ON TWO FUNCTIONS OF PLACE ADVERBIALS
IN MANDARIN CHINESE*

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While Chinese preverbal locatives denote the locations of actions and states of
affairs, postverbal ones denote the locations of participants of actions. This func-
tional difference is the governing principle for the word order of Chinese place
adverbials. Syntactic evidence based on Chinese data shows that these two func-
tions of place adverbials can not be reduced into one single function, and thus
argues against Geis' theory of place adverbials.

1. INTRODUCTION. The purpose of this paper is two-fold. Chinese place adverbials
constructed with zài 'to be at' can occur before or after the main verb, depending on
different conditions.

(a) zài \[ \text{NP}_{\text{place}} \] - VERB

(b) VERB - zài \[ \text{NP}_{\text{place}} \]

According to Chao's (1968) analysis,\(^1\) the (a) form consists of two verbal
expressions in a series with the preverbal locative phrases as the first verbal phrase subordinate to
and modifying the following main verb, and the (b) form a verb-complement construction with the postverbal locative
phrase as a complement to the preceding main verb. In
Chao's framework, the difference between 'modifier' and
'complement' involves not only linear order but also seman-
tic functions. With regard to the locative phrase involving
zài, he noted that whereas the preverbal locative often
denotes place where, the postverbal one often denotes the
place arrived.\(^2\) Based on this observation of his, a semantic
principle will be proposed to give a unitary explanation
for the placement of zài place adverbials under different
conditions.\(^3\)

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\(^1\) See Chao (1968:326, 336-338, 352, 752-754).
\(^2\) Chao (1968:352).

\(^3\) Charles Li (1975) has stated a number of constraints on the placement of place adver-
bials involving zài. If the proposed principle is correct, then his constraints as well as others
In the recent literature of syntax, several different analyses of place adverbials have been proposed. Chomsky (1965) analyzed place adverbials as verb phrase modifiers. Fillmore (1968) and Chafe (1970) treated them as modifying the main verbs. Lyons (1968) and Lakoff (1970) proposed that they are sentence modifiers. In terms of semantic functions, all these analyses claim that place adverbials are to locate actions and states of affairs in space. More recently, Geis (1973, 1974) took a different position and argued that the semantic function of place adverbials is to locate the participants of states of affairs and actions in space. In this paper, we will show that on the basis of Chinese data, both of these two semantic functions of place adverbials must be recognized for a number of semantic and syntactic reasons. It will be argued that since these two functions cannot be reduced into one single semantic function of locatives, both must be considered as semantic primes in the semantic structure of Chinese.

2. THE PLACEMENT OF PLACE ADVERBIALS. As far as the distribution in the surface structure is concerned, Chinese place adverbials display four patterns as illustrated below.  

A: (1) a. tā zài chūfāng-li kū.  
    he be at kitchen-inside cry  
    He cried in the kitchen.  

b. *tā kū zài chūfāng-li.  

(2) a. tā zài chūfāng-li chī zhōngfàn.  
    eat lunch  
    He ate lunch in the kitchen.  

b. *tā chī zhōngfàn zài chūfāng-li.  

c. *tā bā zhōngfàn chī zài chūfāng-li.  

B: (3) a. yǔ zài dì-shàng xià.  
    rain ground-top fall  
    The rain fell on the ground.  

b. yǔ xià zài dì-shàng.  

(4) a. *tā zài shuōzǐ-shàng fāng bǐ.  
    table-top put pen  
    He put the pen on the table.  

b. *tā fāng bǐ zài shuōzǐ-shàng.  

c. tā bā bǐ fāng zài shuōzǐ-shàng.  

not noticed by him can all be subsumed under one single principle based on semantic grounds.

*4 We have translated the following examples into past tense. In fact, depending on discourse contexts, they can be translated either into past tense or into present progressive
C: (5) a. tā zài shūōzi-shànɡ xiě zì.
   He wrote characters on a piece of paper
   write character
   at the table.

   b. tā bǎ zì xiě zài shūōzi-shànɡ.
   He wrote the characters on the surface of
   the table.

D: (6) a. tā zài chuánɡ-shànɡ shuǐ.
   bed-top sleep
   He slept in bed.

   b. tā shūǐ zài chuánɡ-shànɡ.

Pattern A exemplifies situations where place adverbials can only occur before the main verb, pattern B where they can only occur after, pattern C where they can occur either before or after yet contribute different meanings to a sentence, and pattern D where they can occur either before or after yet with such a subtle distinction of meaning which most native speakers can hardly discern.

Many native speakers, with or without training in linguistics, have an intuitive feeling that while the place adverbial zài chūfānɡ-lǐ 'in the kitchen' in sentences (1) and (2) is used to state the location where the action took place, the place adverbials in (3) and (4) are used to specify the location of concrete objects as a result of the action, that is, the location of yǔ 'rain' in (3) and that of bǐ 'pen' in (4). This functional difference felt by native speakers between preverbal and postverbal locations in Chinese is clearly manifested in the contrast of meaning as exhibited between (5a) and (5b). In (5a), the place adverbial zài shūōzi-shànɡ 'on the table' denotes the location of the action xiě 'write'. In (5b), the same place adverbial denotes the location of 'characters' zài written. Thus, while it is necessarily true for (5b) that the characters are on the surface of the table as a result of the action, it is not necessarily so for (5a), in which the characters are most likely written on a piece of paper. As a matter of fact, in neither (5a) nor (5b), the actor tā 'he' can be said to be located on the surface of the table.

Examples are easy to find which can serve as minimal pairs showing the functional difference between the preverbal and the postverbal adverbial. Consider,

(7) a. Lìsī zài chuánɡ-shànɡ bǎ Zhānɡsān tuī-dào le.
   push-fall Asp.
   On the bed, Lìsī pushed Zhangsan down.
b. Lisi pushed Zhangsan onto the bed.

In (7a), the place adverbial sài chuáng-shāng 'on the bed' indicates the location where the actor performed the action of tui- 'push'. In (7b), it indicates the location of Zhangsan after he was pushed and fell. The contrast of meaning between (7a) and (7b) can be further detected by their difference in entailment. (7a) necessarily entails that the location of the agent was on the bed when he performed the action of 'push'. It does not necessarily entail that the recipient was on the bed either at the point of time or after he was pushed to fall. In contrast, (7b) necessarily entails that Zhangsan, the recipient of the action, was on the bed after he fell. It does not necessarily entail that Lisi, the agent, was on the bed at the time or after he performed the action. Obviously, one can push someone else onto the bed without being on the bed. Consider also,

(8) a. tā sài yínháng-li bǎ qián cún le.
     bank-inside money deposit Asp.
     He deposited the money in the bank.

b. tā bǎ qián cún sài yínháng-li.

The place adverbial sài yínháng-li 'in the bank' in (8a) indicates the location where the agent took the action of depositing money. In (8b), it indicates the location of the money deposited. While (8a) entails both he was in the bank and the money was in the bank, (8b) entails only the money was in the bank. The agent in (8b) can simply mail the money or have someone else go to the bank to deposit the money.

It is significant to observe the difference between the preverbal and the postverbal locatives in regard to the entailment of the location of a participant in an action. On the one hand, (5a), (7a), and (8a) show that a preverbal locative X does not necessarily entail that the recipient of the action is located at X, nor that the agent is located at X. Depending on actual pragmatic situations, a preverbal locative X sometimes entails that the recipient of the action is located at X (as in (8a)), sometimes it does not (as in (5a) and (7a)). Similarly, a preverbal locative X sometimes entails that the agent of the action is located at X (as in (7a) and (8a)), sometimes it does not (as in (5a)). On the other hand, (5b), (7b), and (8b) show that whereas a postverbal locative X NECESSARILY entails that the recipient of the action is located at X, it does not entail that the agent is located at X. It is only by means
of inference based upon our knowledge of the pragmatic world that we are able to tell the location of the agent through a postverbal locative. In fact, while we can infer in (5b) and (7b) that the agent must be somewhere nearby the location indicated by the postverbal locative when he undertook the action, we have no way to infer the location of the agent in (8b). In sum, while a postverbal locative Necessarily entails the location of the recipient of an action, neither the postverbal nor the preverbal locative Necessarily entails the location of the agent. In other words, while the entailment of the location of a recipient of an action is linguistically structured in the function of the postverbal locative, that of an agent or a recipient is not linguistically structured in the function of the preverbal locative. We can only reconcile with this observation by assuming that while the function of the postverbal locative is to denote the location of a concrete object, that of the preverbal locative is to denote the location of an action or a state of affairs.\(^5\)

The contrast of semantic function between the preverbal and the postverbal locative is not limited to transitive verbs or verb-compounds as seen in (5), (7), and (8). It also exists in sentences containing intransitive verbs or verb-compounds. Consider,

(9) a. wùdō hóuzì zài mǎbēi-shàng tiào.
   little monkey horseback-top jump
   The little monkey was jumping on the horse's back.

   b. wùdō hóuzì tiào zài mǎbēi-shàng.
   The little monkey jumped on the horse.

It should be clear that while the place adverbial zài mǎbēi-shàng 'on the horse's back' in (9a) specifies the location where the little monkey was performing the action of jumping in (9b) it specifies the location of the little monkey after it has jumped from the tree or from any location implied in the context except the horse’s back itself. Similarly, consider

\(^5\)I have elsewhere (Tai and Chou 1975) pointed out that most native speakers agree that while the locative zài chuāng-shàng in (i) states the location of the action sha ‘kill’, in (ii) it stresses on the location of the recipient's dead body.

(i) Zhāngsān zài chuāng-shàng bā Lìsì shā-sī le.
   Zhangsan killed Lisi in the bed.
   (kill-die)

(ii) Zhāngsān bā Lìsì shā-sī zài chuāng-shàng.

The fact that the locative in (ii) specifies the location of the recipient's dead body can easily be understood by the assumption that the postverbal locative functions to locate a concrete object in space.
(10) a.  
\[
\text{tā zài shuǐzi-dīxià suǐ-dào le.}
\]
He got drunk under the table-Asp.

b.  
\[
\text{tā suǐ-dào zài shuǐzi-dīxià.}
\]
He was drunk and fell on the ground

The place adverbial zài shuǐzi-dīxià 'under the table' in (10a) indicates the place where the process of 'got drunk and fell' took place, in (10b) it indicates the location of 'he' after he got drunk and fell. Thus, (10a) implies that he had been drinking under the table and finally got drunk there. In contrast, (10b) implies that he got drunk at the table and fell down from the chair upon the ground under the table. In (9) and (10), since there is only one single participant in the action, the pre-verbal and the postverbal locatives have the same entailment in regard to the location of the participant. In spite of this, their difference in semantic functions still shows up.

It should be noted that the verbs or verb-compounds in sentences (5) and (7)–(10) are those which are capable of changing the location of the participant 'affected' by the action. In the case of transitive verbs, it is the recipient of the action whose location is changed, rather than the actor himself, unless the actor himself is also the recipient of the action. In the case of intransitive verbs or verb-compounds, the actor changes his own location. Correspondingly, in sentences with transitive verbs or verb-compounds, the postverbal locative denotes the location of the recipient of the action after being 'affected', and in sentences with intransitive verbs or verb-compounds, it denotes the location of the actor himself 'affected' by his own action. We have so far found no case in which the postverbal locative denotes the location of the actor in sentences with transitive verbs or verb compounds. Pragmatically, it is possible that X does something to Y and the result is X rather than Y is 'affected' and located at a new location. However, our linguistic evidence seems to be consistent with the fact that in the actual world, when both the actor and the recipient are involved in an action, there are more situations in which we will be concerned about the resultative state of the recipient than situations in which we will be concerned about the resultative state of the agent.

The contrast in semantic function as shown in each pair of sentences discussed above suggests that the distribution of place adverbials in Chinese is somehow governed by a
semantic principle which can be stated to the effect that
while the function of a preverbal locative is to denote the
location of the action itself, that of a postverbal loca-
tive is to denote the location of the participant 'affected'
by the action. If we look back to (1a), we can see that the
locative phrase zài chúfāng-ǐ 'in the kitchen' functions to
state the location of the action kà 'cry' and is therefore
placed before the verb. (1b) is ungrammatical for the
reason that an interpretation based on the semantic function
of a postverbal locative is semantically anomalous, for
it is rather bizarre to say that someone is 'affected' by
his own crying so that his location is changed from somewhere
else to the kitchen. The point here can become clearer, if
we compare (1) with (3). In (3b), the locative zài dì-shàng
'on the ground' states the location of the rain after it
fell from the sky. While the sky is the actual space where
the action of rainfalling took place, the surface of the
ground is the place where the action of falling ceases to
be, yet where the rain becomes located. The locative 'on
the ground' is the terminal point of rainfalling rather than
the space where the action of rainfalling took place. The
ungrammaticality of (3a) is therefore due to the fact that
the assignment of a preverbal locative interpretation con-
trads the actual world. The contrast between sentences
(2) and (4) can be understood in the same way. (2a) is gram-
matical, since the locative zài chúfāng-ǐ 'in the kitchen'
serves to denote the location of the action of 'eating
lunch'. (2b) and (2c) are ungrammatical, since it makes
little sense to say that as a result of eating, the reci-
pient 'lunch' has changed its location from somewhere to the
kitchen. In contrast with (2a), the locative zài shūbǐ-
shàng 'on the table' in (4c) denotes the location of bǐ
'the pen' after it has been put. For (4a) to be grammatical
one would have to imagine a rare situation where the actor
is standing on the top of the table and putting the pen on
the table or on something else on the table. (4b) is
marked as a questionable sentence. Although the locative
phrase is placed after the verb, (4b) is still not as well-
formed as (4c), in which the famous Chinese ba construction
occurs. This is typical of the occurrence of postverbal
locatives after transitive verbs or verb-compounds. Despite
that this co-occurrence restriction has to be explained in
some way, it suffices for the present purpose to note that
the fact that (4b) is more acceptable than (2b) provides

6 In Section 3, we derive postverbal locatives from the complement of the atomic predi-
cate 'cause'. Shuan-fan Huang (1974) has argued that the bǐ sentences can generally be
derived from event causatives. Our treatment of postverbal locatives therefore accounts
for the fact that postverbal locatives tend to co-occur with the bǐ constructions in sen-
tences with transitive verbs or verb-compounds.
another piece of evidence for the existence of the functional difference between the preverbal and the postverbal locative in Chinese.

We have seen that the proposed semantic principle not only accounts for the meaning contrast in pairs of sentences represented by (5) and (7)-(10), but also provides a natural explanation based on semantic grounds for the occurrence restrictions of place adverbials as illustrated in (1)-(4). As far as the placement of place adverbials is concerned, we have found that the proposed principle is able to explain why some verbs follow pattern A, some others pattern B, and still some others pattern C. It is proper time now for us to investigate pattern D in relation to the explanatory value of the proposed principle. The pair of sentences (6a) and (6b) in pattern D is adopted from Chao's work.7 He analyzes (6a) as consisting of two verbal expressions with the locative zài chuáng-shàng 'in bed' as the first verbal expression modifying the verb shuǐ 'sleep', and (6b) as consisting of a verb-complement construction with the locative zài chuáng-shàng as the complement to the verb shuǐ. In Chao's framework, this analysis amounts to claiming that the locative in (6a) denotes the place where the action shuǐ took place, whereas that in (6b) denotes the place 'arrived at' by the agent through the action shuǐ. Unfortunately, native speakers cannot agree on the exact functional difference between these two sentences. My own feeling is that while (6a) is more inclined to the action aspect of the predicate, (6b) is more inclined to the result aspect.8 My feeling is supported by the fact that the con-

7See Chao (1968:353). He has translated zài chuáng-shàng shuǐ as 'sleep on the bed', and shuǐ zài chuáng-shàng as 'sleep in bed'. I have asked some native speakers of English regarding semantic distinctions between these two translations. The only difference found is one of the definiteness. I believe this is not the main difference that Chao has intended in his translation.

8Li and Thompson (1975) have suggested that while (6a) might answer the question 'what is he doing in the bed?', (6b) could answer the question 'where is he sleeping?'. However, for all my informants, (6a) and (6b) are both good in answer to the question 'where is he sleeping?'. In fact, both preverbal and postverbal orders can be used to form the question 'where is he sleeping?'

(i) tā zài shénme dīfang shuǐ?
    (what) (place)
    Where is he sleeping?

(ii) tā shuǐ zài shénme dīfang?
    Where is he sleeping?

In contrast with (i) and (ii), (iii) and (iv) show that only the preverbal order can be used to form the question 'what is he doing in the bed?'.
tination aspect marker she can occur in (6a) but not in (6b).

(11) a. tā sàì chuáng-shàng shuì-she.
   b. *tā shuì-she sàì chuáng-shàng.

Let us consider the verb tàng 'lie', whose action aspect seems more distinct than that of the verb shuì 'sleep'.

(12) a. tā sàì chuáng-shàng tàng-she.
   b. tā tàng sàì chuáng-shàng.
   c. *tā sàì chuáng-shàng tàng.
   d. *tā tàng-she sàì chuáng-shàng.

The functional difference between (12a) and (12b) can be detected in larger contexts.

(13) a. tā sàì chuáng-shàng tàng-she, bā zhèjiān this-measure dà shì dōu wàng le. big matter all forget
    big matter all forget
    He was lying in bed, and even forgot this important affair.

   b. ?tā tàng sàì chuáng-shàng, bā zhèjiān dà shì dōu wàng le.

(14) a. ?tā bìng de kuài sǐ le, sàì chuáng-shàng tàng she, bù xǐng rénshì. not aware thing
    He is dying of sickness, lying in bed and not aware of anything.

   b. tā bìng de kuài sǐ le, tàng sàì chuáng-shàng bù xǐng rénshì.

(13) and (14) indicate that while (12a) contains a predicate of action aspect, (12b) contains a predicate of resultative aspect. This is further supported by the fact that in response to

(iii) tā zài chuáng-shàng gàn shénme?
    (do)
    What is he doing in the bed?

(iv) tā gàn shénme zài chuáng-shàng?
    Why is he in the bed?

The contrast between (iii) and (iv) is consistent with my feeling that (6a) is more inclined to the action aspect of the predicate than (6b).
the question tā jīntiān xiàwǔ yào gàn shénme 'what is he going to do this afternoon', (15a) rather (15b) is the proper answer.

(15) a. tā yào sài chuāng-shàng tǎng-zhe.  
want  
He wants to lie in bed.

b. tā yào tǎng sài chuāng-shàng.

In recognizing that (12a) has a predicate of action aspect, we are able to understand that the preverbal locative in (12a) serves to denote the location where the action tǎng 'lie' was taking place. On the other hand, in recognizing (12b) as having a predicate of result aspect, we understand that the postverbal locative in (12b) serves to denote the location of the actor 'he' as a result of the action tǎng 'lie'. In this way, we also understand the ungrammaticality of (12c) and (12d) as violating the semant- 
cic principle which governs the placement of place adver-
bials in Chinese. Other examples similar to (12) are

(16) a. tā sài jiā-li dāi-zhe.  
home-inside stay-zhe  
He is staying at home.

b. tā dāi sài jiā-li.  
c. *tā sài jiā-li dāi.  
d. *tā dāi-zhe sài jiā-li.

(17) a. tā sài yǐyuàn-li sǐ le.  
hospital-inside die  
He died in the hospital.

b. tā sǐ sài yǐyuàn-li.  
c. *tā sài yǐyuàn-li sǐ.  
d. *tā sǐ-le sài yǐyuàn-li.

It seems that verbs such as tǎng 'lie', shuì 'sleep',  
dāi 'stay', and sǐ 'die' have two predicate aspects. When  
they are with zhe or le, the action or process aspect of these  
verbs emerges, and sentences can be grammatical without a loca-
tive phrase. When without zhe or le, these verbs function  
like linking verbs requiring postverbal locatives to be  
present as complements.

(18) a. tā tǎng-zhe.  
He is lying.

b. *tā tǎng.
c.  
\[\text{tā tăng sài chuáng-shàng.}\]
He is lying in bed.

(19) a.  
\[\text{tā sǐ le.}\]
He died.

b.  
\[\text{*tā sǐ.}\]

c.  
\[\text{tā sǐ sài chuáng-shàng.}\]
He died in bed.

(18) and (19) show that while the preverbal locative is optional for these verbs with action or process predicative aspect, the postverbal locative is obligatory for these verbs with the function of linking locative complement with the subject in order to indicate the location of the subject. (18) and (19) thus further support our contention that the two orderings of locatives in sentences such as (6), (12), (16), and (17) are not free variations. The contrast of meaning in each pair of these sentences is ascribable to the functional difference between the preverbal and the postverbal locative.

In addition to (6), Chao has also treated the two orderings in (20) as consisting of modifier-verb and verb-complement respectively.

(20) a.  
\[\text{tā sài Běijīng zhù.}\]
He lives in Peking.

b.  
\[\text{tā zhù sài Běijīng.}\]

However, very few native speakers are able to tell the difference between (20a) and (20b). My feeling is that the verb zhù 'live' does belong to the same group of verbs which includes shuì 'sleep', tāng 'lie', and sǐ 'die', and the contrast between (20a) and (20b) is similar to that between (6a) and (6b). This can be seen from (21).

(21) a.  
\[\text{tā sài Běijīng zhù-shé.}\]

b.  
\[\text{*tā zhù-shé sài Běijīng.}\]

The reason that (20a) and (20b) are not very different for so many native speakers can perhaps be attributed to the fact that the verb zhù always requires the presence of a locative phrase. This requirement blurs the distinction between the action aspect and the result aspect of the verb. In any case, (20) should not be regarded as a counterexample to our proposed principle. If it turns out that there is no functional difference between (20a) and (20b), the most we can damage the proposed principle is to claim that (20) is an exception to the principle because of the
peculiar property of the verb zhù.

Another phenomenon of word order involving this group of verbs is that when duration adverbs are present, place adverbials are ordered before the main verb. (22) holds true for all of this group of verbs including the verb zhù.

(22) a. tā zài chuáng-shàng shuì le liǎngtiān.
   He has slept in bed for two days.

b. *tā shuì le liǎngtiān zài chuáng-shàng.
c. tā shuì zài chuáng-shàng shuì le liǎngtiān.
d. *tā shuì le zài chuáng-shàng shuì liǎngtiān.
e. *tā shuì zài chuáng-shàng liǎngtiān.

Notice that (22c) and (22d) show that the main verb in (22c) is the second instance of shuì rather than the first one. Therefore consistently shows that with the presence of duration adverbs, the place adverbial must be placed before the main verb. Based on the fact that the presence of duration adverbs requires the presence of aspect marker le, we can assume that the duration adverb refers to the main verb and not to the place adverbial. This assumption is somewhat supported by

(23) tā shuì le liǎngtiān.
   He has slept for two days.

(24) *tā zài chuáng-shàng liǎngtiān.

If this assumption is correct, we can further assume that the presence of duration adverbs, like the presence of aspect markers she or le, has made the action or the process aspect of these verbs stand out, and that the presence of duration adverbs in sentences with these verbs is semantically compatible with the presence of preverbal locatives rather than postverbal locatives. The ordering of the locative in (22) can therefore be understood by means of the proposed principle based on semantic grounds without the postulation of an additional constraint on constituent ordering.

Related to the ordering phenomenon in (22) is

(25) a. tā zài chuáng-shàng shuì jiào.
   He slept in bed.

b. *tā shuì jiào zài chuáng-shàng.

9 Charles Li (1975) has given some convincing evidence that the first occurrence of the reduplicated verb must not be regarded as the main verb of the sentence.
Jiào is a cognate object of shuǐ, and most native speakers feel no difference between shuǐ and shuǐ jiào. One might therefore want to argue that (22) and (25) justify the postulation of a certain ordering constraint in Chinese to the effect that when there is a complement, object or adverb, occupying the position of the main verb, the locative phrase has to be placed after the main verb. However, this constraint on constituent ordering cannot be maintained due to the existence of sentences like

(26) Qīng-cháo jiàn dū sài Bēijīng.
    Ch'ing-dynasty establish capital
    The Ch'ing Dynasty established its capital at Peking.

(27) wǒ fàng le wǔ-kuai-qian sài shuōzi-shàng.
    I put five-dollar table-top
    I put five dollars on the table.

Or one might want to argue that if we treat shuǐ jiào as a dissyllabic intransitive verb, we can rule out (25b) in the same way as (28b), which seems to motivate a constraint prohibiting the locative phrase to occur after a dissyllabic intransitive verb.

(28) a. tā sài shù-xià xīūxī.
    tree-under rest
    He is resting under the tree.

    b. *tā xīūxī sài shù-xià.

Such a constraint cannot be maintained either. The verb xīūxī 'rest' consists of a coordinate verb-compound, of which both elements have the meaning of 'rest'. Other coordinate intransitive verb-compounds that I know do allow the locative phrase to occur after.

(29) tā shēngshàng sài Bēijīng.
    born and grow
    He was born and grew up in Peking.

(30) shèjiàn shì fāshēng sài Bēijīng.
    develop and born
    The affair occurred in Peking.

Faced with (27) and (28) on the one hand and (26) on the other, we can only assume that the verb xīūxī 'rest' is more of the same type of verb as kū 'cry' than as shuǐ 'sleep'.

The word xī 'rest' is synonymous with xīūxī. The fact that xīe, regardless of its monosyllabicity, can only take preverbal locatives supports our assumption.

(i) tā zài shù-xià xīe-zhe
    He is resting under the tree.

(ii) *tā xīe zài shù-xià.
It seems that the explanation for the ungrammaticality of (25b)' lies in the fact that shuǐ jiào has a semantic as well as formal structure of verb-object. This can be seen from

(31) tā shuǐ le yīge dà jiào.
    one-measure big
    He has taken a long sleep.

(32) tā méi bā jiào shuǐ hǎo.
    not good
    He has not slept well.

(31) and (32) indicate that the verb shuǐ in shuǐ jiào has the property of a transitive verb. We have previously noted that the postverbal locative in sentences with transitive verbs can only denote the location of the recipient of the action, and not the actor. For (25b) to be grammatical, we would need the locative zài chuáng-shàng 'in bed' to refer to the location of the cognate abstract object jiào, which is, of course, semantically anomalous. In this way, we manage to account for the ungrammaticality of (25b) in the same way as we have accounted for ungrammaticality of (2b). Thus, no constraints other than the proposed principle are necessary to take care of (25b) and (28b).

It is not irrelevant here to remark that even if any additional constraint proves to be independently motivated for (22), (25), and (28), they cannot be regarded as counterexamples to our proposed principle. The most we can do to argue against the generality of this principle is to regard these examples as exceptions due to the intervention of this hypothetical additional constraint on constituent ordering.

We have so far found no genuine counterexamples to the semantic principle which has been shown to be capable of providing a unitary explanation for the placement of

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11 If one follows Li and Thompson's (1973) line of thinking, one might want to suggest that sentences like (29) are residual sentences reflecting the still on-going process of historical change of word order in which Chinese locatives have been shifting from the postverbal to the preverbal position. Attractive as it is, this kind of suggestion can be seriously accepted only when we have indeed tried very hard and yet in vain to find any explanation solely on the basis of synchronic data, and only when we have a comprehensive theory of word order change with which we can somehow explain why sentences like (66), (29), and (30) have become residual. Otherwise, when we indulge ourselves too much in the belief that because of the historical evolution of language synchronic data is always heterogeneous and presents inconsistencies for description, we are apt to let the generality slip by and leave the nature of exceptions and counterexamples unexplored.
place adverbials constructed with zài. In fact, there is evidence that the proposed principle can be extended to cover the ordering of directional adverbials involving dào 'reach'.

(33) tā jǐntiān xìàwǔ dào wǒmen xuéxiàò lái.
    today afternoon to we school come
    He is coming to our school this afternoon.

(34) tā jǐntiān xiàwǔ lái dào wǒmen xuéxiào.
    He came to our school this afternoon.

While the directional phrase dào wǒmen xuéxiào 'to our school' in (33) indicates the 'projected goal', that in (34) indicates the 'reached goal'. Thus, the postverbal dào wǒmen xuéxiào in (34) necessarily implies that tā dào le wǒmen xuéxiào 'he has arrived at our school', the preverbal one in (33) does not. Similarly, while (36) necessarily implies that 'he has arrived at the United States', (35) does not. Therefore, (35) has to be used, if 'he' is still on his way to the United States.

(35) tā cóng Zhōngguó dào Méiguó lái.
    from China U.S.A.
    He is coming to the U.S.A. from China.

12 It seems that this principle should not apply to explain the contrast between (i) and (ii) or that between (iii) and (iv)

(i) yǒu rén zài fángzì-lǐ.
   (have) (people) (house-inside)
   There are people inside the house.

(ii) zài fángzì-lǐ yǒu rén.
   The house has people inside.

(iii) mǐ zhān zài Zhōngguó.
   (rice) (grow)
   Rice grows in China. (?)

(iv) Zhōngguó zhān mǐ.
   China grows rice.

Teng Shou-hsin (personal communication) has pointed out a case which still puzzles me.

(v) tā zài lóu-xià qíáng-shāng guà le yǐfù huà.
    (stair-down) (wall-on) (hang) (one) (picture)
    He hung a picture on the wall downstairs.

(vi) tā zài lóu-xià guà le yǐfù huà zài qíáng-shāng.

(vii) tā guà le yǐfù huà zài lóu-xià qíáng-shāng.

(v) is ambiguous with both preverbal and postverbal readings for the locative. Thus, in one reading, it is synonymous with (vii). In (vi), while the postverbal locative zài qíáng-
shāng 'on the wall' is not ambiguous, the preverbal locative zài lóu-xià 'downstairs' is am-
biguous with both preverbal and postverbal readings. I hope that further investigations will clarify the nature of this puzzle.
36) tā cóng Zhōngguó lái dào Méiguó.
He came from China to the U.S.A.

Needless to say, the extension of the scope of application of the proposed principle to place adverbials involving dào and others is only suggestive until we know more about the nature of directional adverbials and their relationships with non-directional place adverbials.↑

3. SEMANTIC REPRESENTATIONS. We have shown the validity and the generality of the proposed semantic principle in accounting for the surface ordering of zài place adverbials. We would like to further investigate the explanatory nature of this principle by looking into the semantic structures of both preverbal and postverbal zài locatives. Based on our observations in the previous section, we can analyze, along the line of generative semantics proposed by Lakoff and others, preverbal zài locative as being derived from structures like (37a) and (37b), and postverbal ones from structures like (38a) and (38b).

(37) a.

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(37) b.
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↑See Teng (1975) for a detailed discussion on location and movement in Chinese.

↑The atomic predicate 'do' here covers actions and transitive processes. Since the V in (37a) and (37b) stands for both transitive and intransitive verbs, the second NP is parenthesized to indicate its optionality.
(38) a.

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(38) b.

In (37), the locative phrase has a function of specifying the location of an action or a process (as in (37a)), or a state of affairs (as in (37b)). It is represented as a higher predicate of atomic predicates 'do' and 'become'. In (38), the locative phrase has a function of specifying the location of a participant as a result of the action or process in which he has participated. It is represented as a lower predicate of atomic predicate 'become' under atomic predicate 'cause'. (38a) specifies the location of a recipient of an action or a process. (38b) specifies that of the actor or the processor himself. We assume that no states of affairs can 'affect' the location of any participant. In both (37) and (38), zài 'to be at' is represented as a two place predicate with the location noun

15 The atomic predicate 'become' here covers intransitive processes and states of affairs. Transitive stative verbs such as 'love' and 'like' are included.
phrase as one of its two arguments. However, while an action (or process) sentence or a sentence of state of affairs constitutes the other argument of the verb zài in (37), a person or an object constitutes the other argument in (38). It is important to see that this difference means that while the postverbal place adverbial is derived from the basic sentence X (or Y) zài Z-location, the preverbal place adverbial is not. This difference accounts for our previous observation that while a postverbal place adverbial Z necessarily entails that one of the participants, i.e. the 'affected' one, is located in Z, a preverbal place adverbial Z does not necessarily entail that one of the participants is located in Z.

(37) and (38) not only reflect the semantic functions of preverbal and postverbal place adverbials respectively, but also correctly predict their respective surface orderings. I have elsewhere (1973) proposed a predicate placement constraint to the effect that a higher predicate of the main verb must always be ordered before the main verb. Since preverbal place adverbials are derived from higher predicates, they can only be ordered before the main verb. As to the ordering of postverbal place adverbials, since they are derived from predicates of resultative complement sentences, like other resultative adverbials and complements, they can only be ordered after the main verb.

4. REDUCIBILITY OF THE TWO FUNCTIONS. Geis (1973, 1974) has argued that the function of place adverbials is to locate the participants of actions and states of affairs in space. Our observation that Chinese postverbal place adverbials have the function of denoting the location of a participant as a result of an action therefore agrees with Geis' contention that the function of place adverbials is to locate concrete objects in space. Unfortunately, Geis' theory is essentially based on English place adverbials which carry the function of our preverbal place adverbials in Chinese. He has contended that English place adverbials can be derived from structures that underlie while someone or something be located at some place. For example, (40) is derived from the structure that underlies (41).

(40) John bought a Fiat in Chicago.

(41) John bought a Fiat while he was in Chicago.

16Li and Thompson (1974) have argued that the preverbal zài is a preposition in the surface structure. The issue whether it is a preposition, a verb, or a co-verb at the surface level is not my concern here.
If Chinese preverbal locatives could always be derived from \( \text{while}- \) clauses, we would be able to derive both types of Chinese place adverbials from structures containing the basic simple sentence \( X \text{ zài} Y \), where \( X \) can be someone or something, and \( Y \) is a location noun phrase. We would accordingly be able to analyze both functions of place adverbials in Chinese in terms of one single semantic function of locatives, that is, the primary semantic function of locatives as expressed in \( X \text{ zài} Y \) sentences.

Geis has also raised an interesting ontological question regarding locatives. He feels that we cannot locate something which we cannot point at. While we can point at concrete objects, we cannot point at actions and states of affairs in space. He therefore reasons that place adverbials can only locate participants of actions and states of affairs. They cannot locate actions and states of affairs and accordingly we cannot locate them in space as entities. However, it is the author's belief that, in the realm of linguistic semantics, it is entirely an empirical question whether or not place adverbials function to denote locations of actions and states of affairs, whether or not there exists a difference between semantics and pragmatics in the case of place adverbials. In the face of Chinese data, the validity of Geis' theory therefore depends upon whether the function of preverbal locatives can be analyzed as derived from structures containing \( X \text{ zài} Y \) sentences.

There are three reasons against the derivation of Chinese preverbal place adverbials from structures underlying \( \text{while}- \) clauses. First, we have noticed that the place adverbial \( \text{zài zuòzǐ-shàng 'on the table'} \) in (5a) entails neither he was on the table nor the characters were on the table. It can therefore be derived neither from \( \text{tā zài zuòzǐ-shàng de shǐhòu 'while he was on the table'} \) nor from \( \text{zì zài zuòzǐ-shàng de shǐhòu 'while the characters were on the table'} \). Similarly, consider

\[
(42) \quad \text{tā zài guō-lí chàò huíguóróu.} \\
\text{pan-inside fry double-cooked pork slices}
\]

He is frying double-cooked pork slices in the pan.

(42) does not entail that \( \text{tā zài guō-lí 'he is in the pan'} \), therefore the place adverbial \( \text{zài guō-lí} \) cannot be derived from \( \text{tā zài guō-lí de shǐhòu 'while he is in the pan'} \). One might want to argue that in (42) \( \text{zài guō-lí} \) can be derived from \( \text{huíguóróu zài guō-lí de shǐhòu 'while the double-cooked pork slices are in the pan'} \). However, \( \text{huí-} \)
guórénu does not come into existence during the process of frying. Furthermore, for while-clauses to be grammatical, the subject of the clause must be either definite or have a specific referent. Yet, huíguórénu in (42) does not need to be definite or specific.

Second, consider the semantic difference between (43) and (44).

(43) tā zài Méiguó de shíhòu mài le fángzì.
     time buy house
     When he was in the U.S.A., he bought a house.

(44) tā zài Méiguó mài le fángzì.
     He bought a house in the U.S.A.

While (43) necessarily entails that he was in the U.S.A. at the time he did the buying of the house, (44) does not. Obviously, (44) is a perfect sentence to describe the buying of a house in this country by someone who has never been in this country. On the other hand, while (44) necessarily implies that the house he bought is located in the U.S.A., (43) does not; he could have bought a house in Taiwan or somewhere else while he was in the U.S.A. Syntactically, while it is perfectly grammatical to put the shíhòu-phrases in the initial position of a sentence, it is not the case with place adverbials.

(43)' zài Méiguó de shíhòu, tā mài le fángzì.
     While in the U.S.A., he bought a house.

(44)' zài Méiguó tā mài le fángzì.
     In the U.S.A., he bought a house.

The contrast between (43)' and (44)' is consistent with the fact that while time adverbials can be freely preposed to the front of a sentence, place adverbials cannot.

(45) a. tā qùnián mài le fángzì.
    last year
    He bought a house last year.

b. qùnián tā mài le fángzì.

Therefore, to derive (44) from (43) by deleting de shíhòu 'the time when' would require some ad hoc mechanisms to account for the semantic and syntactic differences between (43) and (44). Nor is there any point in deriving (44) from the semantically anomalous sentence fángzì zài Méiguó de shíhòu, tā mài le fángzì 'when the house was in the U.S.A., he bought it'.

Third, there are situations where sentences which are grammatical with place adverbials are not grammatical with their corresponding while-phrases.
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(46) a. tā xiànsài sài chūfāng-li chī shōngfàn.  
now eat  
He is eating lunch in the kitchen now.

b. *tā xiànsài sài chūfāng-li de shǐhòu chī  
shōngfàn.

(47) a. tā xǐhuān sài tūshūguǎn-li de sān shū.  
like library-inside read book  
He likes to read in the library.

b. *tā xǐhuān sài tūshūguǎn-li de shǐhòu kàn  
shū.

(46) shows that the while-phrase cannot be used in sentences with the present progressive tense. (47) shows that the while-phrase cannot occur within the scope of auxiliaries. On the other hand, there are situations where a sentence is grammatical with the while-phrase, but not with the corresponding place adverbial.

(48) a. *tā sài Niǔyuē hěn qióng.  
New York very poor  
He was poor in New York.

b. tā sài Niǔyuē de shǐhòu hěn qióng.  
When he was in New York, he was poor.

We have presented three reasons against deriving place adverbials from the same structures underlying while-clauses in Chinese. Our arguments do not rule out the possibility that there are cases of place adverbials which do have the function of indicating the time when the actor is located at some place, and which can therefore be derived from while-clauses appropriately. Thus, (49) is synonymous with (50).

(49) tā sài Tàiwān chángcháng shàng jiǔjiā.  
often go to wine house  
In Taiwan, he often went to the wine house.

(50) tā sài Tàiwān de shǐhòu chángcháng shàng jiǔjiā.  
While in Taiwan, he often went to the wine house.

A piece of syntactic evidence supporting the derivation of (49) from (50) is the fact that the place adverbial in (49), unlike that in (44)', can be preposed to the initial position.

(49)' sài Tàiwān tā chángcháng shàng jiǔjiā.

Besides the type of place adverbials represented by (49), there is another type of preverbal locative which seems to have a different function from that of denoting locations
of actions and states of affairs.

(51) a.  ráì zhòngguó rénmén dōu yǒu gōngzuò.

   everyone all have job

   In China, everyone has a job.

b.  rénmén ráì zhòngguó dōu yǒu gōngzuò.

Contrary to place adverbials of other types, the best position of this type of place adverbial is in initial position. Intuitively, the locative in (51a) seems to be a topic. Semantically, (51) can be paraphrased as it is true in China that everyone has a job. Further investigations are needed in order to understand the semantics and syntax of this type of place adverbial.

5. CONCLUSIONS. We have observed that while the function of a Chinese preverbal place adverbial is to denote the location of an action or a state of affairs, that of a postverbal one is to denote the location of a participant of an action as a result of the action. This semantic principle is revealed in a number of minimal pairs of sentences exhibiting meaning contrasts due to the two different positions, preverbal or postverbal, of a locative phrase. Regardless of some seeming counterexamples this principle has been shown to be of great explanatory value in systematically accounting for the distribution of place adverbials involving ráì in Chinese. On the evidence of Chinese syntax, it is argued that the two different functions of place adverbials cannot be reduced into one single unified function of place adverbials. While postverbal locatives can be derived, by means of causative constructions, from the basic function of locatives, i.e. that of locating concrete objects in space as expressed in simple sentences such as X ráì Y 'X be located at Y', preverbal locatives cannot be, and they must be construed as higher predicates of action sentences or sentences of states of affairs. Thus, two semantic functions of place adverbials must be recognized in the theory of Chinese semantic structures. One is to locate the concrete objects in space. The function is indeed no different from the basic function of locatives as expressed in simple sentences with locatives as predicates. The other function of place adverbials is to locate actions and states of affairs in space.

To a certain extent, the functional difference between a Chinese preverbal locative and a postverbal one also exists in English syntax. Hall (1965) has noted the seman-
tic difference between the locative phrase in (52) and that
in (53).17

(52) John keeps his car in the garage.
(53) John washes his car in the garage.

The phrase in the garage of (52) has a function which can
be identified as that of a postverbal locative in Chinese,
whereas the same phrase in (53) has a function correspond-
ing to that of a preverbal locative. If Geis' theory of
English place adverbials, which attempts to derive place
adverbials from while-clauses containing simple sentences
with locative predicates, turns out to be incorrect as we
have seen in the case of Chinese place adverbials, then
our theory of locatives based on Chinese data must also
hold true for English.

In the course of discussion, we have touched the problem
of entailment with regard to place adverbials. We have
pointed out that since the primary function of Chinese pre-
verbal locatives is to denote the location of an action or
a state of affairs, a preverbal locative Y does not
necessarily entail X be located at Y. The prediction of
this kind of entailment depends very much on our ability
to infer from our knowledge of the pragmatic world. We
know that there are adverbs which do not entail any pro-
property associated with a participant of an action. For
example, (54) does not entail (55), and (56) does not
entail (57).

(54) He drives slowly.
(55) He is slow.
(56) He studied the history of China carefully.
(57) He was careful.

However, given enough discourse contexts, it is possible
to infer from (54) whether or not he is slow. By the same
token, it is possible to infer from (56) whether or not he
was a careful person. The inference in both cases depends
on our knowledge of the pragmatic world, rather than our
knowledge of linguistic structures. It is not totally un-
reasonable to think that the place adverbial in its func-
tion of denoting the location of an action can be treated
as manner adverbs in their semantic relationships to actions.
Hopefully, this conjecture can lead to some investiga-

17 See Fillmore (1968:26, fn. 34). I am indebted to Teng Shou-hsin for reminding me
of this note. Hall and Fillmore have suggested treatments in their respective theoretical
frameworks. It seems that neither of them has captured the essential semantic distinction
between (52) and (53).
of adverbs which will be useful for those semanticists who are concerned with proper logical representations of action sentences.

Finally, our demonstration that the word order of locatives in Chinese can be explained in terms of their semantic functions has an interesting implication in historical linguistics. Both preverbal and postverbal locatives in modern Chinese were placed after the main verb in classical Chinese. Thus, while modern preverbal locatives have shifted from the postverbal position to the preverbal position, modern postverbal locatives have remained unchanged. This shows that the semantic principle governing the synchronic distribution of Chinese locatives has served as a guiding principle for their diachronic development of word order. Furthermore, prior to the word order change of locatives, the classical Chinese had already exhibited the feature of modifier-preceding-head in that relative clauses, possessives, and adjectives all preceded nouns as they do in modern Chinese, irrespective of the fact that it had only the SVO order. In view of this, it is not unreasonable to assume that the shift of modern preverbal locatives from the postverbal position in classical Chinese was patterned after that of modifier-head. As to the word order of postverbal locatives in modern Chinese, since their semantic function is analogous to that of resultative complements, they have remained after the main verb, following the conspicuous pattern exhibited in resultative verb compounds, in which the action element always precedes the resultative element. If our explanation of the development of word order in Chinese locatives is correct, then we have presented a case of word order shift involving verbal modifiers which does not depend on the shift of the relative order between the verb and the object, and which therefore constitutes an exception to Lehmann's (1973) theory of word order development.\(^8\)

\(^8\) The term 'classical Chinese' refers to the 'late archaic Chinese' (LAC) as described by Dobson (1959). In LAC, place adverbials were not constructed with \(zài \text{ 'at'}\) but rather with \(yù \text{ 'in', 'at'}\), and they occurred only postverbally. However, in his description of the 'early archaic Chinese' (EAC), he has noticed the presence of \(zài\) in both Shu Ching and Shih Ching. Interesting enough, based on these examples provided by Dobson (1962, 1974), the \(zài\) locative in EAC occurs either preverbally or postverbally exactly according to the semantic principle which we have proposed in this research. This very fact plus the fact that the \(zài\) locative disappeared in LAC and then appeared again reminds us the very reality that one must be cautious in distinguishing those syntactic forms which have actually undergone changes from those which have not.

\(^9\) One might want to argue that the shifting of locatives to the preverbal position have been concomitant with the emergence of the SOV order in later Chinese. If it were the
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In this case, we would have seen both SVO and SOV orders in modern Chinese somehow exhibiting different conditions for place adverbials. We need to examine historical facts carefully to find out whether there is indeed a correlation between the emergence of the SOV order and the shifting of locatives in Chinese.

