0. INTRODUCTION

Shang 'above/up' and xia 'below/down' are a common pair of antonyms in Mandarin Chinese. Both of them function as verbs, directional particles and locative particles in various situations, as illustrated in the following sentences:

Verbs:
(1) a. Tamen yao shang lou.
   they want up floor
   They want to go upstairs.
b. Tamen yao xia lou.
   they want down floor
   They want to go downstairs.

Directional particles:
(2) a. Ta chuan - shang wai - yi.
   s/he put up coat
   S/he puts on a coat.
b. Ta tuo - xia wai - yi.
   s/he take down coat
   S/he takes off the coat.

Locative particles:
(3) a. Shu zai zhuo - shang.
   book at desk on
   The book is on the desk.
b. Mao zai zhuo - xia.
   cat at desk under
   The cat is under the desk.

As a pair of most commonly used antonyms in Mandarin Chinese, shang and xia have been mentioned and analysed briefly by grammarians or linguists (e.g. Chao 1968, Chu 1983, Henne et al. 1977, Li and Thompson 1981, Lin 1984, Tien 1986). In respect of the locative features, little work has been done on the semantic characterizations of shang and xia, though there have been some descriptive treatments in the literature. Li and Thompson have treated shang and xia as locative particles which specify spatial relationships (1981 : 391). Tien regards shang and xia as parts of compound prepositions which are usually used with zai 'at' to indicate different positions in space (1986 : 128 - 129). Chu (1983 : 11) and Lin (1984 : 185) both have taken shang and xia as localizers to be used as suffixes to form place words. Nevertheless, the above scholars have neglected the fact that temporal relationships can also be specified by shang and xia. Henne et al. (1977) have noticed that shang and xia can both be used to form place words and time words, but they have not investigated the spatial and temporal relationships expressed by shang and xia, and they have only glossed shang and xia into different categories: place word suffixes and time word suffixes (p. 210 - 211). Chao (1968) is the only scholar, as far as I know, who has given a comprehensive consideration to shang and xia both in spatial and temporal domains. Starting
with the point of view that "localizers, as the term suggests, usually express the (spatial and temporal) locations (lit. or fig.) of things" (p. 621), Chao has made a good attempt to give an extensive treatment of shang and xia as localizers (p. 620-623) and determinatives (p. 545-548). However, his explanation for the use of shang and xia in spatial and temporal domains has not been satisfactory in general. Therefore, it is natural for us to consider the analyses of shang and xia, given by Chao and other scholars mentioned above, to be systematically and theoretically superficial concerning the following phenomena:

No attempt has been made to relate shang and xia to each other and analyse the relationships between them in the spatial and temporal domains; no attempt has been made to give an answer to the question why expressions like di·shang ‘ground-above’ and di·xia ‘ground-below’ can give the same meaning ‘on the ground’; no attempt has been made to provide an explanation for the case when shang and xia are used together as shang·xia ‘above-below’; shang·xia can be interpreted as ‘above and below’ ‘up and down’, ‘top and bottom’, ‘more or less’, ‘thereabouts’ and ‘all over’ in the spatial and temporal domains.

To make an attempt to analyse the above phenomena, in this paper I will present a systematic and theoretical investigation of shang and xia in locative features with an emphasis on their semantic characterizations. Especially, I will investigate the positions of and the relations between shang and xia in the spatial and temporal domains, using the framework of Cognitive Grammar as presented in Langacker (1986, 1987).

1. THEORETICAL BACKGROUND

Although the framework of Cognitive Grammar has been assumed here, it is still very difficult to give a complete explanation of the theory in such a short paper (more detailed description can be found in Langacker (1986, 1987)). Nevertheless, some basic notions of Cognitive Grammar are particularly relevant and important to the present investigation of shang and xia in Mandarin Chinese.

1.1 Relevant Aspects of Cognitive Grammar

As a coherent and revelatory linguistic theory departing from most theories of semantics, Cognitive Grammar investigates language and meaning from a cognitive view equating meaning with conceptualization and regarding grammar as imagery. In the theory of Cognitive Grammar, grammatical structure in a language is no longer considered autonomous but is believed to be inherently symbolic. Thus, conventional imagery is represented by grammatical constructions which are selected appropriately to portray situations in a particular manner for purposes of linguistic expression. The meaning of a linguistic expression is referred to as a predication, and is characterized with respect to one or more cognitive domains, which consist of various kinds of knowledge systems or conceptions. The semantic characterization of a linguistic expression always involves base/profile organization, in which ‘base’ refers to the set of activated cognitive domains and ‘profile’ refers to the substructure within the base that is maximally salient in the sense of representing the entity that the expression designates.

1.2 Notions of Trajector and Landmark

In a given relational predication, the trajector is defined as the figure within the relational profile. This notion is applicable to both static and dynamic relations. The landmark is a salient entity which provides a point of reference for locating the trajector (Langacker 1987: 217). Thus, a trajector and a landmark can be used to illustrate the relation between A and B in the figure below:

![Diagram](attachment:image.png)

Figure 1.1

If we take A as the trajector and B as the landmark for locating A, we have the following expression:

(4) A zai B - shang.

A at B above
A is above B.

If we take B as the trajector and A as the landmark for locating A, we have the following expression:
(5) B zai A - xia.
B at A below
B is below A.

There is another version of relations between a
trajector and a landmark marked by shang and xia,
as indicated in the figure below:

![Figure 1.2](image)

Thus, sentences (6) and (7) express the rela-
tions between A and B in Fig. 1.2:

(6) A zai B - shang.
A at B on
A is on B.

(7) B zai A - xia.
B at A under
B is under A.

So, concepts like shang and xia are well de-
scribed by the relations between a trajector and a land-
mark:

Shang: The trajector has an upper position re-
relative to the landmark along the verti-
cal axis.

Xia: The trajector has a lower position rela-
tive to the landmark along the vertical axis.

In dealing with the positions and relations of
shang and xia in other cases in Mandarin Chinese,
I will mainly use O for profile and — for landmark,
just for the convenience of illustrating the prototypical
value of shang and xia in different circumstances, which
are shown in the following figures:

![Figure 1.3](image)

shang
above/over

![Figure 1.4](image)
xia
down/below

![Figure 1.5](image)

shang
on

![Figure 1.6](image)
xia
beneath/under
2. **SHANG AND XIA IN DIFFERENT DOMAINS**

In this section, I will investigate positions of and relations between shang and xia in the spatial, temporal and mental domains. My focus will be on the cases in which shang and xia are used to form expressions like *zhou·shang* 'on the desk', *zhuo·xia* 'under the desk', *shang xingqi* 'last week', *xia xingqi* 'next week', and the like.

2.1 **Shang and Xia in the Spatial Domain**

In the spatial domain, *shang* and *xia* mainly indicate different positions through physical space. These positions can be further divided into two categories: vertically oriented *shang* and *xia* and horizontally directed *shang* and *xia*. Their relations can be clearly explained by the relations between the trajector and the landmark.

2.1.1 **Vertically Oriented Shang and Xia**

Since both *shang* and *xia* originate from a vertical axis, their relations in the spatial domain have much to do with the vertical positions. The relations between the trajectors and the landmark in expressions *zhuo·shang* 'on the table' and *zhuo·xia* 'under the table' in sentences (3) a. and (3)b. are illustrated by Fig. 2.1 and Fig. 2.2:

![Figure 2.1](image)

**Figure 2.1**

![Figure 2.2](image)

**Figure 2.2**

The following are some other interesting examples of vertically oriented *shang* and *xia*:

(8) a. *You yi·zhi niao zai liba·shang.*

have one·CL bird at fence·on

There is a bird on the fence.

b. *You yi·ge laoshudong zai liba·xia.*

have one·CL rat hole at fence·under

There is a rat hole under the fence.

(9) *You yi·kuaizhishipai zai liba·shang.*

have one·CL sign at fence·on

There is a sign on the fence.

(10) *You yi·zhi bihu zai liba·shang.*

have one·CL gecko at fence·on

There is a gecko on the fence.

Since a bird usually stays on the top of a fence, the meaning of *liba·shang* 'on the fence' in (8)a. is described by Fig. 2.3. Also, as the rat hole can only be under the whole of the fence, Fig. 2.4 expresses the meaning of *liba·xia* 'under the fence' in (8)b.