The Cantonese PLACE Classifiers *min* and *dou* in Spatial PPs

Chi-Fung Lam
Ca’ Foscari University of Venice

1. Locative PPs in Chinese

In Chinese\(^1\) a spatial expression is normally realized as a phrase in which a preposition (P) is followed by a Ground\(^2\) nominal (DP\(^3_{\text{Ground}}\)), which is then followed by a localizer (L):

\[(1) \quad \text{P + DP}_{\text{Ground}} + \text{L}\]

\[(2) \quad \begin{align*}
a. & \quad \text{zai xiangzi li(-mian)} \quad \text{[Mandarin]} \\
& \quad \text{At box inside-MIAN} \\
& \quad \text{‘in the box’} \\
b. & \quad \text{zai tushuguan qian(-mian)} \quad \text{[Mandarin]} \\
& \quad \text{At library front-MIAN} \\
& \quad \text{‘in front of the library’}
\end{align*}\]

\[(3) \quad \begin{align*}
a. & \quad \text{hai go soeng leoi*(-min)} \quad \text{[Cantonese]} \\
& \quad \text{At CL box inside-MIN} \\
& \quad \text{‘in the box’} \\
b. & \quad \text{hai tousyugun cin*(-min)} \quad \text{[Cantonese]} \\
& \quad \text{At library front-MIN} \\
& \quad \text{‘in front of the library’}
\end{align*}\]

When a nominal is referred spatially, a localizer is obligatorily required, as seen in the previous examples, except when the nominal is a place word, namely a place name or a common noun which inherently denotes a place:

---

\(^1\) Throughout this article Chinese refers to Mandarin and Cantonese.

\(^2\) The term Ground refers to the object that is used as the reference landmark for the location of the Figure, which is the object whose location is at issue in spatial expressions (e.g. Svenonius 2010). For instance, *the table* is the Ground and *the book* is the Figure in the expression *The book is on the table*.

\(^3\) Although it is controversial as to whether a Chinese nominal projects a D(eterminer) P(hrase) as Chinese has no definite articles, the term DP, instead of NP, is used to refer to the Ground nominal through this paper.
From the above data we notice certain similarities and differences between Chinese and English on the one hand, and those between Mandarin and Cantonese on the other. In English, although a spatial expression can be realized as a preposition followed by a Ground DP, it is however not rare to have prepositional phrases comprised of a ‘complex’\(^4\) preposition followed by a Ground DP. A typical complex spatial preposition in English is formed in such a way that a noun-like place word is preceded by a ‘simple’ preposition and followed by another ‘simple’ preposition (very often of). That noun-like place word is sometimes called the Axial Part (Jackendoff 1983; Svenonius 2006, 2008; Cinque 2010a, Wu 2011, among others). Such element in English, to certain extent, resembles the Chinese localizer. Although a ‘simple’ preposition appears in the English translations in (2a) and (3a) and a ‘complex’ one in (2b) and (3b), the Chinese data in both (a) and (b) involve localizers (or the Axial Parts). From the perspective of cartography such difference can be explained by the assumption that all these spatial expressions indeed have one and the same syntactic structure with so many projections that are sufficient to accommodate all overt elements in all natural languages (here merely Chinese and English), where the seemingly lacking elements are either silent (Kayne 2005a, 2005b, 2005c) or spelled out by other overt elements (Svenonius 2010:131).

\(^4\) ‘Complex’ prepositions here refer merely to those comprising of more than one morpheme on the surface, e.g. in front of, on top of, etc. Such term used here thus does not involve theoretical concerns such as the one in Cinque (2010), in which ‘complex’ preposition refers to a different set of prepositions.
Besides, the Axial Part in Mandarin and Cantonese consists of two elements, and thus is not morphologically simple and presumably has internal syntax. The first element carries the semantic meaning of the Axial Part, e.g. in (2) "li" means ‘the inside part’. For convenience I call this element the ‘Axial Part head’. The second element can be considered to be a suffix to the Axial Part, e.g. "mian" in (2), which literally means ‘face’ or ‘surface’ and can combine with almost all Axial Part heads. I call this element the ‘Axial Part suffix’ (though I am going to argue that this is actually a Classifier).

2. Localizers in Cantonese and Mandarin: Nouns or not?

It is widely accepted in the study of Mandarin grammar that monosyllabic localizers (Axial Part head, in my term mentioned above) are not nouns but disyllabic localizers (i.e. monosyllabic localizer with a localizer suffix, or in my term mentioned above, Axial Part head with Axial Part suffix) are nouns (Ernst 1988; Peyraube 2003; Chappell & Peyraube 2008; Djamouri, Paul & Whitman 2011). For instance, Djamouri, Paul & Whitman (2011) agrees with Ernst (1988) that the monosyllabic localizers, like prepositions, always require an overt complement (DP\textsubscript{Ground} in our case) whereas disyllabic localizers, being nouns, do not.

(6) a. Shū zài [*(zhuōzi) shàng].
   book at table on
   ‘The books are on the table.’

b. Shū zài [(zhuōzi) shàngmiàn].
   book at table top
   ‘The books are on the top (of the table).’

But in fact the DP can be covert in many cases:

(7) Gūgu zài [(mén) wài] děng nǐ.
   Aunt at door outside wait you
   ‘Aunt is waiting for you outside (the door).’

Another difference is the (dis)allowance of insertion of the subordinator \textit{de}:

(8) a. zhuōzi (*\textit{de}) shàng
   table SUB on
   ‘on the table’
b. zhuōzi (de) shàngmiàn
   table SUB surface
   ‘the top of the table’

The subordinator *de* is generally considered to link the modifier (adjective, relative clause or nominal) to the DP to be modified. However, the modified component is not necessarily (though very often) an DP, since at least in some cases *de* is a nominalizer, which turns the component following it from a non-nominal to a nominal:

(9) a. [ta de piaoliang] bu neng buchang [ta de yichang canren].
   3rd DE beautiful NEG can compensate.for 3rd DE extraordinarily cruel
   ‘Her beauty cannot compensate for her extraordinary cruelty.’

b. ta yi [ta de bu licai] lai duifu [ta de guyi jujue]
   3rd by 3rd DE NEG pay.attention.to come cope.with 3rd DE intentionally refuse
   ‘He copes with her intentionally refusing by his not paying attention.’

The APs in (9a) and the VPs in (9b) are nominalized by *de*. This observation does not infer that disyllabic localizers are APs or VPs, but intends that the elements introduced by *de* are not necessarily Ns. Certainly Axial Parts look more like Ns than APs or VPs. Yet, however, the following observations seem to be strong enough to distinguish disyllabic localizers from Ns. First, there are no contexts for the disyllabic localizers to have a preceding classifier. Given that for any N there is always possible to have a certain preceding classifier, it is not likely that disyllabic localizers are nouns. Cantonese examples are clearer in that the possessive relationship is constructed by juxtaposing the Cl-N phrases.

(10) a. zhuozi de zhe-ge tui [Mandarin]
   table DE this Cl leg
   ‘this leg of the table’

b. *zhuozi de zhe-ge shang-mian [Mandarin]
   table DE this Cl top
   Intended: ‘this top of the table’

(11) a. zoeng toi zek goek [Cantonese]
   Cl table Cl leg
   ‘the leg of the table’
b. *zoeng toi go soeng-min [Cantonese]
   Cl table Cl top
   Intended: ‘the top of the table’

Second, the superlative markers *zui in Mandarin and *zeoi in Cantonese can precede the disyllabic localizers as a modifier. Normally such superlative marker can only modify adjectives and never nouns. It may further suggest that as in the modification of adjectives, above the disyllabic localizers there should be a DegP to accommodate the superlative marker.

(12) zai litang zui hou-mian [Mandarin]
   At hall most back MIAN
   ‘at most back of the hall’

(13) hai laitong zeoi hau-min [Cantonese]
   At hall most back MIN
   ‘at most back of the hall’

Third, a difference between Mandarin and Cantonese is that in expressing a spatial expression the Axial Part suffix is obligatory in the latter but not in the former (See (2) and (3)). However, since it is totally conceivable that the two superficially identical elements in the languages have different syntactic status, I regard this evidence as rather auxiliary.

In short, I regard both monosyllabic and disyllabic localizers as Axial Parts, which are not Ns (though it may contain a silent PLACE noun).

3. The allomorphs of min in Cantonese

In Cantonese, *bin\(^{1}\), *bin\(^{6}\), and *min\(^{5}\) are three productive Axial Part suffixes, which are very similar to each other in aspects of sound, meaning and distribution. In the literature no in-depth discussion on the differences or relationships among *bin\(^{1}\), *bin\(^{6}\), and *min\(^{5}\) (there are however some preliminary descriptive works, e.g. Cheung 1972, Gao 1980, Li 1995, Yip & Matthews 1994), therefore whether there is any syntactic significance among them is still not clear. For simplicity, I assume that they are actually allomorphs, and in the following I will just consistently use *min, except in the cases where *bin\(^{1}\) and *bin\(^{6}\) has to be used instead of *min\(^{5}\).
(14) The formation of the Axial Parts in Cantonese

<table>
<thead>
<tr>
<th>Cantonese</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Soeng {?-bin⁰/-bin⁶/-min⁶}</td>
<td>Top</td>
</tr>
<tr>
<td>(b) Ha {?-bin⁰/-bin⁶/-min⁶}</td>
<td>Bottom</td>
</tr>
<tr>
<td>(c) Cin {?-bin⁰/-bin⁶/-min⁶}</td>
<td>Front</td>
</tr>
<tr>
<td>(d) Hau {?-bin⁰/-bin⁶/-min⁶}</td>
<td>Back</td>
</tr>
<tr>
<td>(e) Zo {-bin¹/-bin⁶/-min⁶}</td>
<td>Left hand side</td>
</tr>
<tr>
<td>(f) Jau {-bin¹/-bin⁶/-min⁶}</td>
<td>Right hand side</td>
</tr>
<tr>
<td>(g) Leoi {?-bin⁰/-bin⁶/-min⁶}</td>
<td>Inside</td>
</tr>
<tr>
<td>(h) Oi {?-bin⁰/-bin⁶/-min⁶}</td>
<td>Outside</td>
</tr>
<tr>
<td>(i) Zak {-bin¹/<em>-bin⁶/</em>-min⁶}</td>
<td>Beside</td>
</tr>
<tr>
<td>(j) Pong {-bin¹/<em>-bin⁶/</em>-min⁶}</td>
<td>Next to</td>
</tr>
<tr>
<td>(k) Mai {-bin¹/-bin⁶/*-min⁶}</td>
<td>?Inside</td>
</tr>
<tr>
<td>(l) Zong {-kan¹/<em>-bin¹/</em>-bin⁶/*-min⁶}</td>
<td>Middle</td>
</tr>
</tbody>
</table>

4. Axial Part suffix min as a classifier

Chinese languages are classifier languages in the sense that nouns cannot be modified by numerals without the help of a classifier. The classifiers in Chinese are thus called numeral classifiers.⁵ Some Cantonese nominals are given below:

(15) a. Li zoeng o cam-jat maa ge sai syu-toi
    This Cl 1st yesterday buy GE small desk
    ‘This small desk I bought yesterday’

    b. Go sei go keoi gam-ziu zong-gwo ge lou pangjau
    That four Cl 3rd this.morning see.ASP GE old friend
    ‘Those four old friends he met this morning’

Hence the order of modifiers in a nominal can be summarized as follows:

(16) Dem (> Nume) > Cl > RC > A > N

---

⁵ Cinque (2006) and Cinque & Krapova (2007) argues that even in non-classifier languages the classifier phrase is projected as well by observing the properties of such noun-like elements as year in English and data from South East Asia in Simpson (2005). As Kayne (2005c) argues for the existence of silent Ns, e.g. year, hour, it is possible that some silent elements in even non-classifier languages are indeed classifiers.
The absence of the Numeral between Dem and Cl is very often considered as the deleted ‘one’. Besides, classifiers can be reduplicated so as to operate as the universal quantifier:

(17) a. zoeng zoeng sai syu-toi
    Cl  Cl  small desk
    ‘Every small desk’

b. go go lou pangjau
    Cl Cl  old friend
    ‘Every old friend’

From the above I summarize the following criteria for an element to be a classifier:

(18) a. Being able to follow a numeral
    b. Being able to follow a demonstrative
    c. Being able to reduplicate to yield universal quantification
    d. Not being able to follow a classifier, except in its own reduplication

The following is to show that the Axial Part suffix min in Cantonese is a classifier.

In Cantonese, the final syllable of nouns (thus including the sole syllable of monosyllabic nouns) can be changed to tone 2 if its underlying tone is not tone 2. Whether such change is obligatory varies among those nouns; in other words, given a particular noun of the type described above, the tone of the final syllable can be optionally changed to tone 2. However, in many cases such tone change can distinguish between different morphemes and thus obligatory. In our case of min there is a clear-cut distinction between the two tones in that the meaning of min⁶ (i.e. with the underlying tone) is ‘face’, a relational noun referring to a part of an object, whereas min⁶-2 (i.e. with the changed tone) refers to the space at or projected from a face of an object and thus is presumably considered as a component of an Axial part.

(19) a. Go seong cin hau loeng {*min⁶-2 / min⁶} dou kei mun saai jan.
    Cl  box  front  back  two  MIN  also  stand  full  all  person
    ‘At both front and back of the big box are full of people standing.’

b. Go seong cin hau loeng-go {min⁶-2 / *min⁶} dou waak mun saai tou-a.
    Cl  box  front  back  two  Cl  MIN  also  paint  full  all  graffiti
    ‘At both the front and back sides of the big box is full of graffiti painting.’
In principle, $min^6$ in (a) can also refer to the space at the front and back of the box, so its semantics actually can entail that of $min^{6-2}$ in (b). But due to the semantic restriction of the predicate it is not natural to admit such reading in this example.

In addition to the difference in semantics, a probably more striking difference between the two $min$’s is distributional, namely that the presence of a classifier before $min^{6-2}$ in (b) and its absence before $min^6$ in (a) are obligatory; in other words, the latter is able to follow a numeral whereas the former is not.

Another distributional difference is similar to the one just mentioned but now the classifier is replaced by a demonstrative.

\[(20)\]  
\begin{enumerate}
  \item a. Go seong li $\{*_min^{6-2}/min^6\}$ tung go $\{*_min^{6-2}/min^6\}$ dou kei mun saai jan.  
Cl box this MIN and that MIN also stand full all person  
‘At both this side and that side of the big box are full of people standing.’
  
  \item b. Go seong li-go $\{min^{6-2}/*min^6\}$ tung go-go $\{min^{6-2}/*min^6\}$ dou waak mun saai tou-a.  
Cl box this Cl MIN and that Cl MIN also paint full all graffiti  
‘At both this side and that side of the big box is full of graffiti painting.’
\end{enumerate}

Again, the presence of a classifier before $min^{6-2}$ in (b) and its absence before $min^6$ in (a) are obligatory; in other words, the latter is able to follow a demonstrative whereas the former is not.

\[(21)\]  
\begin{enumerate}
  \item a. Dem/Num > (*Cl) > $min^6$
  \item b. Dem/Num > *(Cl) > $min^{6-2}$
\end{enumerate}

Following the criteria to distinguish classifiers from nouns stated above, $min^6$ in (a) is a classifier since it can follow a numeral or a demonstrative but not a classifier whereas $min^{6-2}$ in (b) is a (relational) noun since whenever a numeral or a demonstrative is its modifier, a classifier has to be inserted in between.\(^6\) However, whether there is a silent PLACE noun is not clear.

\(^6\) Nevertheless, $min$ cannot reduplicate, which poses a potential problem to my claim that it is a classifier. A possible and tentative solution is that it actually spells out not only the classifier but [Cl-N], assuming the constructionist view of post-syntactic lexicalization in Svenonius (2010).
The Cantonese PLACE Classifiers *min* and *dou* in Spatial PPs (Chi-Fung Lam)

(22)  
\begin{align*}
\text{a. Dem/Nume} & \rightarrow \text{Cl} \ (= \ min^6) \rightarrow \text{?N} \ (= \ \text{PLACE}) \\
\text{b. Dem/Nume} & \rightarrow \text{Cl} \rightarrow \text{N} \ (= \ min^{6-2}) \\
\end{align*}

5. The suffix *–dou* as a PLACE element in Cantonese

Based on Katz & Postal (1964), Kayne (2005b) analyzes the adverb *here* and *there* as *this here place* and *that there place* respectively and the unpronounced *place* noun is represented as PLACE, which is supposed to exist also in such spatial expressions as *from behind the tree*:

(23)  
John came out from PLACE behind the tree.  (Kayne 2005b:67)

We have seen in the first section that in Mandarin and Cantonese locative PPs contain Axial Parts (obligatorily in some cases) that are postnominal and yield a locative reference when combined with the Ground DP. Therefore it is natural to consider the Axial Parts in Chinese to be or to contain the silent PLACE noun suggested by Kayne (2005b). However, in Cantonese but not in Mandarin there is another postnominal noun-like element which also yield a locative reference when combined with a Ground DP but contains no meaning of Axial Part. This element, *-dou*, is often supposed to be a suffix and comparable to the Axial Part suffixes in the literature (e.g. Cheung 1972). It is possible to replace the Axial Parts by *-dou* in (3):

(24)  
\begin{align*}
\text{a. hai go soeng dou} & \\
\text{At Cl box DOU} & \text{‘at place near/inside the box’} \\
\text{b. hai tousyugun (dou)} & \\
\text{At library DOU} & \text{‘in/near the library’} \\
\end{align*}

The locative meaning of *dou* does not contain any sense of directional projection from the Ground DP as the Axial Parts do. But similar to Axial Parts, when the Ground DP is a place name or is conceived to have a relatively fixed location, *dou* becomes optional.

In the following examples *anhong* ‘bank’ is ambiguous between the building of the bank or the abstract bank account. However, the former reading is intended only when *dou* is present.
(25) a. keoy hai anhong dou lo-zen jat-cin-man ceotlei.
   3sg at bank LOC take-PFV one thousand dollar out
   ‘He took out one thousand dollars in the bank / from the bank account.’

b. keoy hai anhong lo-zen jat-cin-man ceotlei.
   3sg at bank take-PFV one thousand dollar out
   ‘He took out one thousand dollars *in the bank / from the bank account.’

6. dou as a classifier

I argue that dou, like min, is a classifier. Such claim is even more solid than the one on min in that dou satisfies all four criteria set in (18):

(26) a. o zing-hai heoi-zen loeng dou deifong. (able to follow a Nume)
   1st only be go ASP two DOU place
   ‘I have only visited two places.’

b. lei gei-si lei-zen li-dou ga? (able to follow a Dem)
   2nd what time come ASP this DOU SFP
   When did you come here?

c. Dou dou deifong dou gin dou zongkwok-jan. (able to reduplicate)
   DOU DOU place also see can Chinese man
   ‘(One) can see Chinese people everywhere.’

d. *li go dou (not follow a Cl)
   This Cl DOU

As shown in the above data, the noun deifong ‘place’ can be overt and follow dou. Therefore, in the spirit of cartography, when no noun follows dou I assume a silent noun PLACE indeed exists.

Although there is no strong evidence that supports the existence of a silent PLACE noun in Axial Parts such as cin-min ‘front-face’, hau-min ‘back-face’, there are indeed comparable constructions where the noun is optionally overt (but also see footnote 6).

(27) a. li/go/bin loeng dou (deifong)
   This/that/which two DOU place
   ‘these/those/which two places’

b. mat je (je)
   What thing thing
The Cantonese PLACE Classifiers *min* and *dou* in Spatial PPs (Chi-Fung Lam)

‘What (thing)’

(c) *dim/gam jeong (jeong)*

How/such *mode mode*

‘How/such way, so’

7. **Modifiers of measurement and deicticity**

Svenonius (2010) argues that *DegP* is higher than *DeicticP* in the merge order, which is a generalization of the Persian data from Pantcheva (2006, 2008).

(28) *dær 10 metri-ye un birun-e xane.*

*at 10 meters-ez dist outside-ez house*

‘there, 10 meters outside the house’

However, in Cantonese the most natural position for demonstratives in locative PPs is the one just preceding *dou*, in other words the penultimate position.

(29) *Go leoizai heong-zyu [go gungjyun hau-min saam-sap mai go-dou] zau-gan gwoheoi.*

*Cl girl towards ASP Cl park back MIN three ten metre that DOU run ASP pass-go*

‘The girl is running towards there, thirty metres behind the park.’

It is argued in Cinque (2005, 2010b) that demonstrative projects higher than the modifiers of adjectives and relative clauses, which are in turn higher than the noun. Besides in Chinese classifier is between the Dem and the adjectives and relative clauses. I suppose the locative PPs in Cantonese has the same order as its DPs where *DegP, AxialPartP* and some other modifiers follow Dem and Cl and precede the NP<sub>PLACE</sub>.

(30) *Dem > Cl > … RCs … > … > As > … > NP*

(31) *P<sub>loc</sub> > Dem > Cl > … DegP … > … AxialPartP … > NP<sub>PLACE</sub>*

Consider the following example of complex spatial construction from Cantonese:
Given the underlying merge order of (31), the surface order of (32) is obtained when a series of pied-piping phrasal movements (Cinque 2005) execute until the Spec of DemP or even as high as Spec, DP<sub>PLACE</sub> where D is empty. The movement is motivated by the fact that projections below prepositions are not able to check case and thus NP<sub>PLACE</sub> has to move to Spec of a projection just below a preposition (Djamouri, Paul & Whitman 2011).

8. Conclusion

As far as I know no one in the literature claim that min and dou in Cantonese and mian in Mandarin are classifiers. Some predictions are vindicated. First, dou is a Cl but not a PLACE noun and thus merges just below Dem, which matches the phenomenon that li-dou ‘this DOU, here’ and go-dou ‘there’ behave like a non-separable word.

If min is assumed to modify a silent PLACE noun, then the nominal properties of the Axial Parts but the fact that it cannot be preceded by a classifier can be accounted for, since the Axial Part suffix is actually a classifier and in Chinese presumably there are no double classifiers except when a Cl reduplicates to yield universal quantification. Some issues,

---

7 In fact, Chao (1968) suggests that in Mandarin chu is a classifier for place. However, chu is normally used only in Classical Chinese and contemporary written Chinese, and not in contemporary Mandarin.
The Cantonese PLACE Classifiers min and dou in Spatial PPs (Chi-Fung Lam)

however, is yet to be solved:

(34) a. Why cannot min have reduplication if it is a classifier? (see footnote 6)
   b. Is there any difference in nature between the PLACE noun of the locative PPs and the PLACE noun of the AxialPartP?
   c. Why must the so-called Axial Part suffix be overt in Cantonese and but not always in Mandarin?
   d. What are the functions and contraints of de in Mandarin and ge in Cantonese when they precede the disyllabic localizers if they are not nouns?

References
Cheung, Samuel Hung-Nin (1972) Xianggang yueyu yufa de yanjiu [Cantonese as Spoken in Hong Kong], The Chinese University of Hong Kong, Hong Kong.


