A CLITIC ANALYSIS OF LOCATIVE PARTICLES*

Feng-hsi Liu

University of Arizona

ABSTRACT

The syntactic status of locative particles such as *shang* 'on', *li* 'in' has long been a problem in Chinese syntax. This paper reviews the properties of these particles and considers three approaches that have been proposed in the literature. We will show that all three approaches run into difficulty. We will then suggest that locative particles are best treated as clitics. They take the preceding NP as the scope and cliticize to the left. This analysis explains why locative particles cannot stand alone, why they do not behave exactly like nouns or postpositions, and it also gives the correct semantic interpretation for locative phrases containing complex NPs. Our analysis suggests that locative particles actually do not have a syntactic status; they are not assigned any syntactic category. Rather, they can be analyzed in a morphological theory which treats clitics as phrasal affixes.

1. INTRODUCTION

Locative particles (Loc Prt) (Li and Thompson 1981:391) refer to the underlined elements in (1). In Chao (1968:620-627) they are called localizers.

(1) a. zai zhuozi-shang xiezi
    at table on write characters
    'write characters on the table'

b. dao hu - bian sanbu
   to lake-side take-a:walk
   'take a walk to the lake'
As (1) illustrates, these words occur in locative phrases, called place words by Chao (1968: 519). A locative phrase typically consists of three parts: a preposition such as *zai* 'at', *dao* 'to', *cong* 'from', an NP indicating location, and a locative particle, specifying the spatial relationship. The issue we are interested in here is the syntactic status of locative particles. What syntactic category should locative particles be assigned to? This question has long been a descriptive problem in Chinese syntax, and has been addressed by various scholars (see below). This is an important question, since how locative particles are analyzed will have consequences elsewhere in the grammar.

In the literature there are basically two positions on the status of locative particles. Locative particles have been treated either as postpositions (Tai 1973, Hagege 1975, Peyraube 1980, Ernst 1988) or as nouns (Liu, Pan and Gu 1983, Li 1985, 1990). The controversial nature of their status arises partly because it bears on an issue in typology, namely, whether Chinese has postpositions. Locative particles are the only expressions in Chinese that potentially can be considered as postpositions. Therefore, whether they are postpositions or not has typological significance for the language as a whole. As reviewed in Ernst (1988), locative particles are neither typical nouns nor typical postpositions. Therefore, assigning them either status will require us to invoke some special devices to account for atypical properties.

Recently, however, a third analysis for locative particles has been proposed. Troike and Pan (1994) suggest that locative particles are adpositions which occupy the Spec position of PP. For them, locative particles provide evidence in support of the P' constituent. I will call this approach the P' approach.

This paper advances a position that is different from all three approaches mentioned above. I will argue that locative particles are clitics, i.e. phrasal affixes. As we will see, this analysis is supported by all of the properties we know about locative particles. In the following I will first...
discuss general properties of locative particles (section 2). In section 3 I will outline the pros and cons of the three approaches: the noun approach, the postposition approach, and the P' approach. The first two approaches are reviewed in Ernst (1988), and my discussion will incorporate some of the points made by Ernst. Original observations, however, are made for all three approaches. In section 4 I will offer my analysis, and section 5 is a brief conclusion.

2. PROPERTIES OF LOCATIVE PARTICLES

We will begin with a clarification of the scope of our study. As illustrated in (1), locative particles are mono-syllabic. Parallel to the mono-syllabic forms, there are also disyllabic forms, as in (2):

(2) a. zai zhuozi shangmian
    at table top
    ‘on the table’

b. zai huiyi limian
    at meeting in
    ‘in the meeting’

c. zai wo zielu
    at I here
    ‘at my place’

These disyllabic forms will not be discussed in this study, since they are considered as nouns in both the noun approach and the postposition approach, and the controversy on the category status only concerns the mono-syllabic forms.

The first property we can observe about locative particles is that locative particles are phonologically bound forms. This can be seen in two ways. (3) shows that they cannot stand alone without a preceding NP.2
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(3) a. *Ta fang-le yiben shu zai shang
   ta put -Asp one:Cl book at top/on
   'He put a book on the top.'

b. *Li you yizhi mao
   inside exist one:Cl cat
   'There is a cat inside.'

c. *Ni zhan zai pang zuo shenme?
   you stand at side do what
   'Why do you stand by the side?'

Another sign of phonological dependency is that locative particles are also prosodically dependent in that they are often pronounced with the neutral tone, although lexically they are marked with one of the four tones—high, rising, falling-rising and falling. The neutral tone characterizes phonologically dependent forms in general. Thus if a morpheme is lexically neutral tone, it must be attached to something. This is the case for aspect markers -le, -zhe, the clitic de, and the plural suffix -men. Now locative particles, by acquiring the neutral tone, also join these words in the group of phonologically dependent words.

Morphologically, locative particles form a closed class. Chao (1968:620-627) gives the following list:

(4) | shang | 'on, top' | xia | 'below, under' |
    | qian  | 'front, before' | xian | 'before' |
    | hou   | 'back, after' | nei  | 'in' |
    | li    | 'in' | wai  | 'out, outside' |
    | zuo   | 'left' | you  | 'right' |
    | pang  | 'by, side' | zhong | 'middle, in' |
    | jian  | 'between' | dong | 'east' |
    | xi    | 'west' | nan  | 'south' |
    | bei   | 'north' | zher | 'here' |
    | nar   | 'there' |
In the list, *xian* ‘before’ can probably be taken out, as it almost never functions as a locative particle. The only example given by Chao is *shixian* ‘before the event of act’, which is more appropriately considered as a compound.

Syntactically, locative expressions, which contain locative particles, typically occur in an adverbial position, as illustrated in (5). In addition, they can also occur in the subject position, as in (6), and the topic position, as in (7).³

(5) a. Ta fang-le yiben shu zai neizhang zhuozi-shang
    he put -Asp one:Cl book at that:Cl table on
    ‘He put a book on that table.’

     b. Wo zai jie - shang yujian-le yige pengyou
     I at street on meet -Asp one:Cl friend
     ‘I met a friend on the street.’

(6) Wu - li you yizhi mao
      house in exist one:Cl cat
      ‘There is a cat in the house.’

(7) Laowang-nar wo bu qu-le
    Laowang there 1 not go-Asp
    ‘As for Laowang’s place, I will not go anymore.’

The preposition sometimes does not occur, as in (6) and (7). This seems to suggest whether the preposition occurs depends on the function of the locative expression in a sentence. We will return to this later in section 3 and 4.

So far we have seen that in a locative expression the preposition is not always present, but locative particles must be accompanied by a preceding NP. What about locative particles themselves? Is their occurrence required for the NP? It turns out that for a majority of NPs, to denote a location, the occurrence of a locative particle is obligatory. Thus (8a) and (9a), without a locative particle, are ill-formed, and different locative
particles can be added to make the sentence acceptable, as given in (8b-c) and (9b-c).

(8) a.  *Ta zai hu
       he at lake
       'He is on the lake.'

       b.  Ta zai hu li
           he at lake in
           'He is in the lake.'

       c.  Ta zai hu bian
           he at lake side
           'He is by the lake.'

(9) a.  *Ta zai shuzhuo
       he at desk
       'He is at the desk.'

       b.  Ta zai shuzhuo qian
           he at desk front
           'He is in front of the desk.'

       c.  Ta zai shuzhuo nar
           he at desk there
           'He is at the desk.'

NPs that don’t require a locative particle are ones that intrinsically can denote a location and have a definite reference. Some examples are given in (10):

(10) xuexiao ‘the school’,
     feijichang ‘the airport’,
     tushuguan ‘the library’
Thus (11) can be given with or without the particle *li*, and the meaning remains the same:

(11) Wo zai tushuguan (li) zhaodao yiben hen youyisi de shu
    ‘I found a very interesting book in the library.’

In such cases then, a locative phrase consists of *P + NP* only, just like English. On the other hand, there are also NPs that cannot be accompanied by a locative particle. These are place names:

(12) a. *zai Beijing li
        at Beijing in

b. zai Beijing
   at Beijing
   ’in/at Beijing’

Semantically, when an NP is followed by a locative particle, the sequence NP + Loc Prt becomes locative, which denotes a location either in the literal sense or in the extended sense. The latter applies to locatives with abstract nouns, as illustrated in (13):

(13) a. Wo zai yuanze - shang tongyi nide kanfa
        I at principle on agree your viewpoint
        ‘In principle I agree with you.’

b. Ta shishi - shang bing bu xiang qu
    he fact on Int not want go
    ‘In actuality he doesn’t want to go.’

These facts indicate that although locative particles cannot stand alone, nor can they be dispensed with for a majority of NPs, they can combine with NPs that are either concrete or abstract.
3. THREE APPROACHES

In section 2 we have considered locative particles with respect to its morphological, phonological, syntactic and semantic properties. These properties will be useful in evaluating the three approaches mentioned above: the noun approach, the postposition approach, and the P' approach. In the following I will outline the pros and cons of the three approaches.

3.1 The Noun Approach

The noun approach is adopted in a number of Chinese grammar books, e.g. Liu, Pan and Gu (1983), where locative particles are considered a special class of nouns. The approach is also advocated in Li (1985, 1990). According to the noun approach, the locative particle forms a compound noun with the preceding noun, and the output is a place noun. In (14), for example, zhuozi shang is a compound, meaning ‘table top’.

(14) [zai [zhuozi shang], NP]pp
    at table top
    ‘at the table top’

An immediate advantage of this analysis is that Case assignment can be uniform across categories: both verbs and adpositions assign Case to the right. Thus the NP zhuozi shang in (13) is assigned Case by the preposition zai.

Typologically, the noun approach claims that Chinese does not have postpositions, which is a desirable consequence, given the assumption that Chinese is a SVO language.

However, this approach is faced with difficulties in two aspects—distributional and interpretive. The distributional problems are discussed in Ernst (1988), as given in (15).

(15) a. Locative particles cannot stand alone.

b. Locative particles cannot occur in the context [XP de __], which is a diagnostic environment for nominals.
The sequence NP + Loc Prt cannot occur in all argument positions.

(15a) was illustrated earlier in (3), (15b) is illustrated in (16) and (15c) in (17):

(16) a. Zhangsan de taitai
    Zhangsan DE wife
    'Zhangsan's wife'

    b. dao Tai bei de huoche
        to Taipei DE train
        'train to Taipei'

    c. *wuzi de li
        house DE inside
        'inside of the house'

    d. *zhuozi de shang
        table DE top
        'top of the table'

(17) a. *Ta ca-le zhuozi shang, keshi mei ca yizi shang
    he wipe-Asp table top but not wipe chair top
    'He wiped the table top, but didn't wipe the top of the chair.'

    b. *Ta jia nan dui wo hen hao
        he family there to me very good
        'His family are very good to me.'

The paradigm in (16) suggests that locative particles are not nouns, and that in (17) suggests that NP + Loc Prt does not have the same distribution as NP.

Besides the problems noted by Ernst, the noun approach also gives the wrong semantic interpretations for locative phrases in general. This is
because under this approach locative particles, as nouns that are bound forms, are attached to nouns. Thus, a complex NP, as in (18), will have an incorrect interpretation.

(18) a. Lisi mai de neizhang zhuozi shang
Lisi buy DE that:Cl table top
'on the table that Lisi bought'

b. [Lisi mai de [neizhang [zhuozi shang]N]NP]

c. [Lisi mai de [neizhang zhuozi]NP]NP shang

(18a) means 'on the table that Lisi bought', and this follows from the structure in (18c), where shang is attached to the entire NP. However, if shang is a noun, the internal structure of (18a) would be (18b), where shang is attached to zhuozi, and it gives the incorrect interpretation 'the table top that Lisi bought'.

3.2 The Postposition Approach

The postposition approach is advocated by Tai (1973), Hagege (1975), Peyraube (1980), and Ernst (1988). It can be further divided into two groups: for Tai and Ernst, the postposition combines with the preceding NP and forms a postpositional phrase; while for Hagege and Peyraube, the postposition and the preposition form a discontinuous unit. In the postpositional phrase analysis, it assigns (14), repeated here as (19a), the structure (19b):

(19) a. zai zhuozi shang
at table on/top
'on the table'

That is, *shang* forms a constituent—Postposition Phrase (PostP)—with the preceding NP, and it assigns Case to that NP. The preposition *zai* in this case subcategorizes for a PostP rather than an NP. In the second analysis, since no structure is given by either Hagege or Peyraube, I assume that the discontinuous unit *zai...shang* is an adposition, which subcategorizes for an NP and assigns Case to it. The result is an adpositional phrase.

On either analysis, the properties listed in (15) follow straightforwardly. Locative particles cannot occur by themselves without the preceding NP because they are postpositions, which, alone or together with the preceding preposition, obligatorily subcategorize for an NP argument. They cannot occur in the context [XP de], because they are not nominals; and finally, the sequence NP + Loc Prt does not occur in normal argument positions because it is not an NP.

On the other hand, as pointed out by Ernst, the postposition status is inconsistent with the assumption that Chinese is a SVO language. It also causes problems for the principle and parameter approach which incorporates the directionality of Case assignment principle. If Case assignment is uniform, then we would expect a VO language to have the order ‘preposition NP’ rather than ‘NP postposition’.

In addition to the difficulties noted by Ernst, the postposition approach also runs into problems with coordination, and this shows up in both the postpositional phrase analysis and the adpositional phrase analysis. As illustrated previously in (10-11), for certain NPs, locative particles are not required. In these cases the preposition *zai* simply takes an NP argument. In the postpositional phrase analysis, this means *zai* has to be specified as taking both NP and PostP arguments. As (20) demonstrates, PostPs and NPs can be coordinated:

(20) Xiaoming zai jia he xuexiu dou bu tinghua
Xiaoming at home in and school all not behave
‘Xiaoming does not behave either at home or at school.’

However, NPs and PPs cannot be coordinated:
If we take *xue* in (20) as a bare NP adverbial (Larson 1985), and treat (20) as a coordination of adverbials (PostP and NP), then the question arises why (21) cannot be treated in the same way. That is, *hou yuan* could also be treated as a bare NP adverbial, but then one wonders why the conjunction between it and the do PP adverbial *qian yuan* is not allowed. It may very well be the case that PostPs and PPs have different combinatory possibilities, but this remains to be shown.

In the adpositional phrase analysis, (20) presents an even more serious problem. The analysis in fact predicts that sentences like (20) should not be allowed, because in this analysis the expression *jia li* 'at home' is not a constituent and cannot be conjoined with the NP *xue* 'school'.

### 3.3 The P’ Approach

The P’ approach is proposed by Troike and Pan (1994). In this approach, locative particles are adpositions which are in the position Spec of PP. (14)(=19a), repeated here as (22a), has the structure (22b):

\[
\begin{align*}
(22) & \quad \text{a. } zai \text{ zhuzhao shang} \\
& \quad \text{at table on/top} \\
& \quad \text{'on the table'} \\
& \quad \text{b. } [\text{[zai]}_p [\text{zhuzhao}]_{hp} \text{ shang }]_{pp}
\end{align*}
\]

The preposition *zai* forms a constituent (P’) with the NP *zhuzhao*, and *shang*, the specifier, follows P’.

What is attractive about this approach is that locative particles are accommodated naturally within the X’-theory. They fit perfectly into the fully projected PP structure; no new category needs to be postulated. In addition,
the postulation of Spec also supports the existence of an intermediate level, 
P', within PP.

However, this approach is also inadequate, and this has to with the 
P' projection. Recall in both the noun approach and the postposition 
approach the major break in a PP is between the preposition *zai* and the NP; 
in the P' approach, however, the major break comes between the NP and the 
locative particle. The question, then, is this: Is there any evidence that in 
(22) *zai zhuozhi* is a constituent, to the exclusion of *shang*? To answer this 
question, it will be useful to apply the classical test of coordination again. 
Let us consider how many possibilities there are to conjoin subparts of [P NP 
Loc Prt]. (23) lists the six logical possibilities, and three of them are 
allowed.

(23) a. *(P + P) NP Loc Prt
b. P (NP + NP) Loc Prt
c. *(P NP (Loc Prt + Loc Prt)
d. *(P NP + P NP) Loc Prt
e. P (NP Loc Prt + NP Loc Prt)
f. (P NP Loc Prt + P NP Loc Prt)

(24) are illustrations based on (23).

(24) a. *(Cong he dao) xiyuan li lai dou vao yige zhongtou 
      from and to theater in come all need one:Cl hour
    'It takes one hour to and from the theater.'

b. Wo zai (zhuozi he yizi) shang fang- le yiben shu
    I at table and chair on all put- Asp one:Cl book
    'I put a book on both the table and the chair.'

c. *Wo zai zhuozi (shang he xia) dou fang- le yiben shu
    I at table on and under all put- Asp one:Cl book
    'I put a book both on and under the table.'
(a) and (c) show that neither prepositions nor locative particles can be conjoined; this may have to do with the fact that neither are content words. What is of interest to us is (d), which shows that sequences of P+NP also cannot be conjoined when followed by a locative particle. On the other hand, (e) shows that sequences of NP+Loc Prt can be conjoined. Thus evidence from coordination suggests that NP+Loc Prt is a sub-constituent of P+NP+Loc Prt, but P+NP is not.

Before empirical evidence is given for the constituent-hood of P+NP in P+NP+Loc Prt, then, the P’ approach cannot be maintained.

4. LOCATIVE PARTICLES ARE CLITICS

In this section I will present my analysis of locative particles. I will not adopt any of the three approaches above; instead, I will suggest that locative particles are best treated as NP clitics. First, a few words on the analysis of clitics in the literature are in order.

4.1 Clitics in the Literature

The study of clitics has received considerable attention in recent years (e.g. Zwicky 1977, Klavans 1980, 1985, Zwicky and Pullum 1983, Zwicky 1985, Anderson 1992). Much work in this area has been devoted to establishing the grammatical status of clitics; clitics are to be distinguished from affixes on the one hand, and from words on the other hand. The former
part, the differentiation of clitics from affixes, is examined in Zwicky and Pullum (1983) and Klavans (1985), while the latter part, the differentiation of clitics from words, is discussed in Zwicky (1985). Thus Zwicky and Pullum (1983) show that clitics, in contrast to affixes, exhibit a low degree of selection with respect to their hosts; in particular, they select phrasal hosts. Zwicky (1985) further suggests that clitics are typically phonologically dependent, they form a phonological unit with an independent word, and they are not subject to syntactic processes, such as deletion and movement.

Anderson (1992), however, suggests that rather than focusing on an attempt to find criteria that distinguish clitics from affixes and words, it may be more fruitful to examine the parallelism between clitics and affixes. He explores the notion that clitics are phrasal affixes, first suggested by Klavans (1980). Clitics are the phrasal analog of word-level morphology and mechanisms of affixation and clitic placement are comparable. In Anderson’s analysis, then, clitics are not treated as lexical elements that occupy structural positions in the Phrase marker, rather, they are phrasal affixes introduced by rules of phrasal affixation. This is parallel to the way affixes are introduced by Word Formation Rules. The rules that are responsible for the placement of clitics can be specified in terms of a set of parameters, following Klavans (1980, 1985). These parameters are given in (25).

(25) Parameters of clitic placement
   a. Scope: the clitic is located in the scope of some constituent which constitutes its domain.
   b. Anchor: the clitic is located by reference to the {first vs. last vs. head} element of the constituent in which it occurs.
   c. Orientation: the clitic {precedes vs. follows} its anchor.

I will adopt Anderson’s view of clitics as well as Klavans’ s characterization of clitics in (25).

In Chinese, the study of clitics has also gained attention recently. Various particles have been argued to be neither affixes nor words, but clitics. Thus C. Huang (1985) proposes that sentential particles, e.g. ma, ne, ba, are sentential clitics, although Dai (1992) argues that they are actually
words. C. Huang (1989) further argues that the NP *de* is an NP clitic. Liu (1994) then proposes that the verbal *de* is also a clitic, a VP clitic. We will now add another group of particles to this list, namely, locative particles.

4.2 Locative Particles as NP Clitics

From the discussion in section 2 and 3, there is already evidence for the clitic status of locative particles. First, they are phonologically dependent: they cannot stand alone (cf. (3)), and they can be reduced to the neutral tone. Secondly, they are attached to a phrasal category—NP, as (5a) shows, repeated here:

(26) $\text{Ta fang-le yiben shu zai neizhang zhuzozi shang}$

he put-Asp one:CI book at that:CI table on

'He put a book on that table.'

In terms of the parameters in (25), locative particles have the following values:

(27) scope: NP
anchor: last
orientation: follow

That is, they take NP as the domain, are located by reference to the last element of the NP, and follow that element.

Semantically, the clitic placement has the effect that the output—NP+Loc Prt—is locative. This can be formally represented by the feature [+loc]. I will take [+loc] as a semantic feature that participates in selectional restrictions, not unlike the features [+human], [+animate], etc. This means NP+Loc Prt now occurs in contexts that require a locative phrase. This includes (i) an adverbial position, (ii) an argument position, (iii) the topic position, as illustrated in (5-7) above:

(5) a. $\text{Ta fang-le yiben shu zai neizhang zhuzozi-shang}$

he put-Asp one:CI book at that:CI table on

'He put a book on that table.'
b. Wo zai jie- shang yujian-le yige pengyou
'I met a friend on the street.'

(6) Wu- li you yizhi mao
'There is a cat in the house.'

(7) Laowang-nar wo bu qu- le
'As for Laowang's place, I will not go anymore.'

On this account, then, it follows automatically that NP+Loc Prt does not occur in just any argument position: with the feature [+loc], it can only occur in an argument position that requires a locative phrase. Such cases are found in existential sentences. J. Huang (1987) identifies four types of existential sentences in Chinese, and two of them have locative phrase as subject. (7) represents one type, and (28) illustrates another type:

(28) Men- wai zhan- zhe yige ren
'There is a man standing outside of the door.'

It can also be seen that the clitic analysis has the advantages of both the noun approach and the postposition approach. First, as in the noun approach, locative particles are not postpositions. Chinese is considered a language with no postpositions, a desirable result with respect to both Case assignment and the typology of word order. Secondly, as in the postposition approach, the distributional properties of locative particles given in (15), repeated here as (29), have a natural explanation.

(29) a. Locative particles cannot stand alone.
b. Locative particles cannot occur in the context [XP de __]n, which is a diagnostic environment for nominals.

c. The sequence NP+Loc Prt cannot occur in just any argument positions.

(c) has already been discussed, and (a-b) follow automatically if locative particles are clitics. Further, the analysis gives the correct semantic interpretation to (18a):

\[ (=18a) \text{Lisi mai de neizhang zhuozi shang} \]
\[ \text{Lisi buy DE that:Cl table on} \]
\[ \text{on the table that Lisi bought} \]

Shang is attached to the entire NP, i.e. Lisi mai de neizhang zhuozi ‘the table that Lisi bought’.

Finally, on this analysis NP and NP+Loc Prt can be conjoined, as seen in (24) above, repeated here:

\[ (31) \text{Xiaoming zai jia he xuexiao dou bu tinghua} \]
\[ \text{Xiaoming at home in and school all not behave} \]
\[ \text{Xiaoming does not behave either at home or at school.} \]

This is because locative particles, as clitics, do not occupy any structural positions in the phrase structure, and what we have is in fact coordination of NPs. More precisely, (31) concerns coordination of NPs that are semantically locative, and an NP is semantically locative if it is location-denoting and has a definite reference. Such an NP may or may not be accompanied by a locative particle, depending on if it is intrinsically location-denoting, like xuexiao ‘the school’. If one of the NPs is not location-denoting, then coordination is not possible:

\[ (32) \text{*Ta zai fanguan he huiyi dou chuan-zhe xizhuang} \]
\[ \text{he at restaurant and meeting all wear-Asp suit} \]
\[ \text{He wore a suit both at the meeting and in the restaurant.} \]
Before we end this section, we need to consider an alternative analysis, according to which locative particles are suffixes. This position has been adopted by some Russian linguists, e.g. Jiabujinuo 1957. How does the clitic approach compare with the suffix approach? From the discussion in 4.1, it is clear that clitics and suffixes are very similar; they differ only in the scope—while clitics are attached to phrases, suffixes are attached to words. Our discussion above has shown that locative particles combine with a phrasal category (NP), rather than a lexical category (N). This is illustrated in (26). That is, *shang combines with neizhang zhuozi*, rather than with zhuozi. If locative particles were to combine with an N, rather than an NP, (30) would again receive the wrong interpretation (34), just like the case in the noun approach.

(30) Lisi mai de neizhang zhuozi shang
Lisi buy DE that:Cl table on
‘on the table that Lisi bought’

(34) *Lisi mai de [ neizhang [zhuozi shang]]NP
Lisi buy DE that:Cl table top
‘the table top that Lisi bought’

5. CONCLUSION
We started with the question what syntactic status locative particles have. After examining the properties they exhibit, we came to the conclusion that these particles are best analyzed as clitics, i.e. phrasal affixes, taking the preceding NP as their scope and cliticizing to the left. In our analysis, then, locative particles do not have much of a syntactic status; they are not assigned any syntactic category. This explains why they do not behave like either nouns or postpositions. Our analysis thus demonstrates that it is in the
area of morphology, rather than syntax, that we can offer a satisfactory analysis for locative particles.

Our analysis suggests that Chinese does not have postpositions or PostPs, and that PP has the structure (P NP). Not only does this mean Case assignment will be uniform across VP and PP, it also suggests that configurationally, Chinese is mainly head-initial, with NP being the only category that is consistently head-final. This is in contrast to the claim made in J. Huang (1982), where it is said that Chinese is largely head-final and only trivially head-initial. This discrepancy is partly due to the fact that J. Huang includes not only lexical categories (X in XP), but also phrasal categories (X' in XP), as heads. If head only refers to lexical categories, as in the standard view, then both VP and PP in Chinese are clearly head-initial, while locative particles can never be heads.

So far, all of the clitics that have been proposed for Mandarin Chinese, including the sentential final ma, ba, ne, the NP de, the verbal de, and the locative clitics discussed here, are all final clitics—clitics that are attached to the end of a phrase, and enclitics—clitics that are phonologically dependent on the preceding word. If this is true of Mandarin in general, then we can postulate a very simple rule of clitic placement for the language as a whole. Further work needs to be done before we can have a full picture of the types of clitics in Mandarin. Also, Mandarin Chinese does not appear to have second-position clitics, which are widespread in Indo-European languages. However, second-position clitics have been reported for other Chinese dialects. C. Huang (1988) suggests that in Taiwanese the question particle kam is a second-position clitic. In addition, Zhu (1985) observes that some dialects, including the Wu dialects and certain Mandarin dialects in the south-western region, have a pre-VP interrogative particle, which is used to form yes-no questions. This particle, according to C. Huang (1988), is also potentially a second-position clitic. It will be interesting to find out how Chinese dialects in general behave with respect to the types of clitics available and whether the resulting paradigm has typological significance.
NOTES

* I am grateful to the reviewers for valuable advice and for providing me with relevant references.

1. Locative particles have also been considered as pronouns (Alleton 1973, Rygaloff 1973), nominal modalities (Cartier 1972), or suffixes (Jiabujinuo 1957). However, none of these positions receive much support and they have not been adopted in the literature. I will briefly discuss the suffix analysis in section 4.

2. There are two types of possible counterexamples to this statement. The first type concerns idioms, while the second type includes cases where the particles immediately follow a preposition. This is illustrated in (i) and (ii) respectively:

(i) 上有天, 下有地
   'In the above there is heaven, in the below there is Suzhou and Hangzhou.'

(ii) 他在外面
   'He is away from home all year round.'

   In the literature (i) is generally considered not to be a counterexample, since it is an idiom. As for (ii), I take wai not to be locative particle in this sentence, for two reasons. First, as we will see, locative particles are prosodically weak in that they can be reduced to neutral tone. However, in (ii) wai cannot be reduced; it must be prosodically strong. Secondly, cases like (ii) are limited. Thus the preposition dao ‘to’ cannot be immediately followed by any locatives particles. (ii) reflects influence of Classical Chinese, where the mono-syllabic forms are in fact nouns.

3. This seems to suggest that NP + LocPrt has the distribution of an NP. However, this is not quite right. In section 3 and 4 we will see that NP + LocPrt does not occur in just any argument position; it only occurs in an argument position when a locative argument is required.

4. I am grateful to a reviewer for pointing out that definiteness is a necessary condition for NPs not requiring a locative particle.
REFERENCES


汉语方位词的分析
刘风辉
亚利桑那大学东亚系

汉语方位词如“上”“里”等在语法中应该属于哪一词是长久以来语言学者所争论的问题之一。本文归纳方位词的各种特性，同时比较目前所有的三家说法。我们认为方位词既不是名词，也不是后置词，而是一种词组尾，紧跟在名词词组的后面。这样的分析可以解释为什么方位词不能单独出现，以及为什么它的表现和名词及后置词都不一样。因此方位词不具有语法上的地位，它在语法上并不具有任何词性。