An intermediate stage of spec-to-head reanalysis: evidence from Mandarin and Cantonese Shuyan Wang (University of Connecticut)

Introduction: *Yi* 'one' in Mandarin has been suggested to have grammaticalized from a numeral to an indefinite article (Chen 2003), but no syntactic analysis of the grammaticalization process has been provided. This paper will go beyond previous analyses, by proposing that: 1) the grammaticalization of yi is an ongoing process and yi is ambiguous between a numeral and an indefinite article; 2) the grammaticalization of Mandarin yi is an instantiation of a well-known phenomenon: specifier-to-head reanalysis (e.g., van Geldern 2001, 2004); 3) there is an intermediate stage of grammaticalization: a numeral 'one' starts as a specifier of a phrase; then, it adjoins to a head before it is reanalyzed as an independent head projecting a separate phrase.

<u>Ambiguity of vi</u>: Following Chen (2003), I argue that *yi* has grammaticalized from a numeral to an indefinite article and that *yi* is <u>ambiguous</u> between a numeral and an indefinite article. The ambiguity analysis can cover a range of observations. First, numeral expressions with *yi* 'one' in Mandarin can be interpreted as indefinite specific or non-specific, while numeral expressions with other numerals are usually interpreted only as indefinite non-specific (e.g., Huang 1987, Tsai 2001). For example, numeral expressions <u>except those with *yi*</u> do not appear in subject/topic positions (1), since these positions in Mandarin do not allow non-specific readings (e.g., Chao 1968; A. Li 1996). I argue that *yi* in (1b) is an indefinite article, not a numeral, which leads to the acceptability of (1b).

1. a, ??san-ge xuesheng chi-le dangao. three-Cl student eat-PAST cake b. yi-ge xuesheng chi-le dangao. a-Cl student eat-PAST cake

book

'Three students ate the cake.' (Huang et al. 2009) 'A student ate the cake.' Second, when *yi*-Cl-N phrases stay under the scope of negation, a 'not any' interpretation may emerge (2). I argue that with the 'not any' interpretation, *yi* in (2) is an indefinite article, not a numeral. Similar patterns are found in English (3). (Additional arguments will also be given below.)

2. Xiaohong congmei jiao-guo yi-ge nanpengyou. Xiaohong never make-EXP a-Cl boy.friend 'Xiaohong has never had any boyfriend.'
3. Mary has never had a/*one boyfriend. 'Mary has never had any boyfriend.'

Specifier-to-head reanalysis: Regarding the structural reanalysis, I argue that numerals are located in Spec, CIP (4a) (cf. Tang 1990), and that the article *yi* 'one' has been reanalyzed as a separate head projecting a Quantifier Phrase (QP) (4b). The 'spec-to-head' reanalysis has been proposed for many elements within CP and DP (e.g., van Geldern 2001, 2004; Willis 2007).

4. $a.[_{CIP} san[_{CI'} - ben [_{NP} shu]$ b. $[_{QP} [_{Q'} yi [_{CIP} [_{CI'} - ben [_{NP} shu]]$

three Cl book a Cl

As in (4), a numeral is in Spec, CIP, so its existence is determined by the presence of a classifier; in contrast, the existence of an indefinite article is not dependent on the presence of a classifier. Then an indefinite article *yi* may combine with a noun without a classifier. This is borne out (5).

5. a. yi nanhai b. san-*(ge) nanhai

a boy three-CL boy

Furthermore, the article analysis of yi in yi-N phrases (e.g., (5a)) is supported by the observation that yi-N phrases cannot be used as answers for 'how many' questions (6). If yi in yi-N is an indefinite article, not a numeral, the unacceptability of yi-N in (6) is expected. Similar patterns are found in English (7). (Note that although Chen (2003) suggests that yi in yi-N phrases may be an indefinite article, no specific arguments to this effect are given in the paper.)

6. *Question:* ni chi-le duoshao pingguo? 'How many apples did you eat?'
7. *Question:* How many apples did you eat?
Answer: wo chi-le yi-*(ge) pingguo. I eat-PAST one-Cl apple
Answer: I ate one/*an apple. **Intermediate stage of grammaticalization:** I argue that *jat* 'one' in Cantonese is also undergoing the grammaticalization process from a numeral to an indefinite article. However, I will further argue that *jat* has not grammaticalized as much as *yi* in Mandarin: *jat* has not been reanalyzed as an independent head projecting a separate phrase.

First, numeral expressions in Cantonese usually do not appear in subject/topic positions (8a), since these positions usually do not allow indefinite non-specific expressions, like those in Mandarin. However, a *jat*-Cl-N phrase in subject/topic positions is much better (8b). I argue that *jat* in (8b) is actually an indefinite article, not a numeral.

- 8. a. ??saam-go hoksaang mei lei.
- b. jat-go hoksaang mei lei.
- three-Cl student not come

a- Cl student not come 'A student didn't show up.'

'Three students didn't show up.'

Second, when *jat*-Cl-N phrases stay under the scope of negation, a 'not any' interpretation may emerge (9). This also indicates that *jat* in (9) is an indefinite article, not a numeral.

- 9. Siuhung chung-mut gaau jat-go naampangyau.
 - Siuhung never made a-Cl boyfriend
 - 'Siuhung has never had any boyfriend.'

Therefore, I argue that *jat* in Cantonese is ambiguous between a numeral and an indefinite article. What is the syntactic structure of *jat*? Following the spec-head reanalysis proposed for Mandarin yi, the article *jat* should head a QP (10).

10. a.[CIP samm [CI' -go [NP hoksaang] b. [QP [Q' jat [CIP [CI' -go [NP hoksaang]] The article *jat* then would not be dependent on the presence of a classifier and should be directly combinable with a noun. However, *jat* always needs a classifier (e.g., *jat*-*(*go*) *hoksaang*).

I argue that *jat* in Cantonese has not grammaticalized as much as *yi* in Mandarin. Even when *jat* 'one' functions as an article, it still requires the presence of a classifier. I argue that Cantonese numerals stay in Spec, ClP (11a), while the article *jat* is <u>adjoined to</u> the Classifier head (11b).

11. a.[_{CIP} samm [_{CI'} -go [_{NP} hoksaang] b. [_{CIP} [_{CI'} jat-go [_{NP} hoksaang] Regarding why this intermediate stage exists, it is standardly assumed that when a specifier is merged into the structure, its sister projects. I suggest that when a specifier is reanalyzed as a head, initially it cannot project, which means at this point it cannot take a complement. As a result, the relevant element is first adjoined to another head before it is reanalyzed as an independent head.

Turkish provides more evidence for the proposed intermediate stage. *Bir* 'one' in Turkish is assumed to be either a numeral or an indefinite article (e.g., Yukseker 2000). As an indefinite article, *bir* has to <u>be immediately adjacent</u> to the noun (12). I propose that Turkish numerals stay at Spec of Numeral Phrase (12a), and that the article *bir* is head-adjoined to Noun head (12b).

12. a. [NumP **bir** [Num' [NP yeni [NP kitap] b. [NP yeni [NP [N' bir kitap]

one new book new a book (Yukseker 2000) Finally, the Beijing dialect (closely related to Mandarin) provides more support for the intermediate stage. *Yi*-N phrases in the Beijing dialect also cannot be used to answer 'how many' questions. Thus I argue that yi is an indefinite article there. However, the tone of yi in Beijing dialect yi-N phrases indicates there is always a classifier present (null *ge*, see Du 1993 and Jing 1995). Based on this, I argue that Beijing dialect yi is head-adjoined to Classifier head (like *jat* in (11b)), which captures the observation that a classifier must be present when yi is an article.

<u>Conclusion</u>: This paper argued that: 1) yi in Mandarin is ambiguous between a numeral and an indefinite article; 2) the numeral yi stays at Spec, CIP while the article yi is reanalyzed as an independent head projecting a phrase; 3) there is an intermediate stage of grammaticalization where the article *jat* (Cantonese) and the article *bir* (Turkish) is adjoined to another head.