The Indefiniteness Effect in Mandarin and Vietnamese

Yasutada Sudo & Tue Trinh

(presented at UCLA, January 31 2009)

1. Introduction

1.1. Mandarin

Nouns cannot combine with numerals (or demonstrative articles) without the mediation of a classifier. A classifier necessitates a numeral (or a demonstrative) (cf. Li and Thompson 1981, Tang 1990).[1]

(1)   a.   wo mai yi *(ben) shu   b.   wo mai *(yi) ben shu
           I buy one *(cl) book   I buy *(one) cl book

However, it has been observed that cl+N is possible in Mandarin, provided it is in object position and is interpreted as an "non-specific indefinite" (Cheng and Sybesma 1999, Sybesma and Cheng 2005).[2]

(2)   a.   wo yao mai ben shu   b.   *zhi gou yao guo malu
           I want buy cl book   cl dog want cross road
           (want > a book, *a book > want)

Cheng and Sybesma's solution (cf. Longobardi 1996): (a) Indefiniteness is linked to Num; (b) NumP headed by e must be non-specific; (c) NumP headed by e cannot QR; (c) subjects are not properly governed.

(3)   [$_{NumP}$ e [$_{clP}$ ben [$_{NP}$ shu]]]

Problems: Why (a), (b) and (c)? Besides, there are facts not captured by the account, e.g. (4) and (5).

(4)   * wo bu yao mai ben shu
        I not want buy cl book

(5)   * John xiang Mary mai ben shu
        John think Mary buy cl book

Krifka's (2008) solution.

(6)   〚ben shu〛 = 〚yi ben shu〛 = [λx.x is a singular book]

Problem: "This does not yet explain the non-specificity reading of *ben shu*" (Krifka 2008: 6).

1.2. Vietnamese (and Cantonese)

Ini Vietnamese (and Cantonese), cl+N is generally definite (cf. Nguyen 1975 for Vietnamese, Cheng and Sybesma 1999 for Cantonese).

(7)   toi mua quyen sach
       I buy cl book
       'I bought the book'

---

[1] We will not discuss demonstratives and bare nouns in this talk.

[2] After stating that indefinite cl+N must be non-specific, Cheng and Sybesma go on to give examples in which cl+N is always syntactically and semantically in the scope of 'want', without making explicit what they mean by 'non-specific'. No examples of indefinite cl+N were given which do not contain an embedding intensional verb. Thus, Cheng and Sybesma's data are consistent with the claim that indefinite cl+N is possible only if it is interpreted under the scope of an intensional operator, which is exactly what we will say.

Note that indefinite yi+cl+N ('one+cl+N') can scope over 'want' (Cheng and Sybesma 1999, Sybesma and Cheng 2005, James Huang and Zhang Min p.c.). We come back to this below.

Sometimes, cl+N is ambiguous between a definite and an narrow scope indefinite reading (cf. Nguyen 2004 for Vietnamese, Cheng and Sybesma 1999 for Cantonese).

(8)   toi muon mua quyen sach
       I want buy cl book
       'I want to buy a book' (want > a book, *a book > want)

In this talk, we will <u>not</u> be interested in the definite reading of cl+N in Vietnamese (and Cantonese).

1.3. The main plot

- Present more empirical data on indefinite cl+N and formulate a (tentative) generalization
- Propose an account in which the generalization is derived from general principles

2. Data on Mandarin and Vietnamese

(9)   Indefinite cl+N is possible iff it is in object position and replacing it with α+cl+N gives rise to scopal ambiguity, where α is the indefinite article *yi* (Mandarin) and *mot* (Vietnamese). Indefinite cl+N always has narrowest scope.

2.1. Mandarin

2.1.1. Attitude verb: want (Cheng & Sybesma 1999, Informants: James Huang & Zhang Min)

(10) John yao (Mary) mai yi zhi gou. Suibian na yi zhi / Zhe shi yi zhi Terrier.
       John want (Mary) buy one cl dog. No-matter which one cl / This is one cl Terrier.
       'John wants (Mary) to buy a dog. It doesn't matter which one / This dog is a Terrier.'

(11) John yao (Mary) mai zhi gou. (#Zhe shi yi zhi Terrier.)
       John want (Mary) buy cl dog. (#This is one cl Terrier.)
       'John wants (Mary) to buy a dog'

2.1.2. Attitude verb: think (Informants: James Huang & Zhang Min)

(12) John xiang Mary mai yi zhi gou. Ta bu zhidao na yi zhi / #Zhe shi zhi Terrier.
       John think Mary buy one cl dog. He not know which one cl / #This is cl Terrier.
       'John think Mary bought a dog. He doesn't know which one / #This dog is a Terrier.'

(13) *John xiang Mary mai zhi gou
       John think Mary buy cl dog

2.1.3. Modal verb: must (Informants: James Huang & Zhang Min)

(14) John bixu mai yi zhi gou. Suibian na yi zhi / Zhe shi yi zhi Terrier.
       John must buy one cl dog. No-matter which one cl / This is one cl Terrier.
       'John must buy a dog. It doesn't matter which one / This dog is a Terrier.'

(15) John bixu mai zhi gou. (#Zhe shi yi zhi Terrier.)
       John must buy cl dog. (#This is one cl Terrier.)
       'John must buy a dog. (#This dog is a Terrier.)'

2.1.4. Quantifier: every (Informant: Zhang Min)

(16) Meitian zaoshang John dou kan yi ben shu
       every morning John DOU read one cl book (every moring > a book, a book > every morning)

(17) Meitian zaoshang John dou kan ben shu
       every morning John DOU read one cl book (every moring > a book, #a book > every morning)

2.1.5. Quantifier: two (Informant: Zhang Min)

(18) Liang ge ren mai yi ben shu
two cl person buy one cl book
'Two people bought one and the same book' / *'Two persons each bought a different book'

(19)* Liang ge ren mai ben shu
two cl person buy cl book

2.1.6. Negation (Informant: Zhang Min)

(20) John bu mai yi zhi gou. #Zhe shi yi zhi Terrier.
John not buy one cl dog. #This is one cl Terrier

(21) John bu yao mai yi zhi gou
John not want buy one cl dog
'John does not want to buy ONE dog. (He wants to buy TWO.)'

(22)* John bu (yao) mai zhi gou
John not (want) buy cl dog

2.2. Vietnamese[3]

2.2.1. Attitude verb: want

(23) John muon (Mary) mua mot con cho. Con-nao-cung duoc / No la mot con Terrier.
John want (Mary) buy one cl dog. Any good / It is one cl Terrier.
'John wants (Mary) to buy a dog. Any dog will do / It is a Terrier.'

(24) John muon (Mary) mua con cho. (#No la mot con Terrier.)
John want (Mary) buy cl dog. (#It is one cl Terrier.)

2.2.2. Attitude verb: think

(25) John nghi Mary mua mot con cho. No khong biet con nao / #No la mot con Terrier.
John think Mary buy one cl dog. He not know cl which / #It is one cl Terrier.
'John think Mary bought a dog. He doesn't know which one / #It is a Terrier.'

(26)* John nghi Mary mua con cho
John think Mary buy cl dog

2.2.3. Modal verb: must

(27) John phai mua mot con cho. Con-nao-cung duoc / No la mot con Terrier.
John must buy one cl dog. Any good / It is one cl Terrier.
'John must buy a dog. It doesn't matter which one / It is a Terrier.'

(28) John phai mua con cho. (#No la mot con Terrier.)
John must buy one cl dog. (#It is one cl Terrier.)
'John must buy a dog. (#It is a Terrier.)'

---

[3] Note that cl+N in Vietnamese can always have the definite reading. As we are not dealing with this reading in this talk, sentences where cl+N can only be understood as definite will be starred.

2.2.4. Quantifier: every

(29) Sang nao John cung doc mot quyen sach
Morning which John CUNG read one cl book
'John reads a book every morning' (every moring > a book, a book > every morning)

(30) Sang nao John cung doc quyen sach
Morning which John CUNG read cl book
'John reads a book every morning' (every moring > a book, #a book > every morning)

2.2.5. Quantifier: two

(31) Hai nguoi mua mot quyen sach
two person buy one cl book
'Two people bought one and the same book' / *'Two people each bought a different book'

(32)* Hai nguoi mua quyen sach
two person buy cl book

2.2.6. Negation

(33)* John khong mua mot con cho
John not buy one cl dog

(34) John bu yao mai yi zhi gou
John not want buy one cl dog
'John does not want to BUY a dog / buy ONE dog / buy a DOG'

(35)* John khong (muon) mua con cho
John not (want) buy cl dog

2.3. Notes on the data

Cases of indefinite cl+N that we have found in the literature are those in which cl+N is embedded under 'want' or 'must' (or in an imperative). One exception is Rullman and You (2006: 12).

(36) Zuotian wo mai le (yi) ben shu
yesterday I buy LE (one) cl book
'yesterday I bought a book'

3. The proposal[4]

We assume that the extension of nouns in Mandarin and Vietnamese includes atomic and plural individuals (cf. Link 1983). The classifier takes a predicate and returns the set of atomic individuals in the extension of that predicate (Chierchia 1998, Trinh 2007).

(37) a. $[\![cho]\!] = [\![dog]\!] \cup [\![dog\text{-}s]\!]$
      b. $[\![cl\ cho]\!] = [\![dog]\!]$

Two modes of semantic interpretation: $[\![\ ]\!]_{FA}$ and $[\![\ ]\!]_{RE}$ (Chung and Ladusaw 2004).

(38) a. $[\![see\ John]\!]_{FA} = [\![see]\!]([\![John]\!]) = [\lambda x\lambda y.see'(y,x)](j) = [\lambda y.see'(y,j)]$
      b. $[\![see\ dog]\!]_{RE} = [\lambda y\lambda x \in [\![dog]\!].[\![see]\!](x)(y)] = [\lambda y\lambda x.see'(y,x)\ \&\ [\![dog]\!](x)]$

Existential closure at the VP level (Heim 1982: Chapter 2) and <u>only</u> there (Diesing 1992: 56-59).

---

[4] The main idea of this proposal was suggested to Tue Trinh by Manfred Krifka (p.c.). We thank him for his comments and advice.

(39) $[\![\exists\ VP]\!] = \exists x.[\![VP]\!](x)$

Numerals are relations between sets (Heim and Kratzer 1998).

(40) $[\![mot]\!] = \lambda P \lambda Q[P \cap Q \neq \varnothing]$

Subjects (generally) do not reconstruct into VP (cf. Trinh 2006 for Vietnamese)

→ This is to account for the inability of cl+N to function as subject (cf. Chung and Ladusaw 2004: 56 – 60).

(41) a. mot nghe-si Nga phai danh bai nay. #Heifetz chang-han.
          one artist Russion must play piece this. #Heifetz for example.
      b. bai nay phai mot nghe-si Nga danh. Heifetz chang-han.
          piece this must one artist Russion play. Heifetz for example.

(42)
$[\![IP]\!] = \exists x.buy'(j,x)\ \&\ dog'(x)$

John$_1$

$[\![VP]\!] = \lambda v_1 \exists x.buy'(v_1,x)\ \&\ dog'(x)$

λ_1

$[\![VP]\!] = \exists x.buy'(v_1,x)\ \&\ dog'(x)$

$\exists$

$[\![VP]\!] = \lambda x.buy'(v_1,x)\ \&\ dog'(x)$

t$_1$

$[\![VP]\!] = \lambda y \lambda x.buy'(y,x)\ \&\ dog'(x)$

buy   cl dog
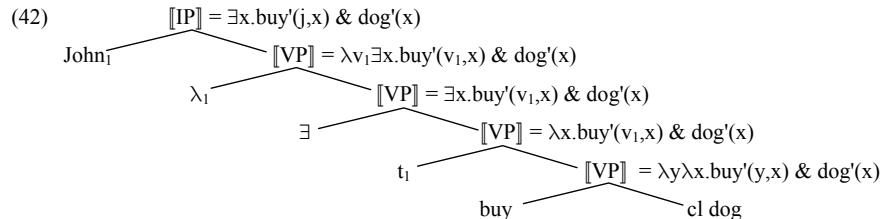
Two economy conditions.

(43) Economy: Avoid Ambiguity
      For any ⟨PF, LF⟩ there is no ⟨PF',LF'⟩ such that PF = PF and $[\![LF]\!] \neq [\![LF']\!]$

(44) Economy: Avoid Restrict
      For any ⟨PF, LF⟩, LF is interpretable without application of Restrict

Grammaticality: most economical with respect to a given meaning

(45) An expression ⟨PF, LF⟩ is grammatical iff PF and LF are convergent, and there is no ⟨PF', LF'⟩ such that $[\![LF]\!] = [\![LF']\!]$ and ⟨PF', LF'⟩ is more economical

→ Economy compares (interpretable) expressions with identical meaning (cf. Kitahara 1993, Fox 1994) but not identical numeration

→ problematic (?), more work needed (for discussion see Sternefeld 1997)…

(46) Meaning = $\exists x.dog'(x)\ \&\ buy'(j,x)$
      ⟨PF = [John buy one cl dog], LF = [[one cl dog]$_1$ λ_1 John buy t$_1$]⟩ → violates no condition
      ⟨PF' = [John buy cl dog], LF' = [John buy cl dog]]⟩ → *Avoid Restrict

(47) Meaning = $want'(j, \exists x.dog'(x)\ \&\ buy'(j,x))$
      ⟨PF = [John want buy one cl dog], LF = [John want [[one cl dog]$_1$ λ_1 pro buy t$_1$]]⟩ → *Avoid Ambiguity
      ⟨PF' = [John want buy cl dog], LF' = [John want pro buy cl dog]]⟩ → *Avoid Restrict

Possible supporting evidence: predicate nominals

(48) Mandarin (Zhang Min)
      a. John shi (zhi) gou   b. *zhexia xuesheng shi zhi gou
          John is cl dog   these student are cl dog
          John is a dog!   ('these students are dogs!')

(49) Vietnamese
      a. John la con cho   b. *Bon sinh-vien la con cho
          John is cl dog   Pl student are cl dog

Possible supporting evidence: scalar implicature (cf. Rullman and You 2003: 191 for Mandarin).

(50) John muon mua con cho. #Tham-chi, no muon mua hai con cho.
      John want buy cl dog. #In fact, he want buy two cl dog.
      'John wants to buy a dog. #In fact, he wants to buy two dogs.'

Possible counterexample: imperatives (but see Schwager 2005: 199, 2006)

(51) Mandarin (James Huang & Zhang Min)   b. Vietnamese (Nguyen 2004: 19)
      mai zhi gou   Lay cho bo cay thuoc
      buy cl dog   take give daddy cl ruler
      'Buy a dog!'   'Get daddy the/a ruler, will you'

→ pragmatic irrelevant?

Possible counterexample: focus subject (but see Diesing 1992: 49 - 53)

(52) a. Mandarin (Cheng and Sybesma 1999) b. Vietnamese
          Lian ge xuesheng dou mei lai   Ca cl cho cung khong an
          Even cl student DOU not come   Even cl dog CUNG not eat
          'Not even one student came'   'Not even a dog eats it'

References

Cheng, L. L. S., and Sybesma, R. 1999. Bare and not-so-bare nouns and the structure of NP. *Linguistic Inquiry* 30:509-542. **Chierchia, G. 1998**. Reference to Kinds across Language. *Natural Language Semantics* 6:339-405. **Chung, S., and Ladusaw, W. A. 2004**. *Restriction and Saturation*: MIT Press. **Diesing, Molly. 1992**. *Indefinites*. Cambridge, Mass.: MIT Press. **Fox, D. 1994**. Quantifier Scope in VP Ellipsis. Ms, MIT. **Heim, I & Kratzer, A. 1998**. *Semantics in Generative Grammar*. Blackwell. **Kitahara, H. 1993**. Deducing Superiority Effects from the Shortest Chain Requirement, *Harvard Working Papers in Linguistics* 3: 109 – 119. **Krifka, M. 2008**. Different kinds of count nouns and plurals. Invited talk, Syntax of the World's languages III, Freie Universität Berlin, September 25-28, 2008. **Li, C. N., and Thompson, S. A. 1981**. *Mandarin Chinese: A Functional Reference Grammar*. Berkeley: CA: University of California Press. **Link, G.: 1983**, 'The Logical Analysis of Plural and Mass Nouns: A Lattice Theoretic Approach', in R. Bäuerle, C. Schwarze and A. von Stechow (eds.), *Meaning, Use and Interpretation of Language*, de Gruyer, Berlin. **Longobardi, Giuseppe. 1996**. The syntax of N-raising: A minimalist theory. (OTS Working Papers OTSWP- TL-96-005.) OTS, Utrecht University. **Nguyen, T. C. 1975**. *Từ loại danh từ trong tiếng Việt hiện đại*. Hanoi, Social Sciences Press. **Nguyen, T. H. 2004**. *The Structure of the Vietnamese Noun Phrase*. Dissertation, Boston University. **Rullmann, H., and You, A. 2006**. General Number and the Semantics and Pragmatics of Indefinite Bare Nouns in Mandarin Chinese. In *Where semantics meets pragmatics. Elsevier; CriSPI series*. **Schwager, M. 2005**. Interpreting Imperatives, Ph. D. thesis, University of Frankfurt/Main. **Schwager, M. 2006**. Conditionalized Imperatives. *Proceedings of SALT XVI, CLC Publications, Cornell University, Ithaca*. **Sternefeld, W. 1997**. Comparing reference sets. *Economy in Linguistic Theory*: 81–114. **Sybesma, R., and Cheng, L. 2005**. Classifiers in four varieties of Chinese. *Guglielmo Cinque and Richard Kayne, The Oxford handbook of comparative syntax*:259-292. **Tang, C. C. J. 1990**. Chinese Phrase Structure and the Extended X-bar Theory. *Unpublished doctoral dissertation, Cornell University*. **Trinh, T. 2006**. A Case for no Case. Ms, MIT. **Trinh, T. 2007**. Notes on the Interpretation of Noun Phrases in Vietnamese. Ms, MIT.