat{\cdot}$ , namely that it is an "intensionalized version of  $\iota$ " (Chierchia 1998: 360). In other word,  $[[\hat{\cdot} \alpha]]_w = [[\iota \alpha]]_w$  (cf. Chierchia and Turner 1988 for details). Given this, there is a natural way to express definiteness via  $\hat{\cdot}$ , namely by externalizing  $[\hat{\cdot} \alpha]$ . Thus, we suggest that instead of having  $\iota$  in the lexicon as Cantonese and Vietnamese do, Mandarin has the  $\check{\cdot}$  operator Montague (1973) in its lexicon, which, when combined with  $[\hat{\cdot} \alpha]$ , would "mimic" the effect of  $\iota$  in Cantonese and Vietnamese.

$$(4) \quad \llbracket \overset{Y}{\wedge} [\overset{\wedge}{\alpha}] \rrbracket = \llbracket \iota \alpha \rrbracket$$

Since  $\overset{Y}{\wedge}$  applies to  $[\overset{\wedge}{\alpha}]$ , and  $\overset{\wedge}{\wedge}$  applies only to bare nouns, it follows that only bare nouns can be definite in Mandarin. Thus, we have derived (3b).

**More on subjects.** We have presented (2b) as a statement that holds absolutely. However, this should be qualified, since there are some cases where subjects can be indefinite. Cheng and Sybesma (1999: 531) gives the following example from Mandarin.

- (5) Lian ge xuesheng dou mei lai  
 even CL student DOU not come  
 'Not even a student came'

However, this example turns out to be exactly what we should expect. Our theory implies that (2b) holds as long as subjects do not reconstruct. We predict, then, that indefinite subjects are possible in precisely those cases where subjects do reconstruct. In (5), the subject is focused and interpreted below negation. Hence, it must have reconstructed into VP (cf. Diesing 1992). Consequently, it can have an indefinite interpretation.

**Comparison of analyses.** We assume that CL is of type  $\langle et, et \rangle$ , mapping properties to properties. Cheng and Sybesma (1999), however, assume that CL has the semantics of the English definite article *the* and is thus of type  $\langle et, e \rangle$ . We take nouns in classifier languages to denote number-neutral properties, whereas Chierchia (2009) takes them to denote kinds. We assume that  $\iota$  is not an automatic option for languages without an overt definite article: some of these languages implement definiteness via kind reference. Dayal (2004), on the other hand, assumes that  $\iota$  is available in all languages without an overt definite article. We will argue that our proposal has advantages over these above mentioned accounts in the talk.

**More on indefinite CL+NP.** Cheng and Sybesma (1999) have remarked that indefinite CL+NP is always "non-specific". What they seem to have meant is that CL+NP can be interpreted as an indefinite if and only if it takes scope under a scope-bearing elements such as imperatives (cf. Schwarzer 2005), modals or attitude verbs. (7) and (8) are examples from Mandarin (Cheng and Sybesma 1999: 525 – 526).

- (7) Wo xiang kan ben shu  
 I like read CL book  
 'I would like to read a book'
- (8) \*Wo he-wan-le kuai bingan  
 I finished eating CL cookie  
 ('I finished eating a cookie')

When there is no scope-bearing element, indefinite CL+NP is not possible. This turns out to hold for all three languages. We suggest the following generalization (cf. Yasutada and Trinh 2009).

- (9) Indefinite CL+NP is possible iff one+CL+NP gives rise to scopal ambiguity

We propose an economy-based account for (9). Specifically, we assume a constraint  $C_1$  which disprefers scopal ambiguity, and a constraint  $C_2$  which disprefers application of Restrict. Assuming that one+CL+NP is a generalized quantifier whose interpretation involves QR but not Restrict, we can show that  $C_1$  and  $C_2$  interacts to produce (9). We will spell out the details in the talk.

**Conclusion.** Understanding the mapping between grammar and cognition is enhanced by a theoretical account of how the mass count distinction plays out in different languages. Such an account requires a precise picture of what is universal and what is language particular with respect to the semantics of noun phrases. We hope to have shown that investigating the micro-variations between similar languages can be helpful towards this end.

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