Coercion and anaphoric use of Mandarin classifiers

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Classifiers in Mandarin Chinese are required elements of well-formed noun phrases. They have to appear between the determiner and the noun as shown in example (1). The variety of classifiers, has been described and analyzed in [9, 4, 6] among others. Classifiers are often separated from measure words by requiring them to hold a [+sortal] attribute [4]. In [6], classifiers are divided into individual, kind and event classifiers on the ground of a corpus-based classifier dictionary [5]. A formal analysis of the distinction between kind and individual classifier has been proposed in [8]. In this study we will focus however on individual classifier and measure words.

Huang and Ahrens suggest, without proposing a formal account, that classifiers can coerce the interpretation of the noun they classify (as in (1) taken from [6, p361]).

(1) 一朵 /株 花
yi4 duo3/zhu1 hua1
one CL.bud/CL.plant flower
one flower bud/one flowering plant

In this work, we are dealing in the interaction between two phenomena: (i) classifier coercion (illustrated in the previous examples) and (ii) the anaphoric use of classifiers, exemplified in (2). In this example, the second sentence is missing a noun. As a reviewer pointed us, it is tempting to assume that in 'DET+CL' constructions the classifier becomes a noun. However, most of the classifiers cannot be used as nouns in other contexts.\textsuperscript{1} It would be going against the standard view on Mandarin syntax to assume here a category change, see for example [10].

(2) 我买了五粒水饺
wo3 mai3 le5 wu3 li4 shui3jiao3
I buy ASP five CL.grain dumplings
I bought five dumplings

你吃了四粒
ni3 chi1 le5 si4 li4
you eat ASP four CL.grain
You ate four

\textsuperscript{1}Some words like 碗/wan3 (bowl), can be used both as classifiers and nouns, but as nouns they requires another classifier to precede them.
Example (3) shows an incomplete NP referring back to a previous noun that has been classified differently in the previous sentence. Here ‘花-hua1’ (flower) is used a first time with a plant classifier (株-zhu1) that allows in the second sentence an anaphoric use of another classifier (朵-duo3) (bud) that re-classify the noun at distance.

(3) 你 看 過 株 花
ni3 kan4 zhe4 zhu1 hua1
you look this CL.plant flower
‘Look at this flower’

剪 一 朵 給 我
jian3 yi4 duo3 gei3 wo3
cut one CL.bud give I

‘Cut one bud for me’

In 4 a tentative treatment for the phenomenon is proposed. The formal apparatus include DRT [7] and some ingredients from [3] for handling associative anaphoricity. We propose that the missing noun introduce some kind of relation $R$ between the object described by the incomplete NP and the context. When the anaphoric use is felicitous the relation $R$ should be specified and instantiated with a variable of the context. Moreover, we assume a type system for the variables on top of the logical forms. The typing system is inspired by the the rich typing framework proposed in [1, 2]. In example (3), the variables are typed by the classifiers as (PLANT) and (BUD). In the lexicon, a PART-OF holds between these two types. It is therefore straightforward to instantiate the relation $R$.

(4) $[Y_{(ANIM)}, x_{(PLANT)}, e1_{(EVT)}] \cup \text{look}(e1, Y, x), \text{flower}(x)$
$\oplus \text{update}[y_{(BUD)}, e2_{(EVT)}] \cup \text{cut}(e2, Y, y), R(y, ?)]$
$\sim \text{PART-OF}(y_{(BUD),PLANT}) \text{ Part } - \text{of}(y, x)$

Examples like (3) might not be extremely common as it relies on the specific kind of polysemy of ‘花-hua1’. However, very similar phenomena occurs with quantity or measure related examples like (5) and (7) that are frequent in spoken Chinese. Example (3) featured a noun being coerced by two different classifiers into two different objects. In example (7) the mass noun is measured twice as two different quantities. Example (5) is more complicated to handle since 糖果-tang2guo3 (candy) is used once with a quantity and once with a real classifier.

(5) 你 看 這 包 糖果
ni3 kan4 zhe4 bao1 tang2guo3
you look this CL.bag candy
‘Look at this bag of candies’

拿 一 顆 吧
na2 yi4 ke1 ba5
take one CL.small-hard IMP

Take one!
To handle this example, we need to make use of the dependent types introduced in [2] as illustrated in 6. From those dependent types can be derived some useful information showned in 6:b. The second sentence introduce 顆 -ke1, a real classifier used for small hard grain-like things (SH in our formulas). This type being compatible with candies, we can instantiate the relation R accordingly.

(6) (a) \[ Y_{\text{ANIM}}, x_{\text{QTY(CANDY)}} \] e1_{\text{EVT}} \{\text{look}(e1, Y, x), \text{bag}(x)\}
\oplus_{\text{update}[y_{\text{SH}}]} e2_{\text{EVT}} \{\text{take}(e2, Y, y), R(y,?)\}

(b) \( x_{\text{QTY(CANDY)}} \rightarrow \Box \exists x' \text{candy}(x') \land \text{quantity}(x, x') \sim \text{Member} - \text{of}(y, x') \)

(7) 你 這 一 碗 湯 看起來 很 好 喝
ni3 zhe4 yi4 wan3 tang1 kan4qi3lai2 hen3 hao3 he1 you this one CL.bowl soup seem very good drink

\( Your \ bowl \ of \ soup \ looks \ delicious. \)

讓 我 嚐 一 口 吧
rang4 wo3 chang2 yi4 kou3 ba5
let I taste one CL.mouth IMP

\( Let \ me \ taste \ a \ sip \ of \ it! \)

It would be important to detail how the proposal is implemented in a compositional framework, but due to lack of space this will be done during the presentation only. However, the main line should run as follows. Real classifiers [+sortal] ‘S’ will have for lexical entries things like \( \lambda P \lambda x P(x) \) and those for measure words [-sortal] ‘Q’ will look like \( \lambda P \lambda x Q(TY(P)) Q(x) \). Moreover, a cross-linguistic comparison with related phenomena such as adnominal pronouns will be presented as well. Finally, a deeper integration with recent syntactic analysis such as [10] has still to be investigated in order to propose a more general solution for a formal treatment of Mandarin classifiers and measure words.

References


