The Story of *Shang* 'Above'

A Usage-based Approach to the Diachronic Development of Chinese Spatial Word

Ye Jin

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy in Linguistics, The University of Auckland, 2020.

Abstract

The aim of this study is understand how a spatial word *shang* 'above' developed throughout the history of written Chinese to lead to its multiple related senses or polysemous usages nowadays. We investigate the diachronic developments of 2749 instances of spatial word *shang* 'above' in historical texts of Archaic Chinese (AC, 12th c B.C.- A.D. 220), Medieval Chinese (MC, A. D. 220-1368 c.), Modern Chinese (MOC, 15th - mid 19th c.) and Contemporary Chinese (CC, mid-19th-20th c.) from Chinese corpora. We apply both cognitive and constructional approaches in a usage-based model to the analysis of *shang*. Using corpora to trace the diachronic developments based on instances of *shang* in different historical periods, we show how various meanings and grammatical functions of *shang* emerged and developed in systematic ways. It is found that conceptual metaphors and invited inferences all take part in the various usages of *shang*: metaphors can lead to the occurrence of a new meaning of *shang* in an early stage by mapping an abstract semantic domain to a concrete domain; invited inferences allow speakers to assign an innovative meaning to *shang* and inferences tend to motivate the more subjective or grammatical meanings of *shang*. In addition, we found that other contextual factors, including constructional meanings, the frequency of use, and collocation types, etc. can motivate the semantic shift and lead to the conventionalization of a novel usage of *shang*. We also demonstrate that constructions containing *shang* are related and form a network and as the various constructions containing *shang* develop, the spatial word *shang* is sanctioned by more schemas, such as verb, postposition and verb complements. Finally, this study also reveals the lexical sources and evolutionary paths that are associated with *shang*. Our study fills a research gap by focusing on the earlier usages of the spatial word *shang* and it illustrates that synchronic semantic relations are the outcomes of long-term diachronic developments. This study displays how spatial concepts are coded linguistically by Chinese speakers and it identifies the driving factors that lead to the semantic changes and grammaticalization of spatial words at different historical periods. It is thus a contribution to the history of Chinese, usage-based language studies, studies on spatial language, and to grammaticalization studies.

Acknowledgements

First and foremost, I would like to say a very big thank you to my supervisor Michael Barlow for all the support and encouragement he gave me during my Ph.D. study. Without his guidance and constant feedback, this Ph.D. thesis would not have been achievable. As an insightful mentor, he has inspired me to believe in myself, expand my knowledge and to think deeply and originally. His advice on both research as well as on other aspects of life have been priceless.

I would also like to thank my adviser Karen Huang, who has given me suggestions on Chinese grammar, commented on my drafts and offered me an opportunity to work as an exam marker for Chinese language courses.

My sincere thanks also go to Suzanne Kemmer, who has encouraged me to explore constructional grammar, given advice on my thesis and shared with me her in-depth knowledge in linguistics.

I gratefully acknowledge the ALSL Ph.D. bursary for 2016 received from the UniServices. I am also grateful to the 2017 CLL research fund to support my participation in the Annual Meeting of the Australian Linguistics Society in December 2017.

Last but not least, I want to express my gratitude for my families. Words cannot express how grateful I am to my parents, Min Jin and Xiaolin Wan, for all the sacrifices that they have made. It is impossible for me to complete my Ph.D. study without the financial support and encouragement of them. And finally, to my husband Tao Liu, who has been by my side throughout this Ph.D., living every single minute of it, and without whom, I would not have had the courage to overcome the difficulties in this journey. And to Jinhao Liu for being such a good little baby and making it possible for me to accomplish what I started.

Table of Contents

List of Figures

List of Tables

List of Abbreviations

AC	Archaic Chinese
ASSOC	associative (*的 [de]*)
AUX	auxiliary verb (*过 [guo]*)
Ba	A grammatical word to emphasise an object by moving it to a preverbal position
CC	Contemporary Chinese
CCL	Centre for Chinese Linguistics Corpus
CL	classifier
CONJ	conjunction
CRS	Currently Relevant State (*了* [*le*])
DUR	durative aspect (*着 [zhe]*)
EMC	Early Medieval Chinese
LAC	Late Archaic Chinese
LMC	Late Medieval Chinese
MEC	Medieval Chinese
MOC	Modern Chinese
GEN	genitive (*之* [*zhi*]/的 [de]/)
PAR	particle (以 [*yi*])
PERF	perfective aspect (*了* [*le*])
PRE	preposition (*于* [*yu*] / *在* [*zai*] /*为 [wei]*)
Pre-MOC	Pre-Modern Chinese
Pre-AC	Pre-Archaic Chinese
Pre-MC	Pre-Medieval Chinese
PRO	pronoun (*之*[*zhi*] / *其*[*qi*] / *吾* [*wu*] / *他 or 她[ta]* / *他们 [ta-men]*)
SCC	Sheffield Corpus of Chinese
UCLA2	Second Edition of the UCLA Written Chinese Corpus

Chapter 1. Introduction

Taking a usage-based approach, this thesis aims to display the way spatial word *shang* evolved throughout the history of written Chinese to result in the current polysemy network. Tracing the semantic development based on instances of *shang*, we show the interface between diachronic semantic change and synchronic polysemy. As has been demonstrated in the study, both conceptual metaphor and invited inferencing are responsible for the multiple meanings of *shang*. Extended meanings of *shang* first occurred as individual linguistic behaviors and only through frequent contexts of use, new meanings are accepted and considered as conventional usages by language users in a speech community. By examining the development of constructions containing *shang*, this study has also illustrated that changes are related and form a network. Based on authentic language data, our study fills a research gap by revealing the semantic relations between the old and new usages of spatial word *shang* (involving both meanings and grammatical functions). It is thus a contribution to the history of Chinese language, usage-based language studies, studies on spatial language, and to grammaticalization studies.

This chapter first introduces the aims of this study, after which the significances of tracing the semantic change of the spatial word *shang* and the main achievements of the study are described. The research objectives and methods are briefly justified in the third section, and the layout of the thesis is presented in the last section.

1.1. Aims of the Study

Ever since Brugman (1983)'s influential work on meanings of English preposition *over*, a number of studies have tried to account for the semantic relations between various usages of a single spatial particle (e.g.Brugman & Lakoff, 1988; Lakoff, 1987; Lindner, 1983; Tyler & Evans, 2001, 2003). These studies have argued that there is a prototypical sense of the single polysemous word based on which other meanings of the word are developed, together comprising a semantic network for the word. However, there are debates in terms of the criteria for deciding the primary and distinct senses associated with a single spatial term in a synchronic semantic network (cf. Sandra & Rice, 1995). In addition, although the synchronic process of meaning extensions has strengthen our understanding of the theory of semantic change, the lack of diachronic perspective on the issue of polysemy has made it difficult to show the developmental paths the various senses of a spatial term have followed. It is also unclear in

terms of how mechanisms including metaphors and invited inferencing operate in each stage of semantic change and later lead to the polysemy of spatial words. In other words, relatively little attention has been paid to the problem of how certain meanings of a spatial word develop diachronically and contribute to its contemporary semantic network. Studies in semantic change (e.g. Sweetser, 1990; Traugott & Dasher, 2002) and grammaticalization (Bybee, Perkins, & Pagliuca, 1994; Heine, Claudi, & Hünnemeyer, 1991; Svorou, 2003) have shown that the synchronic semantic network of a lexical item is a product of natural diachronic change, in which new meanings are motivated and associated with the pre-existing linguistic word or construction in systematic ways, and that metaphors and invited inferences are two main driving factors that contribute to the various meanings of a lexical item. It has also been found that there are always intermediate stages where both the older and new meanings (or grammatical functions) of a locative term coexist at least for some time, and more intermediate stages may be found if more types of contexts, such as more types of collocates, are taken into account (Heine et al., 1991; Svorou, 1993). It is therefore believed that more distinct but related meanings (or grammatical functions) of a spatial word may appear at a later or more recent stage of development.

Adopting a usage-based approach, this study aims to show how a spatial word *shang* 'above' in Chinese developed in various stages to lead to its current polysemy network. Locational term *shang* is used to denote a vertical concept and it reflects how Chinese people understand the physical world of verticality. The study of the diachronic developments of *shang* can reveal how vertical concepts are categorised in the Chinese language. Unlike English which uses spatial terms such as *above, over, higher than* to indicate the upper vertical dimension (Talmy, 2000a, p. 205), *shang* cover the meanings of the above mentioned English counterparts. In addition, *shang* also indicate an upwards movement, which can only be expressed by English phrases like 'move up' or 'climb up'. According to Bowerman (1996), spatial semantic categories are conceptualized distinctively cross-linguistically due to different conceptualizations. We thus see the variations in cross-linguistic data on both the spatial and non-spatial meanings of spatial terms. Then the question of how the various senses of *shang* occurred and developed to represent vertical concepts become particularly significant since only by answering this question can we find out the multiple ways of conceptualizing the vertical dimension by Chinese speakers. Furthermore, although a number of studies on the meanings of *shang* in Chinese have demonstrated that the various senses of *shang* are related and motived by conceptual metaphors or other cognitive processes (e.g. Qi, 2014; Tong, 2006;

Xin & Lu, 2015; Z. Yang & Dan, 2010), these studies focus on one particular grammatical function of *shang* (as a localizer following nouns, a verb or a verb complement used after a verb). Therefore, it is unsure how *shang* acquired a new grammatical function in the history of Chinese language and which mechanisms play a more important role in motiving the grammatical meanings of *shang*. In addition, although showing that meanings of *shang* are related, distinct senses associated with *shang* have not been testified in previous studies. It means that researchers tend to list the various usages of *shang* and regard them all as distinct senses but without distinguishing polysemous (coded) meanings from meanings that arise in context 'on the fly'. The 'full-specification' view on meanings of English prepositions has already been criticized as creating a proliferation of senses for each lexical item (Sandra, 1998, pp. 370-371; Sandra & Rice, 1995, pp. 90-95), which should be avoided when analyzing usages of a linguistic item. Adopting Tyler and Evans (2003)'s Principled Polysemy Model to distinguish senses, this study tries to exclude contextual meanings and provide more reliable findings regarding the polysemous usages of *shang* from Archaic Chinese to Contemporary Chinese. In addition, in order to have a clear idea of how contexts affect the meanings of a spatial word, we examine constructions containing *shang* and see how these constructions develop and link to each other. In general, tracing the sematic development based on instances of *shang*, the purposes of the study are to display how innovative meanings of spatial words in Chinese are formed in multiple usage events and how distinct meanings of spatial terms are established at different periods to comprise the semantic networks.

1.2. Achievements of the Study

This study fills in a research gap by looking at the early usages of the spatial word *shang*, and it shows that synchronic semantic relations are the outcomes of long-term diachronic developments. Although speakers nowadays may not immediately realize the semantic relations between certain usages of a polysemous word like *shang*, it is still important for us to know how a linguistic item acquires its distinct meanings historically only by which we can understand why polysemous word are currently used in the way they are. Moreover, our research displays a more general picture of how spatial concepts are coded linguistically by Chinese speakers, and it offers a better understanding of the driving forces that motivate the semantic development of spatial words at different historical periods. To be specific, this study accounts for meaning extensions that are motived by conceptual metaphors and invited inferencing (could be both in some cases), and demonstrates that innovative meanings first

arise because speakers use existing linguistic item to convey abstract ideas and/or to express subjective believes. It can be seen from our analysis that novel usages have to become conventional linguistic structures through frequent contexts of use. That is to say, only through repeated uses, can a new meaning (or form) be accepted by speakers in a language community. In addition, this study shows that the development of a single linguistic item like *shang* could not be achieved if there were just one single motivation. The facts that several constructions containing *shang* are related through multiple links and that they developed in a systematic way in a network indicate that changes are related. Therefore, we could not simply observe the meaning changes of a linguistic item without considering the influence of various contextual factors which could include components in a construction, types of collocates, frequency of use, constructional meanings and even general changes at a particular historical stage, etc. The results of the study first contribute to usage-based language studies by showing that a linguistic structure is shaped in the process of language use and that language use can lead to a further development for a linguistic item. Secondly, this study makes a contribution to studies on semantic change and grammaticalization in Chinese language by displaying the unique way a spatial word in Chinese acquires its various spatial and non-spatial (or lexical and grammatical) meanings. Finally, this study enables us to understand how meanings are coded in a spatial language and why we use spatial words as the way we do.

1.3. Justification of the Current Study

There is a large volume of published studies describing the usages of *shang*, however, relatively little focus is on the way the diachronic semantic change of this spatial term contributes to its synchronic semantic network (as reviewed in Chapter 2). In addition, how specific type of contexts affect the meanings of *shang* has not been well explained in previous studies (also reviewed in Chapter 2). Therefore, it is difficult to identify how conceptual metaphors and pragmatic inferences lead to the various meanings of *shang* in different historical periods. A systematic and explicit analysis of the semantic change of the locative term *shang* based on authentic language data is needed, by which an overall picture for the relatedness of various meanings or grammatical functions of the spatial term is produced. Specific information of the data can be found in Chapter 3.

This study adopts a usage-based approach (Bybee, 2010b; Kemmer & Barlow, 2000; Langacker, 1987; Traugott & Trousdale, 2013) to analyse the diachronic development of spatial term *shang*. It requires us to have a detailed description of the situated meanings of

shang in authentic contexts of use. Therefore, the meanings and grammatical functions of all the instances of *shang* collected from three corpora in different periods are first analysed based on interpretations offered by Chinese dictionaries and grammars. Although we testify various senses based on the Principled Polysemy Model and distinguish meanings associated with *shang* (i.e. coded meanings, contextual meanings, constructional meanings), it is undeniable that native speaker's intuition has played a role in the results of the study. In addition, meanings of *shang* that rarely appear have not been analysed in this study. That is to say, in the analysis, we focus on the innovative meanings of *shang* that frequently occur and associate with certain types of context in each historical stage since these meanings of *shang* show 'unit status'(Langacker, 1987, p. 59), and are more likely to remain in the semantic network for *shang*. Moreover, although we recognize that *shang* could pair with other words to become fixed collocations, there is no evidence to confirm the time when this type of change first happened. Finally, to reveal the way new usages of *shang* are formed and sanctioned by different schemas in a network, links between various constructions containing *shang* are also investigated. At least two constructions with the same meaning are provided to prove that meanings are attributed to the constructions rather than particular lexical items.

1.4. Organisation of the Thesis

The thesis is organized as follows. Chapter 2 first introduces the background of the study, reviews the literature on the usages of *shang* and then illustrates the interface between diachronic semantic change and synchronic polysemy, after which the theoretical framework is introduced, and the research questions are given. Chapter 3 discusses the isolating nature of Chinese language as far as related to this study and demonstrates the way data are collected and processed. An analysis of the semantic change of *shang* is conducted from Chapter 4 to Chapter 6 with Chapter 4 and 5 delineating the semantic change of *shang* based on conceptual metaphors and pragmatic inferences from Archaic Chinese, Medieval Chinese, Modern Chinese to Contemporary Chinese; Chapter 6 focusing on the development of various constructions containing *shang* and the way new usages of *shang* are sanctioned by various schemas in a network. Chapter 7 interprets the findings and offers theoretical implications regarding the roles of both conceptual metaphors and invited inferencing on the diachronic development of a spatial word, the relations between semantic change and polysemy, changes that are related in a network, relations between contexts and diachronic development, and the semantic change and grammaticalization of Chinese spatial word. Chapter 8 concludes the

thesis by answering the research questions, indicating the significance of the study, outlining limitations, and proposing future studies.

Chapter 2. Literature Review

This chapter includes six sections, namely, the general background regarding language use; a review of literature on the meanings and grammatical functions of *shang*; a review on studies of diachronic semantic change and synchronic polysemy; the theoretical foundations of the thesis; the research questions; and a brief summary of the significance of the study. In the first section on the background of language use, I introduce the symbolic and interactive functions of language and the interface between semantic change and polysemy. The review of studies of *shang* focuses on the earliest forms and meanings of *shang*, the various meanings and grammatical functions of *shang* and the limitations of previous studies on the usages of *shang*. The review of the literature of diachronic semantic change and synchronic polysemy consists of the semantic change of locative terms, the semantic change in Chinese, metaphor in semantic change, the role of context on semantic change, frequency in semantic change, corpus approaches to semantic change, studies on polysemy, and relations between semantic change and polysemy. Five aspects that compose the theoretical foundations of are delineated: theories on usage-based models of language, the embodiment hypothesis, principled polysemy model, invited inferencing theory and constructional approach to language change. The specific research questions for this thesis are developed following the theoretical foundations. We conclude the chapter with some significance for the field of semantic change and polysemy.

2.1. General Background

The story of *Tower of Babel* in the Bible, a fable and warning about the power of language, can be regarded as an allegory for the relations between language, space, and cognition. According to the story, early humans had the same language and could cooperate to build a tower to heaven. However, since God was angry about this attempt at usurping his power, he scattered and confused the people by giving them different languages and ensured that the tower could never be rebuilt. This story gives rise to the remarkable irony that our languages sometimes keep us from communicating.

It is generally agreed that language is a means of communication. However, it has been pointed out by functionalist linguists that there is a larger system that language fits into- that is, ‘interpersonal interaction in human communities’ (Croft, 2000, p. 95). In the *Tower of Babel* story, the joint activity of using a single mutually-intelligible language is considered as a way of expressing people’s thought and finally achieving the goal of building a tower to heaven.

This reveals that language is used by interlocutors to express ideas and achieve social and/or communicative goals. However, people cannot read each other's minds when communicating, which leads to what is called a **coordination problem** (Clark, 1996, pp. 62-65; Lewis, 1969, pp. 5-8); thus speaker and hearer tend to believe that the same, shared meaning is expressed when the speaker utters certain words in a certain grammatical construction. Therefore, meanings based on complex and subtle ideas or thoughts are encoded and transmitted by language, which relates to two important functions of language: the **symbolic function** and the **interactive function** (Evans & Green, 2006, p. 6).

2.1.1. **The Symbolic Function of Language**

One significant function of language is to express thoughts and ideas. The way language does this is by using symbols (Langacker, 1987). Symbols might be meaningful parts of words (for example, *un-* as in *unacceptable*), whole words (for instance, *dog*, *move*, *yesterday*), or 'strings' of words (for example, *Not only Tom but also Alice is enjoying the film.*). These symbols include forms (which may be spoken, written or signed) and meanings with which the forms are conventionally combined (Evans & Green, 2006, p. 6). Langacker (1987) refers to a **symbolic unit** as consisting of two parts that are conventionally associated (i.e. forms and meanings), so a symbolic unit is also called a **form-meaning pairing**. For instance, a form can be a sound, as in [dɒg], or it might be the 'orthographic representation' that written on the page: *dog*, or a signed gesture in a sign language. A meaning is the conventional ideational or semantic content associated with the word *dog*. The meaning associated with a linguistic symbol is related to a specific mental representation termed a **concept**, which is derived from our perceptions of the world 'out there' (Johnson, 1987; Lakoff & Johnson, 1980; Langacker, 1987). For instance, when describing a piece of fruit like a peach, its shape, colour, texture, taste, and smell are perceived by different parts of the brain. The concept PEACH occurs after all the perceptual information regarding a specific peach in the real world is integrated into a single mental image. When the linguistic form *peach* is produced and used frequently in various contexts, the word corresponds to a conventional meaning, and it is related to a concept rather than directly to a real peach in the external world. In other words, the linguistic meaning associated with a form pertains to a concept and not only to a specific referent in the world. Nevertheless, since language consists of a limited number of words that associate with a delimited group of conventional meanings, the conventional meaning associated with a specific word or phrase merely offers **prompts** for the construction of much richer conceptualisations which is more elaborate than the minimal meanings provided by the linguistic form itself

(Fauconnier, 1997; Langacker, 1987; Turner, 1991). Let us illustrate this point by considering one example containing a spatial term *shang* in Chinese below:

(2.1) *zai* *zhou* ***shang*** *you yi fu hua*
be-located desk **above** (postposition) has one CL painting.
'There is a painting on the desk'.

This sentence describes a painting's location in relative to a desk. The conventional interpretation of the sentence is that the painting is on the horizontal surface of the desk, which is best captured by the diagram in Figure 2.1 (c). On the first inspection, the meaning encoded in the sentence seems straightforward. However, even a simple sentence such as (2.1) cannot fully describe the concept associated with that sentence. The questions are how do we know that the painting's location is of the kind represented in Figure 2.1 (c); and what information is there in the sentence that provides this interpretation and excludes the locations represented in Figures 2.1 (a-b). The behaviour described by the verb *you* 'has' has the potential to involve a variety of locations of the painting in respect to the desk. For instance, attaching to the lower front side of the desk involves the location represented in Figure 2.1 (a); locating on the wall above the desk relates to the location represented in Figure 2.1 (b); and resting on the top surface of the desk involves location as in 2.1 (c).

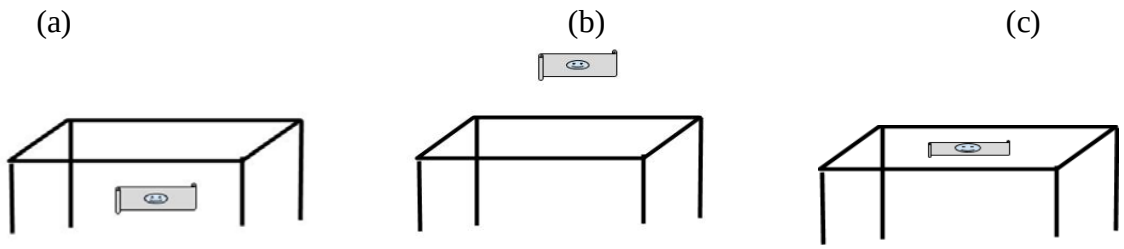

Figure 2.1 Possible conceptualizations for example (2.1)

If the lexical item *you* 'has' does not *per se* explain a location of 'the top surface', but is unclear regarding the location of the painting, then maybe the spatial word *shang* is responsible. However, *shang* can also have several interpretations. For example, it might mean 'above', as in *niao zai qiao shang fei guo* 'a bird flew above the bridge'. *Shang* could mean 'moving from a lower place to a higher place' as in *shang shan* 'go up the hill'. These are only two possibilities for the spatial meaning of *shang*. The brief discussion shows that *shang* can be used when different kinds of location and movement are involved. Figure 2.1 (c) essentially represents the painting's location of being on a top surface of the desk. However, no linguistic element in the sentence explicitly provides us with this information.

Example (2.1) therefore indicates that linguistic meanings encoded by words in even a simple sentence are only partially responsible for the concepts that arise based on these meanings (Fillmore, 1982; Langacker, 1987). A rich range of **encyclopaedic knowledge** (Lakoff, 1987; Langacker, 1987) is involved in organising our thought, thus constructing meanings. For instance, when interpreting the simple sentence *There is a painting on the desk* in (2-1), the following knowledge is involved: (1) the painting is smaller than the desk; (2) the desk has a certain height; (3) the desk has a flat surface; (4) the surface of the desk is the most salient part of it; (5) the desk can support the painting; (6) when the painting is put on the surface of the desk, the painting is at a position higher than the ground and it cannot fall on the ground without external forces. All this information (and possibly more) is used in constructing the rich conceptualization of the sentence in (2.1). The words in the sentence are only prompts for the construction process. Moreover, the important reason of conventionally interpreting the word *shang* in example (2.1) as indicating 'the top surface' by most native speakers of Chinese is this meaning is the most familiar (or frequently used) one for them, among other possibilities. It does not take much effort for most native speakers of Chinese to get to the conventional meaning of *shang* when the sentence in (2.1) is provided.

2.1.2. **The Interactive Function of Language**

In addition to representing individual ideas or concepts, language also serves an interactive function in our everyday social experience (Clark, 1996; Croft, 2000; Lewis, 1969). We use language to communicate and perform actions, which involves a process of rich conceptualisations by both the speaker and the hearer. In this process, an idea is transmitted from the speaker to the hearer by inviting the hearer to decode and interpret the meaning of the idea. Therefore, forms and meanings are not only combined in utterances, they must be jointly acknowledged by, and be accessed by both speakers and hearers in a speech community (Croft, 2000, pp. 88-89). It means that the knowledge of conceptualisations must be shared by interlocutors in which way communicative goals can be achieved. Therefore, it is argued that linguistic structures should be discussed within a larger social or communicative background that is outside individual cognition (Coussé & von Mengden, 2014).

The various contexts of speech event can invite interlocutors to make inferences and to potentially modify the conventional meaning of a linguistic structure. Through repetition, an inference occurring in certain contexts where a linguistic structure appears can be shared by speakers in a language community. In other words, innovative use of a linguistic expression can be formed in a specific communicative activity (i.e. speaker-hearer interaction) by the

conventionalization of **pragmatic inferences** (Traugott & Dasher, 2002). For example, the use for *be going to* in sentences such as *I am going to deliver this letter* allows speakers to invite the inference of 'intention to act' which has become part of the meaning of the *be going to* construction through repetition (Bybee, 2010b, p. 109).

As shown in the above discussion, language is not only used to express meanings or concepts, but also to perform an interactive function of transmitting form-meaning pairs among certain speech communities. The knowledge regarding the symbolic function of language can be shared by speakers and hearers in using language, and richer conceptualizations for the use of a word or phrase may be produced by speakers and hearers in communication. However, only through frequent contexts of use can linguistic behaviours become normative patterns (i.e. conventional linguistic structures).

2.1.3. **The Interface between Semantic Change and Polysemy**

The interface between semantic change and polysemy constitutes the main theme of this study. Polysemy refers to the phenomenon where there are multiple but related senses that associate with a single morpheme, which constitutes a semantic network for the lexical or grammatical item (Brugman, 1983; Brugman & Lakoff, 1988; Norvig & Lakoff, 1987), for instance, the different senses of preposition *over* in English. A native speaker may easily recognize that there are semantic relations between two or more senses of a polysemous word, such as the senses of 'above' and 'control' for *over* based on their knowledge of using the word in various situations. However, speakers do not know how the various senses of linguistic structure are developed, motivated and shaped in the history of language use in a way that finally leads to the semantic networks for the word or grammatical construction. The interface between semantic change and polysemy should receive more attention since it is exactly in this area where the symbolic and interactive functions of language are revealed.

Semantic change has long been an area that attracts historical linguists' attention, but earlier works on semantic change assume a more traditional division between the lexicon and syntax (e.g. Heine et al., 1991; Traugott, 1982, 1989; Traugott & König, 1991), which distinguishes a word's lexical and grammatical meaning by discussing lexical semantic change and grammaticalization separately. A usage-based approach to language analysis (such as Cognitive Grammar), on the other hand, argues that there is no a clear division between lexical and grammatical morphemes (or content words vs. function words) since intermediate

examples in between the two extremes of a lexical-grammatical continuum are easily found (Langacker, 1987, p. 18).

In addition, there was a distinction made between linguistic and extra-linguistic knowledge (or semantics and pragmatics) in traditional work on semantic change, which regard language use only as outputs of speakers' linguistic knowledge. Semantic change has traditionally been regarded as resulting from the operating of linguistic knowledge alone but not as outcomes that are motivated in the historical processes of language use. However, a usage-based approach to language does not divide linguistic and extra-linguistic knowledge, and argues that 'usage events drive the formation and operation of the internal linguistic system' (Kemmer & Barlow, 2000, p. xi). It means that the speaker's linguistic knowledge is constituted by regularities that are produced when processing extra-linguistic knowledge in language use.

Representing a usage-based approach to language, cognitive grammar, argues that a grammar consists of 'a constantly evolving set of cognitive routines that are shaped, maintained, and modified by language use' (Langacker, 1987, p. 57), which means that there is not a clear boundary between cognitive abilities and a grammar of a language. It is speakers who assign innovative meanings to a word by conceptualization. A grammar may not offer a full description for what should be included as the meaning of a word, but it can provide resources for speakers to rely on and enable them to construct new usage based on the existing ones. In addition, the new usage of a word may become a conventional unit after frequently being used, and in turn, contributes to the grammar of a language.

Lexical semantic change occurs when a relatively new meaning of a lexical item (e.g. the 'move to a higher place' sense of *shang*) in a specific time becomes an established linguistic unit in history after being frequently used in various contexts by speakers. The newly formed symbolic assembly then constitutes a sanctioning structure (i.e., a schema), which can be used to sanction another more innovative meanings of the word in a usage event. For instance, when a speaker wants to describe a situation of going up the mountain, the word *shang* most likely comes into his/her mind as in expression shown in (2.2) and following which we have the later uses of *shang* meaning 'get onto' and 'go to (a destination)' as shown in examples (2.3) and (2.4).

(2.2) ***shang*** *shan*
above (verb**)** moutain
'go up the mountain'

(2.3) ***shang*** *che*
above (verb) car

'get onto the car'

(2.4) ***shang*** *jie*
above (verb) street
'go to the street'

As can be seen in these examples, the verb *shang* in (2.2) denotes 'a movement towards a high location'; *shang* in (2.3) highlights the aspect of 'getting on a vehicle' in which case the seat of a vehicle is normally at a place higher than the person who gets on it; and *shang* in (2.4) indicates 'movement towards a destination' which has not necessarily to be a higher place. As is evident by the findings of our study, the three usages of *shang* are related and came in order. We will show in our analysis that the latter two senses of *shang* in examples (2.3) and (2.4) were derived from the former sense of *shang* 'move to a high location' in (2.2) based on pragmatic inferences, and they do not fully conform to the former sense by highlighting individual aspects. The word *shang* in (2.2) describes an actual physical movement, but the 'movement to a high location' sense that once associated with *shang* in (2.2) is not lexicalised in the usages of *shang* in (2.3) and (2.4).

The examples above firstly show that when a speaker expresses the more innovative meaning by using the word *shang*, he/she does not fully follow the existed linguistic convention of *shang*, and he/she can bring extra information to the schema. This additional meaning may arise from the specific context where the word is used or may be formed based on the speaker's own knowledge or experience regarding the conventional use (i.e. the schema) of the word. It is therefore assumed that only by looking at the data in which the latter sense of *shang* first appeared, can we understand the motivations that lead to its use. Secondly, with repeated use, the latter sense of *shang* can become a linguistic unit, and in turn, modify the convention use (the schema) of the word. In other words, the newly formed meaning of a word can become a conventional unit after being used repeatedly in different contexts and it can elaborate the conventional meaning of a word. Semantic change and polysemy are therefore regarded as influencing each other in an interactive way.

In fact, language user has no knowledge of semantic change; what he/she knows is synchronic polysemy (i.e. the way various meanings of a word are used in a specific period), but diachronic semantic change does lead to the forming of various meanings of a linguistic item. Firstly, conventional uses of a linguistic item can provide resources for speakers to rely on. For instance, a speaker can chooses the existing linguistic form *shang*, which had the earlier meaning 'move to a higher location', to express the innovative meaning of 'go to a destination'.

Secondly, the conventional meaning of a linguistic item can sanction the novel usage of a polysemous word in some way. For example, the earlier meaning of *shang* 'move to a higher location' does not completely disappear when *shang* is used innovatively to mean 'get on to a large object (car, boat, or bed)'. It has to be noticed that a specific meaning of a polysemous word may disappear at some time if it is less used. Only when the innovative meaning is often used by speakers in the language community, can it attain the unit status and become a linguistic convention. The relations between semantic change and polysemy require us to observe instances of use diachronically, only by which can we understand how the two interact with each other and define the linguistic structure, or linguistic system.

2.2. Studies on *Shang*

A considerable amount of literature has been published on the meanings (containing both spatial and non-spatial meanings) of *shang* (e.g. Cai, 2008; Gou, 2004; Lan, 1999, 2002; Qi, 2014; Tong, 2006; L. Xiao, 1996; P. Xiao, 2009; Xin & Lu, 2015; H. Zhang, 2002; 2004 etc.). In the following sections, previous studies on *shang* are reviewed in more detail from three aspects, which are the earliest forms and meanings of *shang*, the usages of *shang* (for both meanings and grammatical functions), and the limitations of previous studies on *shang*.

2.2.1. **The Earliest Forms and Meanings of *Shang***

From the very earliest stage, the Chinese writing system has fundamentally been morphemic, which means nearly every graph in writing represents an individual morpheme; and since the vast majority of Archaic Chinese morphemes were monosyllables, every graph represents a single syllable at the phonological level (Norman, 1988, p. 58). Archaic Chinese (AC) is an almost perfect example of an isolating language that lacks grammatical morphology (ibid. p. 84).

The spatial word *shang* was both monomorphemic and monosyllabic. It first appeared in writing on the oracle bones of Pre-Archaic Chinese (Pre-AC, 14th -11th c. BC.) (Chappell & Peyraube, 2008, p. 18; Peyraube, 2003, p. 186; Y. Wang, 2008, p. 25). Oracle bones are animal bones or turtle shells used for divination in the late Shang Dynasty (14th -11th c. BC.) in ancient China. The inscriptions on oracle bones and bronze vessels of various kinds appear as a fully developed writing system (Norman, 1988, p. 58), which laid a foundation for today's Chinese characters, and thus regarded as the originator of the written language of Contemporary Chinese (CC) (Wen, 2002, p. 23).

In the oracle bone writing, the characters for the word *shang* (i.e. ) appears to be an iconic representation of the 'sky', and in fact the meaning of this character was most basically believed to be 'sky' (Chappell & Peyraube, 2008, p. 18; J. Guo, 2007; Peyraube, 2003, p. 186). The character for *shang* belongs to a limited number of iconic representations which use indicative symbols alone to denote abstract meanings (Xie, 1997, pp. 648-649; Yong & Peng, 2008, p. 19; S. Zhang, 1990, p. 46). This category is called indicative characters (Kane, 2006, p. 32). Other five categories for the formation of Chinese characters including pictographs, associative characters, characters formed from a radical and phonetic, derivative characters and loan characters (Kane, 2006, p. 31). Indicative characters include characters for the words  'one', 'two', 'three',  'above', and 'below' (Yong & Peng, 2008, p. 19). The iconic representations or characters adopted here for the words are all based on their forms in the oracle bone writing, which have changed and are written as 一 'one', 二 'two', 三 'three', 上 'above', 下 'below' in Contemporary Chinese (CC). It should be noted that the change of form for 上 (*shang*) 'above' was required by different writing styles, which did not affect the meaning of *shang*.

In the book *An Explanatory Dictionary of Chinese Characters* 说文解字 (hereinafter EDCC) written in Han Dynasty (206 B.C. – 220 A.D.), Xu defines characters formed by iconic signs as '视而可识，察而见意' (the character is recognizable when it is first seen and its meaning can be understood when we carefully observe the character) (S. Xu, 1963). It means that the meanings of these characters can be understood by observing their forms, and their forms actually imply some meanings of the characters. In other words, when observing the forms of these characters, ideas regarding their meanings are formed. According to the explanations offered by Pictographs Dictionary (象形字典) (which is an online dictionary contains 3000 Chinese characters), the iconic sign 'one' indicates the initial state of the universe when earth and heaven integrated and were not distinguished; 'two' describes the state when the earth and heaven separated; 'three' denotes the state when human beings appeared in between the heaven and earth. As seen from the description, the meanings of these iconic signs reflect Chinese ancestors' understandings on the relations between the universe and human beings. It is believed that the earliest characters for the words 'above', and 'below' originated from the character for the word 'two'. Since represents the state when earth

and heaven were separated, the two lines each represent sky and earth. The shorter horizontal line in the characters  'above' and  'below' then represents the direction of sky and earth. Therefore, the character  'above' means the sky or direction of the sky while  'below' indicates the earth or direction of the earth. The speculation relies on the earliest forms of the characters and instances found in Pre-AC, however, more evidence is needed to support it. Other researchers who hold similar views also point out that, in the oracle bone scripts, the character *shang* consists of a horizontal line (or a concave curve) and another shorter horizontal line placed above it, written as  or . (Norman, 1988, p. 59; Xie, 1997, pp. 648-649).

Based on the discussion above, it is possible to speculate on the meaning encoded by the character for the word *shang*. A possible explanation for the meaning indicated by the iconic representation of  'above' is that the longer line in the two signs represents a landmark of the horizon and the shorter line is to denote direction. In doing so, the meaning 'sky' or 'towards the sky' is assigned to  . It is thus possible to believe that in the oracle bone scripts, the character  for the word *shang* is an iconic representation of the sky. As mentioned above, this speculation has been supported by a few scholars (e.g. Chappell & Peyraube, 2008, p. 18; J. Guo, 2007; Peyraube, 2003, p. 186). However, since there are many ways for people to interact with the physical world, and our understandings on the properties of the environments vary, it seems unlikely to simply say 'sky' was the only meaning associated with the word *shang* in Pre-AC. In other words, we cannot rule out the possibility that there might be other meanings associated with the word *shang* at the time when the word was used in Pre-AC. Due to the limited number of historical records, it is actually quite difficult to know exactly when and how other meanings for the word *shang* occurred in Pre-AC, leading to different opinions in the literature regarding the earliest meaning for the word *shang*. According to the explanation in EDCC, the *shang* has the earliest meaning *高 gao* 'high' (S. Xu, 1963). This interpretation implies that the word *shang* was first used to denote the spatial relation of 'above'. Others believe that the word *shang* was first used to indicate former ancestors from the remote time (L. Xiao, 1996, p. 17). The latter perspective suggests that the earliest meaning of *shang* was related to past time or entity.

Drawing on discussions by Chappell and Peyraube (2008), J. Guo (2007) and Peyraube (2003, p. 186), we believe that the basic meaning for the word *shang* in Pre-AC was most likely 'sky', however, there might also be other meanings associated with it, such as 'high', 'a high location'

and ‘towards a high location’, and these meanings could relate to the meaning of ‘sky’. The statement will be further supported by more evidence in the analysis section in Chapter 4.

2.2.2. **The Usages of *Shang* in Various Periods**

The word *shang* was already used in AC to express various lexical and grammatical meanings, and more innovative usages of *shang* are found in later periods, which indicates that both semantic and grammatical developments are associated with *shang*. As will be shown in the following sections, most previous studies list the usages of *shang* according to its grammatical functions. For a descriptive purpose, we follow previous studies and review studies of *shang* based on its grammatical function, but it should be noted that although performing different grammatical functions, there is semantic relatedness between the usages of *shang*.

2.2.2.1. *Shang* functions as a nominal

Since the word *shang* was most likely to function as a noun when first found in Pre-AC (i.e. referring to ‘sky’ or ‘a high location’), the nominal function of *shang* is supposed to be often seen in AC. Few studies have discussed the usage of *shang* as a relational noun or a noun modifier. Two main studies, i.e. H. Zhang (2004) and P. Xiao (2009), will be focused on in the following discussions.

a. *Shang* functions as a relational noun

H. Zhang (2004, p. 5) has argued that *shang* can be used alone to indicate a high location as demonstrated in example (2.5). According to him, the relational noun *shang* can also indicate past time as shown in the example (2.6). H. Zhang (2004) has only listed the examples but without mentioning the source of the data and the time *shang* is used as a relational noun. In another study, P. Xiao (2009) has pointed out that the usage of *shang* as a nominal is quite popular in texts of two classic works in AC, which are *The Classic of History* and *Analects*. P. Xiao (2009) has adopted example (2.7) to demonstrate the nominal usage of *shang*, which describes people who have more political power and higher social status. Nevertheless, there are no enough example in P. Xiao (2009) to support the argument that *shang* was often used as a noun in texts found in AC.

(2.5) ***shang*** *you tian-tang*
above (nominal) has heaven
‘There is heaven at the high location’.

(2.6) ***shang*** *xia wu-qian nian*

above (nominal) below five thousand years
'(The history of China) has five thousand years'.

(2.7) *ju* ***shang*** *ke ming*
stay **above** (nominal) can understand
'(People) at a high/the highest social position can be perspicacious.'

b. *Shang* functions as a noun modifier

The word *shang* can also be used before a noun to modify it. The following examples have been provided by H. Zhang (2004, p. 11) to indicate his point that although *shang* looks like an adjective when used before a noun, it combines tightly with the noun it modified, which enables it to feature as a morphological affix. In examples (2.8) to (2.11), *shang* are used with nouns to indicate the upper part of an entity, past time or event, superior class, and high authority. However, H. Zhang (2004) has not provided an explanation regarding how this function of *shang* appears and whether it is related to other usages of *shang* (e.g. as a relational noun or a postposition to indicate a high location).

(2.8) a. ***shang*** *bu*
above (modifier) part
'The upper part'

b. ***shang*** *zhi*
above (modifier) limb
'the upper limb'

(2.9) a. ***shang*** *ban nian*
above (modifier) half year
'First half of the year'

b. ***shang*** *ji-du*
above (modifier) quarter
'Last quarter'

(2.10) a. ***shang*** *yi ge*
above (modifier) one CL
'Last one'

(2.11) a. ***shang*** *deng*
above (modifier) class
'First-class'

b. ***shang*** *ji*
above (modifier) rank
'Higher authority'

2.2.2.2. Shang functions as a postposition

In another usage, *shang* can follow a noun and indicate a location as shown in the example (2.12). However, the grammatical category of *shang* is hard to determine when used after nouns. Normally locative terms such as *shang* used after nouns are treated as sub-class of nouns by most studies in the literature (e.g. Cartier, 1972 nomimal suffixes; F. H. Liu, 1998 NP clitics; C. Sun, 2008 NP enclitics or spatial enclitics etc.). Others have considered this grammatical function of *shang* as an adjective (J. Ma, 1898 Chapter 3), a noun (A. Li, 1990), an adverb (J. X. Li & Liu, 1995; Lü, 1947), and even a pronoun (Alleton, 1973, p. 143). A different view that has been proposed by D. Liu (2003) is that prepositional phrases such as *zai*'be-located'+noun+*shang* given in (2.13) constitute circumpositions which are similar to those in Amharic as observed by Greenberg (1995). In addition, many linguists, have treated the locative terms or localizers used after nouns as postpositions (Chappell & Peyraube, 2008; C. N. Li & Thompson, 1981; Peyraube, 1980, 2003; F. Wu, 2008, 2015), as they can be translated as prepositions, though substantive in form (Peyraube, 1980, p. 53). We adopt his perspective and consider *shang* to be a postposition when used as a localizer following nouns. By doing this, the unique grammatical function of postposition can easily be seen without making it indistinguishable from other grammatical categories.

(2.12) *zai* *zhou-zi* ***shang***
be-located desk **above** (postposition)
'On the desk'

(2.13) *ta* ***zai*** *shan* ***shang*** *kan* *ri-chu*
3rd be-located hill **above** (postposition) see sunrise
'She watched the sunrise on the hill.'

From various perspectives, many studies have discussed the meanings and functions of localizer *shang* used after nouns (Cai, 2008; Chappell & Peyraube, 2008; Gou, 2004; Peyraube, 2003; Qi, 2014; Qiu, 2007; Tong, 2006; Wang & Zhu, 2016; N. Wu, 2014; H. Zhang, 2004; Zhou, 2003 etc.). Studies that are closely related to our analysis of *shang* are Qi (2014), H. Zhang (2004), Chappell and Peyraube (2008), and Peyraube (2003) which to some extent all shed light on the semantic change of *shang*, and therefore constitutes the focus in the following discussions.

Peyraube (2003, p. 183) has termed *shang* monosyllabic localizer when it is used after nouns, and he has indicated that postpositions such as *shang* and *xia* 'below' can change the nouns preceding them into **place words**. Place words are 'substantives which can be objects of verbs

or prepositions of place or movement' (Chappell & Peyraube, 2008, p. 16; Peyraube, 2003, pp. 182-183). Words used before place words include verbs *来(lai)* 'come to', *到(dao)* 'arrive at', prepositions *在(zai)* 'at', *到(dao)* 'to', *从(cong)* 'from', *往(wang)* 'toward', etc. For instance, the English expression 'the spider on the wall' can be translated to Chinese as 'the spider at the wall above'. The word *shang* 'above' in the Chinese example is a monosyllabic localizer. It follows the ordinary noun 'wall', changing the noun 'wall' into a 'place word' (*处所词 Chusuoci*). The term 'place words' was first named by Chao (1968, p. 519). As have been listed by Chappell and Peyraube (2008, p. 16); Peyraube (2003, pp. 182-183), place words can be:

i. place names or geographical locations, such as *zhong-guo* 中国 'China', *ba-li* 巴黎 'Paris';
ii. nouns with an inherently locative value, i.e. nouns for places used as place names, such as *xue-xiao* 学校 'school', *fan-guan-r* 饭馆儿 'restaurant', *tu-shu-guan* 图书馆 'library';
iii. disyllabic localizers expressing spatial deixis such as *li-tou* 里头 'inside', *dong-bian-r* 东边儿 'the east side', *pang-bian-r* 旁边儿 'side, beside';
iv. common nouns followed by monosyllabic or disyllabic localizers, such as *zhuo-zi shang* 桌子上 [table on] 'on the table', *fang-zi bei-hou* 房子背后 [house back] 'at the back of the house';
v. demonstrative locative pronouns such as *zhe-r* 这 儿 'here', *na-r* 那 儿 'there' and *na-r* 哪儿 'where'.

In addition to localizer *shang* 'above' and *xia* 'below', other monosyllabic localizers used after place words include *前(qian)* 'in front of', *后(hou)* 'back', *里(li)* 'inside', *外(wai)* 'outside', *左(zuo)* '*left*', *右(you)* 'right', *东(dong)* 'east', *西(xi)* 'west', *南(nan)* 'south', *北(bei)* 'north', *中 (zhong)* 'middle', etc. (Chappell & Peyraube, 2008; Chu, 2010; Peyraube, 2003). These localizers contribute to a system of spatial representation in Chinese which is significantly different from that found in the Indo-European languages. Nevertheless, neither their nature, function or meaning have remained stable during the history of the Chinese language (Chappell & Peyraube, 2008, p. 15). Therefore, it is possible for us to see the semantic change of postposition *shang* and the way it is used after place words during its development.

When used after place words (or nouns), *shang* can denote various meanings. In a recent study, Qi (2014, pp. 120-123) has argued that when localizer *shang* is used after place words to denote physical locations in CC, three basic meanings are associated with it. According to Qi (2014), the first spatial meaning of *shang* came from its earliest meaning of 'high'. It describes the location of an object being located at a place higher than another object in which there is no contact between the two objects as shown in the example (2.14). In another usage, *shang*

indicates an object that is located at a place belonging to a relatively higher part of another object, and there is contact between the two objects as demonstrated in example (2.15) below.

(2.14) *fei-ji* *zai* *qiao* ***shang*** *fei-guo*
Airplane be-located (preposition) bridge **above** (postposition) fly-pass
'An airplane flew over the bridge'.

(2.15) *shuo* ***shang*** *you zhi niao*
tree **above** (postposition) has CL bird
'There is a bird in the tree'.

The difference between the first and second meanings of *shang* lies in that the vertical distance between the two objects in the first usage of *shang* is highlighted while the supporting function by one object to another is the focus in the second usage of *shang*. Qi (2014) has attributed the difference between the two usages of *shang* to 'salience' as proposed by Langacker (1987, p. 39). It suggests that in a condition when two or more semantic features occur, cognitive attention or emphasis is usually given to specific semantic values. Therefore, although both usages of *shang* involve the notions of 'vertical distance' and 'mutual effect between the two objects', different emphasises are found: the notion of 'vertical distance' is emphasized in the first usage of *shang*, while the idea of physical support is focused on in the second usage.

We agree with Qi (2014) that attention has been focused on two different aspects on the meanings represented by *shang* in examples (2.14) and (2.15), but we believe that it is the sentential contexts in which *shang* appears activate our knowledge regarding the usages of *shang*. Our everyday bodily experience with the physical world as we move, orientate ourselves or interact with objects provide rigorous structures for the structuring of meaning and rational inference. The dynamic recurring patterns involved in our embodied experience are termed 'image schemata' by Johnson (1987) and Lakoff (1987) which include CONTAINER, BALANCE, COUNTERFORCE, ATTRACTION, ENABLEMENT, and CONTACT, to name but a few. For instance, the visible field is comprehended as a container based on our experience of seeing things that come into and go out of sight (Lakoff, 1987, p. 27). The usages of *shang* in examples (2.14) and (2.15) reflect our experience with gravity in which entities in the world always seek support from other objects in reacting to the influence of gravity (i.e. the embodied experience of COUNTERFORCE and SUPPORTING). We know that the engine of the airplane in example (2.14) provides power and allow the plane to resist the influence caused by gravity so that the plane can be located over the bridge rather than on the bridge. Therefore, *shang* in its first meaning in (2.14) emphasises situations when objects are higher than other

objects but do not need to be supported by them, while *shang* in the second meaning in (2.15) describes situations when an object is located on another object and should be supported by it.

The third spatial meaning of *shang* in Qi's study denotes an object being located on another object and there are contact and support between the two objects, but unlike the second meaning of *shang* in which the referenced object is a vertical entity with certain height, the referenced object in the third meaning of *shang* is either a one-dimensional line or two-dimensional plane as indicated in example (2.16). According to Qi (2014, p. 123), the third meaning of *shang* emerged when the supporting point is significantly emphasised and the vertical distance between the two objects is extremely ignored. Two more semantic values for the third meaning of *shang* are further classified: the semantic aspects of 'surface' and 'attachment' as shown in examples (2.17) and (2.18).

(2.16) *shou* ***shang*** *xie* *man* *le* *zi*
hand **above** (postposition) write full (adjective) CRS word
'His hands were covered with writing'.

(2.17) *zai* *hei-ban* ***shang*** *xie* *zi*
be-located (preposition) blackboard **above** (postposition) write characters
'Write on the blackboard'

(2.18) *tian-hua-ban* ***shang*** *diao* *zhe* *yi* *zhan* *deng*
celling **above** (postposition) hang DUR one CL lamp
'There is a lamp on the ceiling'.

The three meanings of *shang* have been considered to comprise a semantic continuum (Qi, 2014, p. 123), in which the semantic value of 'high' or 'vertical distance' becomes less significant, but the meaning of 'supporting' or 'attachment' is highlighted from the first to the third meaning of *shang*. We acknowledge that meanings of *shang* in examples (2.14) to (2.18) are related, but we believe that the differences in meanings are mainly attributed to the contexts in which *shang* appears. In other words, the 'supporting' or 'attachment' aspects associated with *shang* in examples (2.17) and (2.18) are pragmatic inferences that arise in sentences where *shang* is used. Qi's study has not distinguish the types of meanings associated with *shang*: whether certain usages of *shang*, such as 'the supporting' sense in example (2.18), are the conventional meanings (i.e. parts of the meanings of *shang per se*) or contextual meanings that arise in sentences where *shang* is used.

Qi (2014, pp. 119-125)'s descriptive analysis of the basic locational meanings of *shang* has shown that there are close semantic relations between the various senses of localizers *shang*. However, the study has not provided enough evidence in supporting the fact that these senses

came in order and related to each other through diachronic development, and it has not explained the kinds of inner relations between these senses and the contexts in which they are used. In other words, questions remain regarding how the various senses of *shang* are motivated diachronically and what roles basic senses play in leading to the extended meanings of localizers *shang*. These are the areas that we focus on in our study.

From a diachronic perspective, it has been recognized that postposition *shang* has experienced grammaticalization with its meanings becoming vaguer (Chappell & Peyraube, 2008, p. 25; Peyraube, 2003, p. 192; Qi, 2014, pp. 133-143). For instance, *shang* was still found describing the meaning of a position in AC, but it is then behaving more like a functional word in Pre-Medieval Chinese (Pre-MC), which is to transform the noun before it into a place word. In addition to *shang*, several monosyllabic localizers are found to no longer indicate a precise position but denote undifferentiated localization in Early Medieval Chinese (EMC) (Chappell & Peyraube, 2008; Peyraube, 2003) as shown in the example (2.19). Localizers *shang* 'above' and *zhong* 'middle' are particularly obvious in losing their original semantic value, but also involved are cases of *qian* 'in front of', *xia* 'below', *bian* 'on the side of', *tou* 'at the head of' etc. (C. Li, 1992). During the Tang Dynasty period (618-907), i.e. in Late Medieval Chinese (LMC), the meaning of localizer *shang* developed from a concrete sense of indicating vertical space to a vague meaning of grammatically marking a location. In this time, *shang* began to be used with more abstract nouns (such as matter, morality, and personality) describing abstract meanings (Qi, 2014, pp. 133-134). Although studies including Chappell and Peyraube (2008); Peyraube (2003); Qi (2014) have touched upon the issue of the semantic change or the grammaticalization of postposition *shang*, there is a lack of interpretation regarding how the change occurred.

(2.19) *sui zhang-da you bao zhe xi* ***shang*** (EMC)
even-so grew-big, still hold PRE knee **above** (postposition)
'Even though (he) has grown up, (he) holds (him) on his lap.'

2.2.2.3. *Shang* functions as a lexical verb

Many studies have discussed the usage of *shang* as a lexical verb (e.g. Lü, 1999; Shen, 1999, pp. 158-161; X. Wu, 2007; P. Xiao, 2009; Z. Yang & Dan, 2010; Z. Yang, Peng, & Zhou, 2011; H. Zhang, 2002; 2004, pp. 13-17; Zhou, 2003, p. 42 etc.). Some of them have listed the various usages of *shang* as verbs (e.g. Lü, 1999, p. 473 & 566; H. Zhang, 2002; 2004, pp. 13-14); others have briefly mentioned the basic or spatial meaning of the verb *shang*, which is 'moving from a higher place to a lower place' (e.g. Shen, 1985, p. 158; P. Xiao, 2009, p. 52);

and there are also studies that have pointed out that the various meanings of the verb *shang* is categorised or metaphorically extended based on the prototypical spatial meaning of 'moving to a higher place' (e.g. X. Wu, 2007; Z. Yang & Dan, 2010; Z. Yang et al., 2011; Zhou, 2003).

The various usages of *shang* as verbs in CC have been listed and classified (Lü, 1999, pp. 473-474; Z. Yang & Dan, 2010, p. 363; H. Zhang, 2002), which are demonstrated below:

a. The word *shang* used as an intransitive verb that follows with a locative noun meaning (1) 'move from a lower place to a higher place' or 'move from one place to another' as in *上山 shang shan* 'go up the mountain' and *上车 shang che* 'get onto the car'; and (2) 'publish (in newspapers of magazines) such as *上报 shang bao* 'publish in the newspaper'.

b. The word *shang* used as an intransitive verb that does not follow with an object meaning (3) 'move forward' as in *见困难就上 jian kun nan jiu shang* 'Mover forward when there are difficulties'; and (4) 'come on the stage' in example *从中门上 cong zhong men shang* 'Come on the stage from the middle gate'.

c. The word *shang* used as a transitive verb that follows with a noun object meaning (5) 'add' as in *上油 shang you* 'add oil'; (6) 'install one object onto another' as in *上螺丝 shang luo-si* 'screw'; (7) apply…to as in *上药 shang yao* 'apply medicine to'; (8) 'tighten' as in *上发条 shang fa-tiao* 'wind…up'; (9) 'start work or study on the designated time' as in *上班 shang ban* 'go to work'; (10) 'do something' as in *上邪活 shang xie-huo* 'do bad things'.

d. A special case in (11) is when the verb *shang* is used with numeral nouns meaning 'get to certain amounts or degrees' as in *上年纪 shang nian-ji* or *上岁数 shang sui-shu* 'grow old'.

It can be seen that the meaning of *shang* in (1) contains 'move to a higher place' and 'move to a place (that is not a higher place)' as in *上街 shang jie* 'go shopping', but they have been put into the same semantic category by Lü (1999, p. 473). Z. Yang and Dan (2010, p. 363) have treated them as two sub-categories and generated meanings (1a) 'move to a higher place' and (1b) 'go from one place to another'. H. Zhang (2002, p. 121) has indicated that the occurrence of the meaning (1b) 'go to a place' is due to the extension of the meaning in (1a) 'move to a higher place', in which the orientational meaning of *shang* in (1a) is lost. Z. Yang and Dan (2010, p. 365) have regarded the 'move to a higher place' meaning of *shang* as the prototypical usage and other meanings in (5), (6), (7) and (8) are based on the prototypical meaning of *shang* by ignoring the vertical path between the two objects and highlighting the contact between the moving object and the final goal or destination. The spatial movement represented by the prototypical usage of *shang* has been considered as mapping onto an abstract movement in the psychological domain in which *shang* acquires the meaning of (2) 'publish' (i.e. the behaviour of publishing is considered as a way of moving towards a goal or destination). Likewise, the occurrence of the meaning in (11) 'get to certain amounts or degrees' has been regarded as

owing to the mapping onto an abstract domain, in which the goal for the movement is highlighted psychologically. According to Z. Yang and Dan (2010, p. 365), the prototypical meaning of *shang* can also be projected to a temporal domain in which the process of movement for the object is given less attention and the starting point of the movement is focused on, so that we have the meaning of *shang* in (9) 'start doing work or study'. The starting point for the movement can be furthered neglected and the whole movement in a specific time phrase can be highlighted, which leads to the appearing for the meaning of (10) 'do something'.

The previous studies mentioned above have provided a considerable amount of description of the meanings of *shang* as verbs, however most studies such as Z. Yang and Dan (2010) and H. Zhang (2002) have only offered an explanation based on the analysers' assumptions and have not provided enough evidence in terms of the way an extension based on the prototypical sense of *shang* is achieved. It is therefore believed that the semantic relations between the various usages of the verb *shang* should be assessed relying on a more sophisticated approach.

2.2.2.4. *Shang* functions as a verb complement

Attention to Chinese verb complement began in the 1920s and there was heated discussion on this topic since the 1950s. Verb complements in Chinese including the monosyllabic words *上 (shang)* 'up', *下(xia)* 'down', *来 (lai)* 'come', *去(qu)* 'go', *进 (jin)* 'enter', *出(chu)* 'exit' etc. and disyllabic words *上来 (shang-lai)* 'up-come', *上去 (shang-qu)* 'up-go', *下来 (xia-lai)* 'down-come', *下去 (xia-qu)* 'down-go' etc. All these words can be used after a verb to form a verb complement. For instance, as shown in the example (2.20), as a verb complement, *shang* is used after the verb *撞 (zhuang)* 'crash/hit'. However, the controversial idea has long been found regarding the grammatical category of verb complement in Chinese. The grammatical category of a verb-like component (such as *shang* in 2.20) that used after another concrete verb (such as *撞 zhuang*), was regarded as 'verb suffix' (J. Li, 1924, p. 146; Zhao, 1979, pp. 213-214), 'adjective'(S. Liu, 1985, p. 212), 'word-formation component'(Z. Lu, 1957, pp. 78-82), 'directional verb'(Ding, 1961, p. 57; Huang & Liao, 1991, p. 14) and 'auxiliary verb'(Lü, 1999, p. 288).

(2.20) *fei-xing de cang-ying he hu-die zhuang* ***shang***
flying ASSOC fly (noun) CONJ butterfly crash **above**
'The flying fly hit the butterfly'

Many studies have focused on the usages of *shang* as verb complements (e.g. X. H. Hu, 2010; Y. Liu, 1998, pp. 81-116; Lü, 1999, p. 474 & 567; Pan, 2005; P. Xiao, 2009; Xin & Lu, 2015;

H. Xu, 2010; H. Zhang, 2004, pp. 18-23). Lü (1999, p. 474) and Y. Liu (1998, pp. 81-116) have listed all the usages of *shang* as verb complements. Pan (2005), X. H. Hu (2010), P. Xiao (2009), H. Xu (2010) and H. Zhang (2004, pp. 18-13) have discussed the semantic change or/and grammaticalization of *shang* as verb complements. Xin and Lu (2015) have adopted the theories of conceptual metaphor and metonymy in Cognitive Linguistics to interpret the usages of *shang* as verb complements.

Y. Liu (1998) has argued that a verb complement such as *shang* can express three kinds of meaning, which are the directional meaning, the resultative meaning, and the state meaning. It has been suggested that when verb complement *shang* indicates the directional meaning, it can either denote a directional path from a lower place to a higher place as shown in the example (2.21 a.) or a path towards a goal in front of the speakers as demonstrated in example (2.21 b.). Y. Liu (1998)'s idea has been further developed by P. Xiao (2009), who has maintained that the paths represented by verb complement *shang* comprise both vertical and horizontal movements (ibid, p. 53). Verb complement *shang* can also be used to indicate a resultative meaning (see examples 2.22 a. b. c. d.). In the third type of usage, verb complement *shang* is used after a verb to indicate the beginning of a new action or state as shown in the example (2.23).

(2.21) a. *piao* ***shang*** *tian-kong*
float **above** (verb complement) sky
'Flies up into the sky.'

b. *kua* ***shang*** *yi bu*
stride **above** (verb complement) CL step
'Takes a step forward'

(2.22) a. *guan* ***shang*** *men*
close **above** (verb complement) door
'Closed the door'

b. *du* ***shang*** *zui*
gag **above** (verb complement) mouth
'Gagged (his/her) mouth'

c. *chuan* ***shang*** *yi-fu*
wear **above** (verb complement) clothes
'Wore clothes'

d. *he* ***shang*** *shui*
drink **above** (verb complement) water
'Drank water'

(2.23) *tian-qi you re* ***shang*** *le*

weather again hot **above** (verb complement) CRS
'The weather becomes hot again.'

P. Xiao (2009, p. 54) has pointed out that when verb complement *shang* is used after the non-motion verb, the meaning of *shang* changes from indicating a movement to describing a result or a state. The resultative meaning of *shang* has been considered as developing from the 'horizontally moving towards a goal' sense. The state sense of *shang*, indicating a change of state from static to dynamic (see example 2.24), has also been regarded as deriving from the directional sense. P. Xiao (2009, p. 55) has also mentioned that the various types of verbs (i.e. collocates) used before *shang* might be an important factor that triggers the semantic change of *shang*. However, convincing evidence based on historical data is needed in supporting her statement. Moreover, a more detailed explanation on how and when *shang* develop its various usages as verb complements is required. That is to say, we should be able to see when a new meaning of *shang* may have begun.

(2.24) *mang **shang*** *le*
busy **above** (verb complement) CRS
'It is getting busy'

Nevertheless, X. H. Hu (2010, p. 30) has argued that it is difficult to draw a line between the directional and resultative meanings of *shang* in some cases since the directional meaning of *shang* can be part of the resultative meaning. Therefore, both directional and resultative meanings of *shang* may exist together. For instance, as shown in the example (2.25), *shang* in 摆上 (*bai shang*) can either indicate the movement of a desk along with a path and or the result of moving a desk to a yard. It is thus ambiguous when classifying certain usages of *shang* based on the directional or resultative meanings. X. H. Hu (2010) has thus suggested that we should explore the semantic change of *shang* from a diachronic perspective only through which more fine-grained distinctions can be made.

(2.25) *yuan-zi* *li* *bai* ***shang*** *yi* *zhang* *zhuo-zi*
yard inside (postposition) put **above** (verb complement) one CL desk
'Put a desk in the yard'

Drawing on Y. Liang (2007, p. 1) and Wei (1996, p. 43), X. H. Hu (2010, p. 30) has agreed that the verb complement construction verb+*shang* was developed from a serial verb construction (i.e. a verb + conjunction+lexical verb *shang*) in AC after the conjunction 而 *(er)* 'and' in between the verb and lexical verb *shang* was omitted. When *shang* was first used as a verb complement around the period between LAC and Pre-MC, it denoted the unique meaning

of ‘moving towards a higher place’ since this is the basic meaning of lexical verb *shang*. X. H. Hu (2010) has proposed that the usages of *shang* as verb complements are developed in two ways: (1) some meanings of *shang* are extended from the basic or directional meaning of ‘moving towards a higher place’, for instance the meaning of ‘moving towards a goal’ in the expression *赶上 (gan shang)* ‘catch up’; (2) other meanings of *shang* are developed from the metaphorical mappings of structures from a physical domain to other abstract domains including relational, temporal, quantitative, and qualitative domains, for instance, the mapping of *shang* from a physical to a qualitative domain in *爱上(ai shang)* ‘love (up)’. Although X. H. Hu (2010) has realized the important role of diachronic data on the analysis of *shang*, he has not mentioned explicitly when certain meanings of *shang* appears, how these meanings become conventionalized and what are the roles of context (e.g. pragmatic inference, collocates and constructional meaning) on assigning innovative meanings to *shang* in its diachronic development.

2.2.2.5. *Shang* functions as a compound word

It has been recognized that the two words *shang* and *xia* ‘below’ can be used together as a single compound word to denote location, quantity and social relation (Lü, 1999, p. 477) as shown in examples (2.26), (2.27) and (2.28). The compound words *shang xia* in examples (2.26 a. b. c.) indicate the upper and lower part of the curtain, the upper and lower place of the floor and the whole building from the upper to the lower floors. Being used after a quantifier, the compound word *shang-xia* in example (2.27) describes an approximate number. Another usage of *shang-xia* is when it expresses higher and lower social relations as shown in the example (2.28). The usage of *shang-xia* as a compound word has received less attention in the literature, so it is still unclear when and how this usage of *shang* and *xia* is established.

(2.26) a. *zhe chuang-lian* ***shang-xia*** *dou you hua-bian*
this curtain **above below** all has lace
‘Both the upper and lower part of the curtain have lace’.

b. ***shang-xia*** *liang ceng ye shi wo-men ding de fang-jian*
above below two CL also is PRO book ASSOC room
‘We also booked the rooms on the upper and lower floors’

c. *xin gai de da-lou* ***shang-xia*** *gong* 24 *ceng*
new build ASSOC building **above below** together 24 storey
‘The new completed building has 24 storeys all together.’

(2.27) *nian-ling zai san-shi sui* ***shang-xia***
age be-located (verb) thirty year **above below**
‘(Someone)’s age is around thirty years old’

(2.28) ***shang-xia*** *yi* *tiao* *xin*
above below one CL heart
'The superiors and subordinates are of one mind.'

2.2.3. **Limitations of Previous Studies on *Shang***

As mentioned above, most studies simply list the usages of *shang* found in texts from different historical periods and tend to analyse synchronic data containing the contemporary usages of *shang*. Relatively little attention has been paid to the problem of how certain meanings of *shang* develop diachronically and contribute to its contemporary semantic network. The issues regarding the developmental path and the motivations for the semantic change of the word are therefore left unexplored. Although instances of *shang* in historical texts have been discussed in some studies when explaining the semantic relatedness between certain meanings of *shang* (e.g. Cai, 2008; H. Zhang, 2004), specific time phrases and types of text in which *shang* is used have not been provided so that we do not know when an innovative meaning of *shang* may have begun. Basically, these studies have not offered enough evidence in terms of the way various meanings of *shang* are motivated and associated with it. Recently, Qi (2014) has adopted data in historical texts to explain the semantic relations between certain meanings of *shang*, however, his focus is only on the semantic change of *shang* that performs the grammatical function of postposition, which does not show the overall picture for the semantic change of *shang* that undertakes various grammatical functions in different historical periods. In addition, senses of *shang* have not been testified in previous studies, so that we do not know whether it is the sentential contexts in which *shang* appears that give rise to a particular usage of *shang*. We, therefore, believe that a converging approach and more convincing evidence are needed to reveal the polysemous features of *shang*, and the roles of various factors on the usages of *shang* are all required to be observed, including conceptual metaphors, pragmatic inferences, collocates, and constructional meanings.

2.3. Studies on Semantic Change and Polysemy

Language change offers evidence for the nature of linguistic representation and processing, and thus reflects both the synchronic mental representation and the motivations that create grammar (Bybee, 2010a, p. 945). The building of complete interpretations for linguistic structures requires analysts to focus on the diachronic dimension since all synchronic performances (such as the semantic relentless between various senses of a word) are the outcome of a long period of diachronic development. Traditionally, a clear division into the lexicon and syntax is found in some of the earlier work in language change, so semantic change and grammaticalization

are considered as two individual areas under study. Recent developments in cognitive and usage-based linguistics have offered a new perspective on the issue of semantic change and polysemy at all levels.

2.3.1. **Semantic Change of Locative Terms**

The semantic change of locative terms has been discussed in recent studies of Cognitive Linguistics (CL), historical semantics and grammaticalization (e.g. Heine, 1997; Heine et al., 1991; Svorou, 1993, 2003). The **lexical sources** and **evolutionary paths** (on both semantic and morphosyntactic aspects) of locative terms demonstrate significant commonalities cross-linguistically. By observing 55 languages, Svorou (1993, pp. 70-89) concludes that the basic source models of locative terms in human language are composed of body part terms (e.g. *head, feet, back*), environmental landmark terms (e.g. *sky, earth, ground*), and relational part terms (e.g. *top, surface, underside*). From the observation of a number of African languages, Heine (Heine, 1997; Heine et al., 1991, p. 118) also holds that locative notions, instead of being primitive concepts, are derived from physically defined entities such as body parts or environmental landmarks in many languages.

This line of studies also suggests that morphosyntactic and semantic changes in locative terms (those from human body parts particularly) usually develop along certain paths, which demonstrate crosslinguistic universal trends (Heine, 1997; Heine et al., 1991; Svorou, 1993, 2003). It has been found that locative terms on their way to grammaticalization gradually lose their lexical features and preform more grammatical functions (Heine et al., 1991, p. 100). In the process of meaning change, the morphosyntactic structure of the lexical item also experiences changes. The phenomenon shows a **continuum** of change in two levels: the change from less abstract to more abstract meanings; and from less grammatical to more grammatical morphosyntactic functions. This process is achieved gradually by involving some **intermediate stages** in which both the earlier meaning (or the earlier morphosyntactic structure) and the latter meaning (or the latter morphosyntactic structure) for a single word exist at the same time. As described by Heine et al. (1991, p. 67), ‘instances of overlapping meaning in fact form an integral part of the development’. In other words, a complete replacement of the former sense (or the former morphosyntactic structure) by the latter for a lexical or grammatical item may not be found, and there must be an intermediate stage where both the former and the latter senses or grammatical functions coexist side by side at least for some time. The term **grammaticalization chain** has been proposed by Heine et al. (1991) to describe the structure of linguistic forms undergoing grammaticalization where one end of the

chain is both older and less grammaticalized, while the other end is newer and more highly grammaticalized. Therefore, there is ambiguity in both the meanings and grammatical functions for a single linguistic structure. For instance, a locative term such as *back* in English (also in many other languages) shows the grammatical chain in which it develops from a lexical noun to relational phase, to adverb and preposition, and perhaps even to a case affix (ibid p. 160). It has been shown that the grammatical chains are similar in nature to the meaning chains, radial categories, or lexical networks as discussed by researchers who are interested in synchronic polysemy (e.g. Brugman, 1983; Brugman & Lakoff, 1988). Furthermore, as being used in more and more contexts, more instances of intermediate stages for the development of a certain lexical/grammatical item may be found (Heine et al., 1991, p. 68). This gives rise to various senses of a word at a certain historical stage. As has been argued by Traugott and Dasher (2002, p. 13) on the regularity of semantic change, 'where there is a synchronic sense relationship, there is usually a historical relationship', which indicates that a newer sense may be derived from an older sense and they can exist side by side as polysemy for a period of time (e.g. older and newer meanings of *since* coexist and can either indicate a temporal or causal meaning). The findings of these studies provide important resources for the study of synchronic polysemy, and they illustrate that both the meanings and the grammatical functions of a linguistic item (e.g. locative term) are developed and associated with the word in a systematic way.

2.3.2. **Semantic Change in Chinese**

While there have been many studies on Chinese grammatical and phonological changes, less attention has been paid to the semantic change in Chinese (F. Wu, 2015, p. 2), making it impossible for us to answer the question of how various senses of a polysemous locative term are associated with each other diachronically. F. Wu (2015) discusses a few unresolved issues in the studies of Chinese semantic change, one of which is the lack of solid theoretical frameworks. According to F. Wu (2015), most studies simply have listed and described all the instances of semantic change but avoided answering questions of how certain semantic changes occur in Chinese. Therefore, the regularities and motivations for Chinese semantic change have not been described in a systematic way. The lack of in-depth study on the issue of semantic change in Chinese makes it difficult to uncover how the individual and universal features of semantic change found in other languages apply to Chinese (ibid p. 7). Functional linguistic theories and methodologies from the West have been introduced in the 21st Century. Since then studies on Chinese semantic change in China have begun adopting notions from Cognitive

Semantics and Historical Pragmatics (ibid p. 5). However, few studies have considered the lexical sources and the evolution of Chinese locative terms. F. Wu (2008) is the pioneer in this field who focuses on the lexical sources and semantic changes of Chinese locative term *hou* 'back'. He has summarized the diachronic semantic changes and the consequent morphosyntactic changes of *hou* 'back' based on Chinese historical literature. It has been found that the patterns of semantic change for *hou* 'back' corresponds exactly with the universal tendencies of grammatical forms that indicate BACK-REGION in other languages found in Svorou (1993). The various meanings of *hou* 'back' are motivated, and metonymy functions as the most fundamental mechanism in its semantic change. However, F. Wu (2008) has not provided evidence to show when certain innovative meanings of *hou* 'back' might have begun. Since Wu's study is only based on historical Chinese, it is unsure how older meanings of *hou* 'back' might have influenced its current usages.

2.3.3. **Metaphor in Semantic Change**

Metaphor allows people to understand one thing as another, but the two things are not considered as objectively the same (Sweetser, 1990, p. 8). For example, English speakers would not have any trouble telling the difference between white clothing and candid speech although *white* in English can metphorically refer to 'honest, candid'. Therefore, as argued by several researchers (Johnson, 1987; Lakoff, 1987; Lakoff & Johnson, 1980), it is not only our langauge but our cognition that operate metaphorically. The metaphorical transfer has always been found to account for some direct change of meanings from a concrete to an abstract domain (Sweetser, 1988, 1990) (e.g. the meaning of *go* from indicating 'physical motion' in a concrete domain to 'future' in *be going to* in an abstract domain). In another example, drawing on Talmy (1983, 2000a)'s theory of image-schematic structure and force-dynamics, Sweetser (1990) has suggested that *must* developed the epistemic 'can be inferred' sense from the deontic 'be required' sense through mapping a force in the socio-physical domain to abstract logical domain (compare *You must be home by ten*, with *John must be home; I see his coat*). As has been pointed out by Sweetser (1990, p. 8), a linguistic form has acquired a metaphorically motivated secondary sense when the metaphorical usage is no longer consciously realized as in '*You see what I mean?*'.

However, it has been argued that metaphor *per se* may not be able to explain why there are overlapping meanings in each stage of semantic change. Bybee et al. (1994, pp. 24-25) have also shown that metaphor is not the major mechanism for semantic change in

grammaticalization; and rather than propelling a morpheme to its more and more abstract grammatical meaning, metaphor only engages in the more lexical end of grammaticalization path. Traugott and Dasher (2002) have also argued that metaphorical, analogical relationships often appear as the resulting products of change, but that they are less important in the process of change than those associated metonymic relationships. Although metaphor is agreed to be less important than metonymy in semantic change, it does not mean that we should ignore it. Sullivan (2007) has provided early evidence of unambiguous use of the extended senses for *see*, *warm* and *going* to mean 'know/understand', 'affectionate' and 'a future action', which proves that metaphor was active even in the earliest stage of semantic change.

2.3.4. **The Role of Context on Semantic Change**

The role of context on semantic change has been emphasized by Traugott in many publications (Traugott, 1982, 1989, 1990, 1995; Traugott & Dasher, 2002; Traugott & König, 1991). She has argued that in change motivated by **pragmatic inference**, meaning that are frequently implied by a lexical/grammatical form within the coexisting context can be conventionalized as part of the meaning of the utterance. For instance, frequent contexts of use for *be going to* imply intention, such as *I am going to deliver this letter*, as a result 'intention to act' has become an essential part of the meaning of the *be going to* expression (Bybee, 2010b, p. 109).

Although the important role of context has received great attention in much recent historical work on semantic change (including the process of grammaticalization) (cf. Traugott, 2004), a question has been asked regarding the **types of textual context** in which a particular lexical or grammatical item occurs, that is: should we distinguish the types of context in order to see which context plays a more important role in leading to the association between a frequently occurred pragmatic inference and a particular form? In other words, what kind of context in which a specific form occurs should be observed so that we can understand the unique role of context on semantic change? Is the overarching meaning of the construction (a phrase, clause, or sentence) a lexical/grammatical morpheme appears in (e.g. Bybee, 2003, 2010b; Haiman, 1994; Heine, 2003; Levinson, 2000; Traugott, 2003); or the lexical items associated with the particular morpheme, such as collocates of the morpheme (e.g. Bybee, 2013, p. 67; Bybee & Cacoullos, 2009); or the discourse structures (typically across sentence boundaries) (e.g. Traugott & Dasher, 2002) and the genre in which certain morpheme occurs (cf. Jucker, Taavitsainen, & Tuominen, 2014); or the particular social and cultural situation that certain lexical/grammatical item is used (e.g. Nevalainen, 2004)?

Early work on semantic change tended to privilege an 'internal' view by focusing on the linguistic context. In this work, the clause or sentence is always seen as the relevant contextual unit where semantic changes occur (e.g. Bybee, 2003; Haiman, 1994; Heine, 2003; Levinson, 2000; Traugott, 2003). More recently there has been a shift toward broader contextual approaches by taking discourse and genre into account when defining the contexts for semantic change (Küngas, 2014; Moore, 2006; Stathi, 2009). For instance, by discussing the semantic development of the German verb *gehören* (literally 'belong, pertain'), Stathi (2009) has shown that in a construction with the passive perfect participle the verb *gehören* has developed a deontic meaning in present-day German, and the meaning of obligation or necessity has its origin in the discourse (in this case, administrative and judicial texts). The use of *gehören* was extended to other contexts as well. In a refinement of Hopper (1991, p. 22)'s notion of persistence, Stathi has argued that 'persistence may also include features of context which triggered the semantic development instead of including only features of an earlier attested lexical meaning'; and it is not the verb *gehören* itself which is characterized by persistence in the context, but *gehören+* participle construction. The instance of *gehören* demonstrates the importance of various factors in semantic and pragmatic change: 'first, it shows that the relevance of the context in semantic and pragmatic change goes beyond the local context and may also include the discourse tradition. Hence the role of discourse traditions, text types, or genres should be reconsidered in historical semantics and pragmatics' (Stathi, 2009, p. 300). In other words, the context in which semantic change occur should not be limited to linguistic alone but also discourse environments (e.g. types of genre).

2.3.5. **Frequency in Semantic Change**

Other than focusing on the type of context in which semantic change occurs, there is another related issue that must be addressed properly, that is the complexity of **frequency**. It is argued that linguistic forms with higher token frequency strengthen the memory representations and make the word or phrase more accessible (Bybee, 2007, p. 10). Research in grammaticalization has paid more attention to the semantic change in high-frequency strings or constructions (Bybee, 2003, 2007, 2013; Bybee et al., 1994), indicating that frequency is not just a result of grammaticalization, it is also an 'active force' promoting the changes in grammaticalization.

Three effects of token frequency have been identified, including the Conserving Effect, the Reducing Effect, and Autonomy (Bybee, 2007, pp. 10-14). In Conserving Effect, 'the strengthening of memories makes complex units resist change by reformation on analogy with productive patterns; however, in Reducing Effect, the greater fluency and reduction of repeated

units is found in phonetic change and semantic change'. Reducing Effect is seen in grammaticalization when bleaching or generalization of meaning occurs. In this process, grammatical morphemes always become more general and more abstract in their meaning, more widely applicable and more frequently used. For instance, modern auxiliary *can* was derived from the main verb *cunnan*, which expresses different kinds of knowing. It has been found that one way by which *cunnan* starts to grammaticalize as an auxiliary is 'determined by the fact that it was already frequent, and had already undergone some weakening of its semantic content' (Bybee, 2003, p. 609). Two kinds of frequency have been found to contribute to the further bleaching of the meaning of the original word *cunnan* from Old to Middle English. One involves the use of it with many verbs from three classes (i.e. verbs from classes of intellectual states or activities like *believe*, *see*, *know*, of skills such as *read*, *paint*, *sing* and of communication including *thank*, *say*, *tell*) and the other one involves the highly token frequency for the use of *can* with verbs from the intellectual state and communication classes (e.g. *can say*, *can tell*, or *can see*). It indicates that both token and type frequency for the construction in which an already frequent morpheme is used contribute to the grammaticalization of the specific form.

Autonomy is defined as 'the extent to which a word is likely to be represented in the speaker's lexicon as a whole and separate unit' (Bybee, 2007, p. 50). Autonomy is used to describe situations when highly frequent words or phrases can be 'accessed independently of related items and are thus not as interconnected in the network' (Bybee, 2007, p. 14). For instance, the phrase *(be) going to* is found becoming less and less associated with the individual morphemes, *go*, *ing*, and *to* (as the phrase reduces to *gonna*). In addition, *(be) going to* disassociates itself from other instances of this [movement verb+Progessive+purpose clause] construction, such as *be traveling to*, *be riding to.* The particular example of this construction with *go* in it has undergone phonological, morphosyntactic, semantic, and pragmatic changes as more frequently being used (Bybee, 2003, p. 618). As has been discussed by Bybee (2003, p. 604), the loss of semantic transparency accompanying the separation between the components of the grammaticizing construction and their lexical sources allow the use of the phrase in new contexts with new pragmatic associations, contributing to semantic change. It was noticed by Haiman (1994) that the frequent use of a construction can lead to habituation, by which a repeated element loses some of its semantic force. As generalization and habituation weaken the meaning of a grammaticalizing construction, it can then apply to more and more cases in new contexts, causing an increase in frequency again (Bybee, 2010b, p. 108). Therefore, on the

one hand, frequency is a pattern observable in texts; on the other hand, frequency or repetition of experiences has influenced cognitive representations and becomes a cause for the changes (Bybee, 2007).

However, as has been pointed out by Neels (2016), the significant role of frequency of use, at least of absolute token frequency, seems to be called into question by corpus-based studies on the grammaticalization of low-frequency expressions (e.g. Brems, 2007), and on instances of grammaticalization with delayed increases of discourse frequency (e.g. Mair, 2004). Rather than being driven by grammaticalization, increase in the token frequency of lexical/grammatical items may have many different causes such as pragmatic salience and the word's relative frequencies of co-occurrence. Therefore, it has been argued that more research must be devoted to evaluating the exact effect of different kinds of frequency on grammaticalization, and the types of frequency information has to be clearly distinguished including conceptual frequency (Hoffmann, 2004), type frequency (e.g. Bybee, 2013), critical frequency (Peng, 2012), collocations (e.g. Bybee & Cacoullos, 2009), as well as contextual and contextual entrenchment (Schmid, 2014).

2.3.6. **Corpus Approaches to Semantic Change**

Since the beginning of computerized corpora as a tool for investigating language in the 1950s (Leech, 1991), corpus linguistics offers the possibilities of accessing a relatively large collection of naturally-occurring texts. It is emphasised in a Usage-based Model of language (Kemmer & Barlow, 2000) that linguistic data drawn from large corpora representing natural usage are essential in understanding the perception and production processes of language use. Used sensibly via investigation of the frequency of constructions, collocations etc., samplings of usage in corpora can assist in answering questions such as which units are most established or entrenched in speakers' linguistic systems (ibid p. xvi) and how such units interact with specific context of the grammatical structure, genre, and social circumstance.

Corpus linguistics is described as a 'means of observing grammaticalization in a way that provides an empirical methodology for investigating processes of language change in progress' (Nevalainen, 2004, p. 2). The statement reflects that with the help of corpus, we might be able to trace the ongoing semantic change in many linguistic structures by looking at changes in proportional frequencies. In the paper discussing the relationship between corpus linguistics and grammaticalization, (Mair, 2004, p. 123) has asked the following questions: '(1) What is the role of discourse frequency?; (2) Can the use of corpora help us pinpoint incipient or

ongoing grammaticalization?; and (3) What are the insights into grammaticalization phenomena afforded by corpora that go beyond the merely statistical?'. Tracing the history of several instances of usage in English since ca. 1600, Mair (2004) has agreed that the analysis of corpora is particularly useful in revelling the role of statistics in grammaticalization; however, grammaticalization and the increase in discourse frequency do not always happen at the same time. The increase of discourse frequency for a linguistic item should be considered as a 'delayed symptom of earlier grammaticalization that have occurred and enable us to trace the spread of a new grammatical form through different styles and genres' (ibid, p.138). Changes in relative frequencies, however, are usually part of the process of grammaticalization itself. For example, it has been shown in Mair's analysis that in becoming a future marker, the infinitival *to* in *going to* (in compared to propositional *to*) rapidly increases during grammaticalization, which is long before the dramatic rise of the overall absolute frequency of *going to*. It has also been emphasised that corpora can provide insights into processes of grammaticalization that go beyond statistics. For instance, with the large and authentic data, corpus helps us to document instances of 'static' grammaticalization which enable us to conduct qualitative analysis in overcoming the limited role of statistics.

Hilpert (2011) has tracked meaning changes in the collocational profile of an English *keep V-ing* construction by conducting a diachronic collostructional analysis with the help of statistic techniques. It has been argued that the 'typical collocates of a grammatical construction reflects its meaning', so the 'shifting collocational patterns are indicative of semantic change' (ibid, p. 134), which indicates that the various types of collocates in a grammatical construction should receive more attention in a diachronic analysis of meaning change.

2.3.7. **Studies on Polysemy**

2.3.7.1. Monosemy and Homonymy

The linguistic behaviour of a single word that has several distinct but related senses are viewed as **polysemy** by scholars in cognitive linguistics (cf. Brugman, 1983; Lakoff, 1987; Tyler & Evans, 2003). This is different to the approach of **monosemy** in which one linguistic unit is considered as only having one relatively abstract sense from which other senses are derived (cf. Cuyckens & Zawada, 2001, p. x) either from the context of use (Ruhl, 1989) or from certain kinds of lexical generative devices (Pustejovsky, 1998). Another way of viewing the different senses of a linguistic form is **homonymy** in which there are essentially unrelated meanings that are considered as sharing a single form (Evans & Green, 2006, p. 392). According to Murphy (2010, p. 94), 'homonymy arises in language mostly through coincidence or because the senses

of a polysemy have become so separated from each other over time that we no longer perceive them as the same.'. For instance, the word *bank* is usually taken to be an example of homonymy (e.g. *bank* in *He works in a bank* and *at the bank of the river*), although the two meanings can be related if traced back to their origins. Though a personal communication with linguist Suzanne Kemmer, I know that the two usages of *bank* were from a Germanic word *bank meaning 'bench and table' (written *benc* in OLD English and pronounced bench). It was a long piece of furniture with a flat top. Through a metaphorical extension, the word *bank* was used to refer to river bank. By metonymy, the name of the bank/table was given to the (incipient) financial institution.

Both the two approaches (monosemy and homonymy) are argued to suffer from a number of weaknesses when accounting for the various meanings of a single spatial term such as *over* (cf. Tyler & Evans, 2003, pp. 4-6). As for the monosemy approach, it is difficult to explain how both spatial and non-spatial/metaphorical senses of *over* (e.g. spatial sense of 'above' as in the sentence *The picture is over the sofa* and non-spatial sense of 'control' as in *Jane has a strange power over him*) can be derived from one single abstract meaning. If adopting the monosemy approach, there must be a very abstract interpretation that can cover all the meanings of a term such as *over*, which seems unachievable in practice.

The homonymy perspective is essentially based on the traditional representations of the lexicon dated back to the work of Bloomfield (1933) and the more recent reinterpretation as in Chomsky (1995), which asserted that the lexicon only contains arbitrary and idiosyncratic features. It is held by the homonymy approach that the different senses coded by the same linguistic form are plausibly just an accident, and there are no systematic relations between them. Of course, there are true examples of homonymy, which may arise from changes in the language that allow different words to share the same form. For instance, the musical genre *pop* is a clipping from *popular music* and does not relate to the use of *pop* as an affectionate term for a father (from *papa*), or as the onomatopoetic verb for the behaviour of bursting something like a balloon or a bubble. The three usages of *pop* developed in its own way and just happened to end up sounding and looking like each other (Murphy, 2010, p. 94). Homonymy can also account for words borrowing from other languages that happen to be the same as existing words. For example, before *yen* 'the currency of japan' was borrowed into English, the same form *yen* meaning 'yearning' was already existed in English (e.g. *I have a yen for fine whiskies*) (Murphy, 2010, p. 98).

However, homonymy has several problems accounting for the multiple senses of a lexical item that do not accidentally co-occur and associate with the same form. Firstly, the systematic relationships among the various meanings of a spatial particle has been ignored by a homonymy view, which contradicts the findings regarding semantic relatedness in many studies (e.g. Brugman & Lakoff, 1988; Lakoff, 1987; Langacker, 1987; Lindner, 1983; Tyler & Evans, 2001, 2003). It has been demonstrated in this line of research that the various senses associated with each preposition or particle are formed in a systematic way constituting a semantic network, and most non-literal meanings are mainly due to metaphoric extensions based on image schemas. Secondly, the homonymy position does not consider language as an evolving system whose change over time is largely displayed in a motivated and principled manner. Studies in semantic change (e.g. Sweetser, 1990; Traugott & Dasher, 2002) and grammaticalization (Bybee et al., 1994; Heine et al., 1991; Svorou, 2003) have shown that the synchronic semantic network of a lexical item is a product of natural diachronic change, in which new meanings are motivated and associated with the pre-existing linguistic word or construction in systematic ways. The homonymy view regards the process of meaning extension as arbitrary, and it implicitly claims that semantic change is lack of motivation, which contrasts with the evidence discovered in other studies of language change. Furthermore, it is argued that the homonymy approach fails to answer the question of 'why it should be the case that a speaker would choose to use a particular established form, rather than coining a new phonological string altogether' (Tyler & Evans, 2003, p. 5). In other words, if the senses of a lexical item are essentially unrelated, then why language users should depend on the existing forms, but do not simply create a new word. As has been discussed, in communication, speaker normally rely on the conventional usage of a word for making sure that the novel usage could be well understood by the hearer. Therefore, the meaning extension must be operated systematically, allowing the speaker to choose a specific lexical form that has a conventional meaning but not some other forms.

2.3.7.2. The Polysemy Approach

Diverging from traditional approaches of using homonymy and monosemy to explain the meanings of words, cognitive lexical semantics supports a polysemy approach to word meaning, which is also advocated in this study. The treatment of polysemy in CL, especially focusing on lexical semantics, 'involves (1) viewing meaning/sense as categorization, (2) recognizing the significance of context for meaning/sense and that linguistic and encyclopaedic knowledge are hard to keep separate, and (3) incorporating prototype theory into linguistics'

(Gries, 2015, p. 473). As for (1), one example is that learning/knowing a parrot is a bird equals to considering birds as a category of which parrots are a member. That is to say, lexical items can be the linguistically coded subcategory of all conceptual, mentally represented categories (Lakoff, 1987; Langacker, 1987). Therefore, spatial terms such as English *over*, *above*, Chinese *shang* and *xia* are the linguistically coded subset of conceptual categories UP and DOWN.

As for (2), meanings of lexical items are hard to be interpreted without considering both their context and encyclopaedic real-world knowledge, which is an assumption based on Fillmore's Frame Semantics (Fillmore, 1975, 1982). This perspective is different from the dictionary view of word meaning, which attempts to identify a small and restricted subset of specifications that constitute the linguistic knowledge or conventional meaning for a lexical item. However, as observed by both Haiman (1980) and Langacker (1987), it is practically impossible to determine which specifications should be included in a particular lexical entry and which should be excluded, and the dictionary approach fails to explain the large variety of distinct interpretations normally associated with a specific lexical item. Drawing on the work of scholars such as Langacker (1987), Turner (1991), Fauconnier (1997), Croft (2000) and Tyler and Evans (2003), we suggest that words (or spatial terms) do not simply contain a limited number of meanings as recognized by the dictionary approach, but rather, words **prompt for** very complex conceptualizations. As mentioned in the symbolic function of langauge, the encyclopaedic view of word meaning regards lexical items (and constructions) as 'points of access' to all of our encyclopaedic knowledge in terms of a particular conceptual entity (Langacker, 1987, p. 163).

Furthermore, our internal knowledge regarding the use of a specific linguistic expression is influenced by various pragmatic inferences based on different contexts of use (cf. Green, 1989; Grice, 1975; Levinson, 1983; Sperber & Wilson, 1986). The process allows us to establish detailed conceptualizations in manners that are largely coherent with, and rely on our experiences of the world (Tyler & Evans, 2003, p. 17). Put another way, conceptualization of a linguistic expression can further be elaborated when an extra meaning from the contexts of use become conventionalized and attach to the expression. This additional meaning is produced on-line by adopting inferencing strategies that are fundamentally constrained by our bodily experience of the physical world. It is, therefore, possible to assume that the novel conceptualizations produced on-line by pragmatic inferences are maximally contingent upon our experiences of the world. As has been found in studies of semantic change and grammaticalization, the frequent inferences of some meanings made in specific contexts can

be registered in memory and become conventionalized as part of the meanings of the lexical/grammatical morphemes (Bybee, 2010b; Traugott, 1990; Traugott & Dasher, 2002; Traugott & König, 1991). For instance, as shown in the example (2.29) discussed by Tyler and Evans (2003, p. 60), the additional meaning of 'covering and obscuring or occlusion' prompted for by *over* arises from the interpretation within the sentential context. Based on our knowledge regarding the nature of thick cloth (which is generally opaque) and our bodily experience with the object (a human cannot see through opaque objects), we are possible to understand the meaning of *over* in example (2.29) (meaning 'covering or occlusion'). Therefore, it is in the specific context of use where implicatures are produced (or independent sense if the implicatures are being used frequently and be conventionalized).

(2.29) Mary bent down to look at the dead man's face, but there was a thick cloth *over* it.

Other than acquiring new meanings by inference, specific meanings of grammatical and lexical morphemes can be added in by other contextual factors (Bybee, 2013, p. 67): they can be 'retained from earlier use in context' (e.g. 'desire' is the earlier meaning of *will*, which is reflected in the situation when will is used to describe willingness as in *I know Tom will stand up for me*), or the meanings can be added by absorbing from the overarching meaning of the construction they occur in (e.g. The noun *pas* 'step' in French negative construction of *ne+verb+pas* has completely lost its earlier meaning in this construction and has absorbed the negative meaning from *ne*), or they can be added by association with certain lexical items in specific construction (e.g. the construction *cause*+NP has absorbed the negative effect after frequently being used with negative collocates as in *cause an accident*). Or even a larger context of discourse and genres (cf. Jucker et al., 2014; Moore, 2006; Stathi, 2009).

As for (3), the study of polysemy in CL favours a perspective based on Prototype Theory (Rosch, 1975), indicating that subjects/speakers do not categorize object using necessary/sufficient features but by comparing their similarity to the prototype of the candidate category/categories. The notions 'prototype' and 'typicality effect' were first introduced into linguistics by Fillmore (1975) and later elaborated by Lakoff (1982), and Geeraerts (1983). Brugman (1983)'s influential work on *over* particularly contributed to the application of Prototype Theory to cognitive lexical semantics, which offers a starting point in analysing the extensive polysemy associated with lexical items. After that, Lakoff and his collaborators (cf. e.g. Brugman & Lakoff, 1988; Lakoff, 1987; Norvig & Lakoff, 1987) identified a way to provide a cognitive semantic treatment to polysemy by introducing the notion of **Radial**

Categories, with ‘less central subcategories are understood as variants of more central categories’ (Lakoff, 1987, p. 91). In other words, lexical categories and semantic networks can be regarded as being structured by prototypical meanings. They thus established the ‘prototypicality’ of a word’s sense and its several senses which are less prototypical in word-meaning. For instance, the ABOVE sense of *over* is more prototypical than the CONTROL sense of *over* and the CONTROL sense of *over* is evolved metaphorically from the more prototypical spatial meaning of *over* (Brugman, 1983; Brugman & Lakoff, 1988; Lakoff, 1987).

However, it was claimed by Langacker (1987) that not only the prototype model but also a model based on **schematicity** is essential for a reasonable description of natural language. Therefore, categorization by prototypes and schemas were treated as cases of a unified phenomenon which contributes to the complex semantic categories or networks (ibid, p. 371). A prototype is defined as ‘a typical instance of a category’ while a schema is ‘an abstract characterization that is fully compatible with all the members of the category it defines’. It should be noted that ‘schemas’ in Langacker’s definition contain general patterns that abstract away from instances of language use which are different to ‘image schemas’ defined by Lakoff. Image schemas are schematic patterns arising from a number of recurrent embodied experiences (e.g. CONTAINER) which operate in our minds and therefore can affect our way of using languages but they may not reveal the general features of real language uses as schemas do.

Two principal types of semantic relations are introduced by Langacker, which are **elaboration** (the relation between a schema and its instantiations) and **extension** (the relation between prototypical and peripheral values). It is recognized that categorization by extension normally ‘presupposes and incorporates schematic relationships’(Langacker, 1987, p. 372), so a lexical item’s prototypical sense in a semantic network may to some extent contain its schematic feature. Langacker (1987, p. 373) therefore proposed that categorization by extension from a prototype should have the structure demonstrated in Figure 2.2 below, in which PT stands for the prototype, SCH for a schema and X for a concept defined by a prototype.

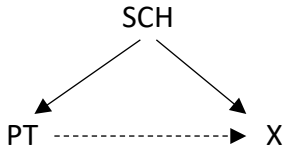

Figure 2.2 Categorization by extension from a prototype

This line of studies on polysemy in CL (e.g. Brugman & Lakoff, 1988; Lakoff, 1987; Langacker, 1987; Lindner, 1983) has shown that there are systematic relationships among the distinct meanings of a single linguistic form (Tyler & Evans, 2003, p. 5), allowing certain meanings/senses of a linguistic item to become more central in the semantic categorization (or polysemy network) while other senses more peripheral.

2.3.7.3. Limitations of Previous Studies on Polysemy

Although the polysemy network of a lexical/grammatical item can be regarded as being structured by prototypical meaning, a question arises regarding what we can say about the possible groupings of senses to be observed in polysemous words or morphemes. Brugman's/Lakoff's sense-distinction theory remains several unsolved problems which have drawn the attention of several researchers.

Firstly, Sandra and Rice (1995, pp. 90-95) and Sandra (1998, pp. 370-371) criticized Lakoff's so-called 'full- specification' view, in which each lexical item has a proliferation of senses. An 'objective and replicable' methodology is therefore needed to discover the distinct senses of a word. Additionally, given the fact that lexical network models show a lack of explicit criteria for distinguishing usages, 'different linguists tend to make different distinctions between usage types and to prefer different networks for the same preposition' (Sandra & Rice, 1995, p. 92): a radially structured network (Brugman, 1983; Lakoff, 1987) or a schematic network (Langacker, 1987). As has been mentioned by Cuyckens, Sandra, and Rice (1997, p. 36), 'the diversity of network models that are currently around leads to uncertainty about the correct model type for the phenomena under study'.

Moreover, the uncertainty about the selection of network model in analysing various senses of a polysemous word calls for the need to find out which network model can better capture the linguistic reality (if not the cognitive reality) of polysemous words (or prepositions) (Sandra & Rice, 1995, p. 98). By assessing the network model, the first question then comes to mind is whether the richness of senses for a polysemous word is attributed to 'the domain of lexical meaning or to the domain of sentence meaning (i.e., the product of lexical meaning, contextual

information, and pragmatic inference)' (ibid, p. 99). That is to say, it remains unclear regarding the exact role of context on the meanings of a polysemous word. Some recent cognitive linguistic accounts of lexical representation have reacted to the difficulties with the 'full-specification' view of word-sense disambiguation by introducing the context of use in the study of polysemy (e.g. Allwood, 2003; Croft & Cruse, 2003; Zlatev, 2003). Their general idea appears to be that semantic structures are associated with a large body of potential knowledge to which words can access based on the history of a word's usage, and the conceptual structure the word encodes. In contrast to the Lakoff/Brugman account of lexical representation, in this kind of study, semantic structures are not static and prescribed as in the 'full specification' view, and usage-based approach is advocated by considering a word's situated meaning in a specific context of use. However, the more recent perspective is suggested by Harder (2009) as downplaying the role of the input, which eliminates the role of words as prompts for constructing meaning, and requires language users to have innate mental representations in their minds in order to understand words in context.

Furthermore, it has been pointed out that there is a lack of convincing evidence in supporting the idea that a synchronic semantic network consisting of multiple senses of a polysemous word is closely related to and influenced by our conceptual system (cf. Cuyckens et al., 1997; Sandra & Rice, 1995). As has been put forward by Sandra and Rice (1995, pp. 99-104), two cognitive claims that can possibly be made about the lexical networks need to be clarified at the beginning, including the first claim that the lexical networks are (or at least minimally) committed to a psychological process (or a principle of cognitive functioning), i.e. the principles governing the extension of one meaning from the other meaning of a word, and the second claim that the meanings of a polysemous word are mental representations in the mind of language users. Two possible interpretations for the second claim have been made including a strong and a weak version of the hypothesis. A strong version of the hypothesis would hold that each meaning of the polysemous word corresponds to a distinct semantic representation in the mental lexicon of the language user; while a weak version may 'treat the networks as graphic representational devices for capturing aspects of language users' mental representations', which means the networks are compatible with the mental representations (or they only indicate the use of representational structures) but they do not directly represent them.

There are also certain researchers who believe that language users may fail to discover structure in the language as linguists do (Langacker, 1987), so language users might not be able to notice the relation between different meanings of a word. Therefore, 'a non-isomorphic perspective'

which does not recognize the close link between the polysemy network and mental representations can also be found. This non-isomorphic perspective also includes two alternative positions: (I) at least some of the properties of the networks must characterize the mental representation of the meaning of a polysemous word if the network model is proved to be empirically valid regarding the meanings of a polysemous word; (II) the networks are 'merely instruments for representing the products of linguistic analysis and not as reflections of what are stored in the language users' mind'(Sandra & Rice, 1995, p. 103).

The psychological processes of human categorization that might be involved in the polysemy networks can be approached by conducting a careful diachronic study on the evolution of the use of a word. In fact, it has been found in a series of studies on semantic change (including grammaticalization) that the developmental process for the meanings of a polysemous word or construction is governed by our unique way of categorization (Geeraerts, 1997; Heine, 1997; Heine et al., 1991; Svorou, 1993; Sweetser, 1988). In addition, it has been suggested by some experimental studies that language users make rather fine-grained distinctions regarding the senses of a polysemous word as shown in the word's semantic network (e.g. Cuyckens et al., 1997; Sandra & Rice, 1995). It seems that more convincing evidence is still required in demonstrating the most possible relations between the semantic network and the mental representations represented by the network. It is therefore suggested that experimental results should be compared with diachronic evidence in order to determine whether the occurrence of newer extended meanings of a polysemous word in the historical development of specific language correspondents to the degree of prototypical values as rated by language users (Rice, 1996, p. 162). According to Bybee (2013, p. 49), cognitive representations are developed as language users analyse utterances and categorize them based on phonetic form, meaning, and context. A new utterance is sorted and matched by similarity to the existing cognitive representations. It is, therefore, to be expected that the study of semantic change for a specific word can offer insights into the cognitive representations that are coded by all the usages of a polysemous word.

2.3.8. **Relations between Semantic Change and Polysemy**

Based on the above discussion, we believe that the regularities and directions found in semantic change, and the various factors (e.g. pragmatic inferences, sentential contexts, constructional meanings) that influence semantic change (and grammaticalization) can provide us with more evidence in understanding polysemy. Most earlier work on polysemy viewed it as the outcome of historical changes (e.g. Bréal, 1964 [1900]; Ullmann, 1964). Two aspects involved in the

semantic change of a word, including the development process and the mechanisms that govern the change, are considered as very important factors that together lead to the polysemy of a lexical or grammatical item (cf. Sweetser, 1988, 1990).

In CL, synchronic data is usually the primary source of investigation for the semantic relations among various senses of a spatial term (e.g. Brugman, 1983; Lakoff, 1987; Norvig & Lakoff, 1987; Tyler & Evans, 2001, 2003). These studies on the polysemy of a spatial term in both English and Chinese have found it particularly useful when applying cognitive frameworks including Prototype Theory (Rosch, 1975), Conceptual Metaphor Theory (Lakoff & Johnson, 1980), Radial Categories (Lakoff, 1987), Image Schemas (Johnson, 1987) and metonymy (Lakoff, 1987) to illustrate the semantic relations between the senses of a specific spatial term based on synchronic language data (e.g. Brugman, 1983; Gou, 2004; Lakoff, 1987; Norvig & Lakoff, 1987; Tong, 2006; Tyler & Evans, 2003). The synchronic process of meaning extensions being observed in the various senses of a spatial term (e.g. from prototypical to less prototypical senses through metaphorical transfer and pragmatic inferences) contributes to our understanding of the theory of meaning change, and has been suggested to shed light on historical changes in some way (Brugman, 1983; Tyler & Evans, 2003). More importantly, the synchronic process of meaning extensions indicates that change is not an epiphenomenon, but it arises due to the nature of any linguistic structure, indeed of the linguistic system itself (Coussé & von Mengden, 2014, p. 14). Although interpretations regarding the semantic relatedness for the different senses of a spatial term have been demonstrated in these studies, the lack of diachronic perspective on the issue of polysemy has made it difficult to reveal the developmental paths that the various senses of a spatial term have followed. It is thus unclear in terms of what kind of mechanism exactly operates in each stage of semantic change and later contributes to the polysemy of spatial terms.

Moreover, synchronic studies on the related meanings of a single spatial term alone may not offer a detailed explanation regarding how various grammatical functions representing different meanings were formed and applied to the same spatial term (e.g. when *shang* ‘above’ is used as a postposition after an abstract noun, it loses its concrete meaning of ‘the top surface’ and serves a grammatical function of defining an area of activity as in *zai hui-yi shang* ‘at the meeting’). Several extensive discussions in the literature focusing on semantic changes and their sources in grammaticalization (Bybee, 2003; Bybee et al., 1994; Traugott, 1989; Traugott & Dasher, 2002) have made it very clear that grammatical meaning arises out of lexical meaning in most cases. Researchers in cognitive linguistics believe that lexicon and grammar

form a continuum of meaningful structure, so to some extent, they cannot be studied in isolation from one another (Langacker, 1987, 2014). Studies on the grammaticalization of spatial terms in a number of languages have showed that both meanings and morphosyntactic structures for a single locative terms have experienced changes (Heine et al., 1991; Svorou, 1993), and grammaticalization chains are similar in nature to the meaning chains, radial categories, or lexical networks discussed by Brugman (1983), Lakoff (1982, 1987) and others. It indicates that both the meanings and the grammatical functions of a linguistic item are developed and associated with a lexical item in a systematic way. In addition, one of the major implications of grammaticalization for language structure is that it creates polysemy (Heine et al., 1991, p. 224). The above evidence suggests that both semantic and morphosyntactic structures are shaped by language use in a systematic way, and specific concepts (not matter concrete or abstract) are expressed by choosing an existing lexical item and assigning new meanings (including physical, nonphysical or grammatical) to it. The semantic change for certain morpheme involves a continuum of change from indicating less lexical to more grammatical meanings. Sweetser (1988) and Traugott (1990) both have treated semantic change coupled with grammaticalization as definable and interpretable in which the same frameworks are sufficient to account for the lexical semantic change in general. Therefore, we cannot only focus on the multiple lexical meanings of a spatial term synchronically, but ignore the various grammatical functions that the term has performed in different states of meaning change. In other words, not only concrete meanings but also grammatical meanings that associated with a lexical item such as *shang* should be studied in order to offer a full description for the relations between semantic change and polysemy.

Furthermore, since a more traditional division into the lexicon and syntax lies in some of the earlier work in semantic change and grammaticalization (e.g.Traugott, 1982, 1988), making it difficult to distinguish the roles of context on the various meanings of a word. In addition, it is hard to see what roles the factors found in semantic change (such as pragmatic inference) play in polysemy. By observing the diachronic semantic change for a polysemous word (such as spatial term *shang*) in specific contexts under a usage-based perspective, it is possible for us to see what kinds of context and factor play a more important role on the sanctioning of a new meaning for a single word (i.e. establishing a conventional meaning of a word), and how a target structure in a usage event conforms to the newly established conventional meaning.

2.4. Theoretical Foundations of the Thesis

Since usage-based models of language involve converging ideas from a functional or cognitive framework, a number of theories can work together to provide solid foundations for a usage-based study of language. In this study, four theories represented the usage-based approach to language are adopted, which are the embodiment hypothesis, principled polysemy model, invited inferencing theory, and constructional approach to language change. Although focusing on different aspects, these theories all emphasise the intimate relation between linguistic structure and instances of language use by regarding our experience of using language as an important factor in shaping linguistic structure. In the following discussion, we will first introduce the usage-based models of language and then elaborate on the four theories adopted in this study.

2.4.1. **Usage-based Models of Language**

The notion 'usage-based' was first used in a linguistic context in (Langacker, 1987, p. 64); and it is used descriptively by Langacker to distinguish his concept of 'Cognitive Grammar' from 'Generative Grammar' as specified below (Langacker, 1988, p. 131):

> In describing cognitive grammar as a 'usage-based' model of language structure, I have in mind the "maximalist", "non-reductive", and "bottom-up" character of the general approach (as compared to the minimalist, reductive, and top-down spirit of the generative tradition).

The minimalist conception of linguistic knowledge in generative theory considers the grammar of a language as 'the smallest possible set of statements, with all redundancy avoided' (Langacker, 1988, p. 129), indicating that a core grammar consists only of general rules and universal principles. Grammar (and syntax in particular) is treated as 'an independent level or dimension of linguistic structure', or an autonomous system that distinct from both lexicon and semantics (Rudzka-Ostyn, 1988, p. 5). By contrast, the maximalist viewpoint in cognitive grammar regards the linguistic system as 'a massive, highly redundant inventory of conventional units', and the conventional units cover the range 'from full generality to complete idiosyncrasy', which means valid generalizations (represented in cognitive grammar by schematic units) and instantiating expressions can both be included in the grammar provided that they have the status of 'units' (i.e. a cognitive routine which is well 'entrenched' and stimulated as an integral whole) (Langacker, 1988, pp. 130-131; Rudzka-Ostyn, 1988, p. 6). Moreover, the maximalist perspective considers the distinction between semantics and pragmatics (or linguistic and extra-linguistic knowledge) as arbitrary (Langacker, 1988, p.

132), suggesting that there are no well-defined boundaries in both our conceptual ability and the grammar of a certain language.

The reductive spirit of generative theory reflects a minimalist idea on specific structures stating that 'if the rules of a grammar fully describe the composition of a particular structure, that structure is not itself individually listed in the grammar' (Langacker, 1988, p. 127). In other words, the idea that a welled-defied set of expressions should be listed in a grammar has usually been resisted by generative grammarians. On the contrary, cognitive grammar favours a non-reductive perspective, allowing a detailed description and elaboration for an instance of linguistic expression which is more specific than a general pattern or schema would allow to (e.g. a *snake* in a cartoon book is a specific type of reptile with specific size, colour, and behaviour). Rather than taking a 'top-down' approach (being almost solely concerned with general rules and principles), the model of cognitive grammar is said to take a 'bottom-up' approach, which gives considerable attention to the conventional instantiations underlying the general patterns and investigates the 'actual extension of the patterns in question and the factors that influence it'(ibid, p. 132). In other words, the relations between specific instances and schematic patterns (abstracted from specific instances) are central to the grammar of a specific language, which can only be observed by analysing the actual use of linguistic expressions. As have been summarized by Coussé and von Mengden (2014, p. 2), the important theoretical innovation in Langacker's usage-based approach was that 'mental representations are based on usage rather than on an innate language faculty', indicating that the interactions between speakers and hearers in using a particular language are the basis for the development of innate language systems.

Rooted in theoretical works of Langacker (1987, 1988), the usage-based study of language has gained much attention (e.g. Bybee, 2010b; Kemmer & Barlow, 2000; Langacker, 2000); however, since usage-based models of language encompass 'converging ideas within a larger function/cognitive framework' (Coussé & von Mengden, 2014, p. 1), there are misunderstandings regarding what exactly the notion 'usage-based' entails in the descriptions of the usage-based approaches to language. Kemmer and Barlow (2000, pp. viii-xxii) summarizes the following typical assumptions that are shared by most usage-based models:

- the intimate relation between linguistic structures and instances of use of language,
- the importance of frequency,

- comprehension and production as integral, rather than peripheral, to the linguistic system,
- focus on the role of learning and experience in language acquisition,
- linguistic representations as emergent, rather than stored as fixed entities,
- importance of usage data in theory construction and description,
- the intimate relation between usage, synchronic variation, and diachronic change,
- the interconnectedness of the linguistic system with non-linguistic cognitive systems,
- the crucial role of context in the operation of the linguistic system.

The intimate relation between linguistic structure and usage is central to usage-based language studies, which contributes to the definition of 'usage-based approaches' in general. However, there is a degree of uncertainty around the term 'linguistic structure' (Kemmer & Barlow, 2000, p. viii). An underlying claim which has been focused on by most usage-based models is that linguistic 'structures [are] posited by the analyst as a claim about mental structure and operation' (ibid, p. viii). In other words, linguistic structures are assumed to locate in human cognition, and mental structure can be thought to interact with usage in online mental processing. This idea has been termed the 'cognitively-oriented view' (ibid, p. viii), or '**cognition-centred perspective**' (Coussé & von Mengden, 2014, p. 9), which believes that 'the speaker's linguistic system is fundamentally grounded in usage events' (Kemmer & Barlow, 2000, p. viii). The term 'usage events' here are referred to instances of a speaker's language production and comprehension. As concluded by Kemmer and Barlow (2000, p. viii), 'grounded in' means that a speaker's linguistic system is closely related to usage events in three manners: First, a speaker's linguistic system is formed and depended on the instances of a speaker produce and understand. Second, there is a direct relation between the more abstract linguistic representations in the speaker's grammar and the particular usage events experienced by the speaker (ibid, p. ix). It is argued that usage events are essentially specific in nature, which provides any given linguistic utterance with lexical meaning, and the linguistic system is formed by gradually abstracting more general representations (e.g. phonemes, morphemes, and syntactic patterns) from the repetition of similar instances of use (cf. Langacker, 1987, 1988, 2000). The general patterns that abstract away from specific usage events are often called **schemas**, which is defined as 'a cognitive representation comprising a generalization over perceived similarities among instances of use' (Kemmer & Barlow, 2000, p. xxiii). As discussed previously in section 2.3.7, schemas are different to image schemas in which

schemas are based on instances of language use and they reflect how grammar is organized in the mind while image schemes involve recurrent embodied experience.

It is pointed out by Langacker (1988, p. 130) that 'the schema corresponding to a grammatical pattern can be regarded as a template for the construction of instantiating expressions', which means that the schema is a complex structure whose internal organization is matched with the grammatical form, and the schema also captures the relevant features of the instantiating expressions. The coexistence in the grammar of the schema and instantiations have great influence on the computation of novel instantiations, which leads to the third way in which linguistic representations relate to usage: that is, usage events are important to the continuing organizing and shaping of the linguistic system (Kemmer & Barlow, 2000, p. ix). With the help of schema and their instantiations, the speaker can access units of language (from phonemes to constructions) in alternative ways: a unit of language can be activated directly, or it can be computed by using the schema. This suggests that novel instantiations can occur throughout the process of language use since speakers may treat various instantiations as having the status of units (Langacker, 1988, p. 130). It is thus believed that usage events are 'both result from, and also, shape, the linguistic system itself in a kind of feedback loop' (Kemmer & Barlow, 2000, p. ix). In other words, studies on the instances of language use are crucial for us to understand the ways in which linguistic systems are formed and shaped.

Langacker (1987, pp. 65-66) refers to the goal of finding suitable linguistic expression for a conceptualization as the problem of **coding** and its solution as a **target structure**. The target structure is a usage event, which contains a symbolic assembly (form-meaning pair) being used by a speaker in a particular array of circumstances for a specific communicative goal. According to Langacker (1987, p. 58), a symbolic assembly involves the association between a semantic and a phonological structure which can gain unit status. A symbolic assembly is different to a symbol which also contains a form and meaning pair. Unlike a symbolic assembly, the form of a symbol can be represented by elements other than a word or a morpheme such as a road sign or a gesture. A detailed and context-dependent conceptualization and some kind of phonological structure (which is an actual vocalization if in the case of speech.) are associated in the target structure. Therefore, it is argued that it is not the grammar of a language that forms a target structure but a speaker who needs to solve a coding problem in a specific usage event. However, conventional units or schemas do provide the speaker with many symbolic resources, allowing the speaker to choose a linguistic unit based on which his/her concept is represented. But it is the speaker's task of judging the degree of

conventionality (what is termed **construal** by Langacker) in a specific situation to respond to the varied constraints in a real context of use. For theoretical purposes, two kinds of relation between a conventional unit and a target structure are classified by Langacker (1987) (although the contrast is hardly maintained in practice), which are **full sanction** and **partial sanction**. When a target structure conforms to the conventional units in the grammar, these units are described to sanction the usage.

On the other hand, linguistic structures can also be referred to 'hypothesized structures derived by the analyst from observation of linguistic data, with no expectation that such structures are cognitively instantiated' (Kemmer & Barlow, 2000, p. viii). This means that linguistic structures may not directly link to mental structures, and they may be influenced by other factors (e.g. communicative needs, contexts of use, and social beliefs). Although there are two interpretations regarding the content of linguistic structures, the second reading has not received an equal amount of attention compared to the first mainstream one that has been discussed above. Until recently, **a communication-centred perspective** on usage-based models occurs indicating that 'it is at least as plausible to claim that what analysts perceive as linguistic structures are a social or a communicative system'(Coussé & von Mengden, 2014, p. 9). While it may be possible to assume that certain innovative linguistic behaviours are results of an individual speaker's mental processing, it is argued by Coussé and von Mengden (2014) that some conventional understanding prior to the innovation is required in order for the speaker to know that his/her innovative use of a linguistic structure can successfully be understood by other interlocutors. The requirement for conventional understanding (or conventional coordination device) in language use indicates that 'a linguistic system cannot be located exclusively in a speaker's mind, but, in order to be useful in communication, the same system needs to be shared by other speakers of the same speech community to a high degree' (ibid, p. 9). In other words, it is in the communicative activity (or, in fact, speak-hearer interaction) where a linguistic structure occurs and acquires innovative usages. This communication-centred perspective complements the cognition-centred usage-based models by emphasizing the social and communicative aspects of linguistic structures.

It seems that the difference in the two perspectives on linguistic structures leads to either a cognitive system or a social system in the usage-based models. However, we do not wish to strictly separate the two systems and establish an opposition between the cognitive and the community level. Instead, we agree with Peter Harder, one of the chief supporters of the 'Social Turn in Cognitive Linguistics' who argues (Harder, 2012, p. 519) that

> a pragmatically-oriented cognitive linguistics needs to recognize three different but intimately connected objects of description: the flow of usage (1) is the basic level, but in addition there is (2) language as a property of the speech community […], and finally (3) language as a property of individual speakers (that which qualifies them to be members of the speech community).

The quotation above indicates that an innovative linguistic behaviour may arise based on individual speakers' own experience of processing an existing linguistic form, however, the novel usage could not become a conventional unit if it is not shared by most speakers in the language community.

In summary, we believe that adopting a usage-based approach in analysing instances of language use (instances of semantic change in this study) is essential for the following reasons. A usage-based approach (involving both cognition and communication perspectives) can reveal the interactive relations between linguistic structures and usage events, thus providing evidence regarding how the variability of linguistic structures is reflected in language use (e.g. in what way lexical semantic change contributes to polysemy). We acknowledge that the speakers' linguistic behaviour is subject to variation, and it is influenced by individual's cognition, communicative needs, and contexts of language use so that the very essence of a linguistic system is that it is dynamic. In other words, the usage-based models require that we treat the 'modifiability and adjustability' (Coussé & von Mengden, 2014, p. 14) as part of the nature of linguistic structures and hence, of the linguistic system itself.

2.4.2. **The Embodiment Hypothesis**

Two broad approaches to viewing the meaning of linguistic units are generally found in semantics. Traditionally, most analytic philosophers of language (e.g. René Descartes) and Chomskyan linguists believe semantics is to a large extent referential (emphasizing the true or false condition in a word-world reference relationship), and syntactic structures can be resolved to logical relations, while pragmatics can be associated with 'ambiguity, subjectivity, and error' (Rohrer, 2012, p. 25). However, in another approach, the fundamental aim of language is not to describe the world objectively, but to exchange ideas embedded within a cognitive and social situation concerning share experiences (ibid, p. 27). As representing the second approach to language, one of the most fundamental questions of CL is how our physical, cognitive, and social embodiment ground the linguistic categorization and conceptualization (ibid, pp. 26-

27)? Put another way, whether the meanings we express are shaped and constrained by the cognitive, physical, and social embodiment.

The notion of **embodiment** has received considerable attention during the last twenty years in cognitive sciences (see Ziemke, Zlatev, & Frank, 2007). However, due to different contemporary usages, confusion emerges as to what exactly the term 'embodiment' means within CL. According to Rohrer (2012), 'embodiment' consists of at least twelve not entirely independent senses with respect to our cognition, and different senses of 'embodiment' may not be investigated thoroughly in a single research project with a straightforward methodology. Moreover, it would not be possible for a researcher to investigate all the twelve uses of 'embodiment' and produce sound scientific findings (Rohrer, 2012, p. 31). Therefore, it is suggested that 'research projects that build bridges or perform parallel experiments across' the different uses of 'embodiment' become particularly important (ibid, p. 31). In fact, critiques of the embodiment hypothesis have classified many of the senses of 'embodiment' into two broad usages, which could be well described as 'embodiment as broadly experiential' and 'embodiment as the bodily substrate'. In the first group, 'embodiment' refers to 'dimensions that focus on the specific subjective, cultural, and historical contextual experiences of language speakers'; while in another group, the term emphasizes 'the physiological and neurophysiological bodily substrate'. Nevertheless, there are also senses of 'embodiment' that display characteristics from the two groups (ibid, p. 31).

To avoid confusion in the use of the term, the meaning of 'embodiment' must be established at the outset. We regard 'embodiment' as including both the experiential aspects and bodily substrates, indicating that both our physical/bodily experience with the outside world as an individual, and our experience as a community member in a social and cultural group contribute to the definition of 'embodiment'. However, we admit that 'embodiment' is more physical and bodily, which means that it is not everything that we experience falls under 'embodiment'. Therefore, 'embodiment' means that large parts of our conceptual system, and therefore some aspects of our language are structured by the physical/bodily experience we have within a social and cultural background. Let us explain this working definition by introducing some uses of 'embodiment' that we have drawn on in this study.

In the earliest establishment, the embodiment hypothesis came from a recognition about the directionality of metaphorical projection. Lakoff and Johnson (1980) identified that much of the ordinary language we use to describe certain experience is systematically shaped by a

limited number of metaphors, which has been dubbed **conceptual metaphors** (both to distinguish this more systematic idea of metaphor from literary metaphor in traditional view and to emphasize that metaphors are related to cognition and conceptual structure). It was found that the relatively small number of conceptual metaphors mainly rely on domains from bodily experience, and the bodily source domains play an important role in structuring more abstract target concepts. Lakoff and Johnson (1980, pp. 117-119) also argued that 'three nature kinds of experience'- experience of the body, of the physical environment, and of the culture- are composed of 'experiential gestalts' more basic than other concepts, and some of these natural kinds of experience might be universal, others might vary from culture to culture. All of these three kinds of experience were considered as cognitively represented by Lakoff and Johnson (1980).

However, it was criticized that the central principles of Lakoff and Johnson (1980)'s embodiment hypothesis were underspecified, emphasising that the view of 'experiential gestalts' as natural kinds of experience required further explanation (Rohrer, 2012, p. 35). Drawing on the research on spatial relation terms by Len Talmy (Talmy, 1972, 1975, 1978) and Ron Langacker (Langacker, 1976) in the mid 1970's, George Lakoff and Mark Johnson first introduced the term **image schema** simultaneously in 1987 in Johnson's book *The Body in the Mind* and in Lakoff's *Women, Fire, and Dangerous Things.* Johnson (1987, p. XIV) defined image schema as 'a recurring dynamic pattern of our perceptual interactions and motor programs that gives coherence and structure to our experience…' He argued that 'these patterns emerge primarily as meaningful structures for us chiefly at the level of our bodily movements through space, our manipulation of objects, and our perceptual interactions' (Johnson, 1987, p. 29). It means that the spatio-physical properties of the world provide fundamental structures for our sensory perceptions and the conceptualizations which arise from them. For example, the image schema CONTAINER is an image-schematic structure emerging from our recurring experience of physical containment (e.g. putting objects into and taking them out of a box).

In addition, image-schematic conceptual structure can be metaphorically developed and extended as abstract structure of meaning and patterns of thought (Johnson, 1987, p. xxxvi). A given image schema 'can be figuratively developed and extended as a structure around which meaning is organized at more abstract levels of cognition' (Johnson, 1987, p. xx). In line with this view, the reason we can talk about *feeling up* or *down* is because the topology structure (image schema) of UP or DOWN from the source domain is mapped onto the concepts like HAPPINESS or SADNESS in the target domain in conceptual metaphor based on physical

experience of drooping posture or erect posture (Lakoff & Johnson, 1980, p. 15). Accordingly, the internal structure of image schemas could be extended, transformed, and metaphorically projected to give the meanings of English prepositions (e.g. *over*) different but related senses (Johnson, 1987, p. 41). It is also claimed that image schemas can facilitate the construction of abstract concepts such as metaphor (Johnson, 1987; Lakoff & Johnson, 1980) and metonymy (Lakoff, 1987) and later contributes to the historical development of polysemy (Saeed, 2009, p. 364). Cognitive linguists thus proposed that the meanings of polysemy can be characterized by metaphor, metonymy, and different kinds of image schemas (Lakoff, 1987; Lakoff & Johnson, 1980; Sweetser, 1990). Nevertheless, image schemas *per se* cannot account for all the senses of a particular lexical item, some meanings might be acquired from contexts of use (Traugott, 1989; Traugott & Dasher, 2002).

The two uses of 'embodiment' that arise from the work of Lakoff and Johnson on conceptual metaphors and image schemas have become the common understanding of 'embodiment' in CL: the functioning of our bodies with the entire spatio-temporal world play a central role in structuring our conceptual system; and part of our bodily experience makes the conceptual system associated with the recurrent experience meaningful (Johnson, 1987, pp. xix-xxi; Lakoff, 1987). In other words, human experience of the world is mediated by the kinds of bodies we have, and it is the nature of the bodies (our physiology and neural architecture) that largely determine how we experience and interact with the world. It is this bodily experience that gives rise to the conceptual system (or meanings) (Tyler & Evans, 2003, p. 23). Therefore, it has been predicted by Tyler and Evans (2003, p. 24) that 'the concepts expressed by language should largely derive from our perception of spatio-physical experience'. In other words, large parts of the conceptual system are embodied, and spatial-physical experience provides much of the elementary semantic (or conceptual) structure based on which other concepts are constructed.

Accordingly, the spatial properties of the real world we perceive are central to the conceptual structure, and therefore to some meanings of spatial concepts (Tyler & Evans, 2003, pp. 23-24). It is found that certain spatial concepts, such as UP and DOWN, in unrelated languages, for instance, English and Chinese are used to conceptualize the same abstract concepts including psychological state, social status, quantity and time (Lan, 2000, 2002). For example, the increase of quantity is conceptualized in terms of the spatial concept UP which leads to English expressions like *Hope my income rises* and to Chinese expressions like *鸡蛋价格又*

上去了*(ji-dan jia-ge you shang qu le)* 'the price of eggs has gone up again'(Lan, 2000, p. 58). The two examples adopt the same conceptual metaphor MORE IS UP, which arises due to the common experience we all have when pouring more fluid into a container and seeing that the level of the fluid goes up, or adding more things to a pile and seeing that the pile gets higher (Lakoff & Johnson, 1980, pp. 15-16). The examples indicate that our physical interactions with the outside world enable us to have fundamental internalized knowledge regarding the associations of certain concepts (e.g. concepts MORE and UP), and therefore allowing us to assign meanings to specific terms when expressing the concepts being discussed.

Nevertheless, some researchers have suggested that the embodiment hypothesis must go much farther by observing 'embodiment' in a larger context, adding the influence of social and cultural context on the forming of meanings for certain words. Zlatev (1997) and Sinha (1999) for example, have emphasized a return to a more culturally situated theory of embodiment, the term 'embodiment' therefore is also adopted when the body, cognition, and language are situated in social and cultural context. In other words, this view believes that the social and cultural experience we have also play a part in the structuring of our conceptual system. The decontextualized approach to embodiment which separates 'embodiment' from social and cultural context has been criticized. Zlatev (1997, pp. 1-2) has introduced the notion of 'situated embodiment' by emphasising 'bodily dispositions and activities on the one hand, and sociocultural practices on the other'. That is to say, instead of focusing on the interaction between cognition and physical/bodily experience, the 'cultural-cognition' approach to 'embodiment' has extended the notion of embodiment by 'situating' cognition in socio-culturally-based contexts (cf. Sinha, 2002; Zlatev, 1997). Since then, the socio-culturally situated view on language, cognition, and conceptualization has continued to gather steam, especially on the study of metaphors (e.g. Cameron, 2008; Gibbs, 1999; Kövecses, 2000, 2005; Quinn, 1991; Yu, 2008 etc.).

As has also been pointed out by Quinn (1991, p. 65), the choices of particular metaphor are constrained by the structure of cultural understanding, therefore, a felicitous mapping is provided from the source domain onto the parts of the cultural models to form a metaphor. And the 'wide' or 'distributed' view of cognition (Hutchins, 1995; Wilson, 1994) is likely to support the idea that even image schemas, which derive from recurring embodied experiences and which often act as the source domains for conceptual metaphors, might be influenced by culture, especially in the situation where different aspects of the embodied experience are

regarded as particularly salient and meaningful in people's lives from different cultures (Gibbs, 1999, p. 154). For instance, although both English and Chinese conceptualize abstract concept of TIME in terms of a spatial concept, English conceptualizes the concept TIME both horizontally and vertically (e.g. FUTURE IS IN THE FRONT as in *look forward to the challenges ahead of us* and EARLIER TIME IS DOWN as in *up to now*); whereas Chinese conceptualizes it in a different way (e.g. FUTURE IS IN THE BACK as in *后天 the back day* 'the day after tomorrow' and FUTURE IS DOWN as in *下个月 the down month* 'next month'). This indicates that there are different ways of conceptualizing spatial semantic categories cross-linguistically by language users in different cultures (Bowerman, 1996), which makes it significant to investigate the usage of certain spatial terms in a specific language.

This section defines the term of 'embodiment' by emphasizing that embodiment largely relates to the nature of the bodies we have (including both physiology and neurological apparatus) and our perceived physical experience of the world. We acknowledge that embodiment is also influenced by social and cultural aspects, although in a relatively subtle way. It is therefore believed that large parts of our conceptual system (or meanings that we express) are determined by our understanding of the spatio-physical properties of the world, and some parts of the conceptual system (some meanings) are influenced by the social and cultural environments.

2.4.3. **Principled Polysemy Model**

Drawing on previous studies, Tyler and Evans have taken up the challenge of how best to represent the distinct meanings or senses associated with a single lexical form in a particular semantic network with a cognitive linguistics perspective by examining the semantics of a range of English prepositions, such as *over, up, down, in* and *out,* etc.(Tyler & Evans, 2001, 2003). They have built up the term image schema by considering functional elements, and named it as mental representation. In addition, **Principled Polysemy Model** (hereafter PPM) of English prepositions has been developed by them, stating that there is a primary sense for a preposition and other distinct meanings associated with it comprise the polysemy network of that preposition.

Scholars in previous studies have often dissented over which sense should be considered as primary or central. For instance, Lakoff (1987, p. 419) following Brugman (1983), argued that the primary sense for *over* is 'above and across' as in sentences such as *The plane flew over the city*. While Kreitzer (1997, p. 308),suggested that the primary sense for *over* is more like

an ‘above’ sense as in *The hummingbird hovered over the flower*. The criteria for determining the centrality and periphery of a particular lexical category have been left unarticulated. Therefore, building upon Langacker (1987, p. 376)’s idea that there are substantial varieties of evidence to specify the structure and membership of a complex category, Tyler and Evans (2003, p. 47) have provided a more methodical approach to determine the suitable primary sense for individual spatial particles. According to them, **converging evidence** can be adopted in narrowing the fuzziness of selecting a primary sense.

The linguistic evidence raised by them includes the following criteria (Tyler & Evans, 2003, p. 47): (1) earliest attested meaning, (2) predominance in the semantic network, (3) use in composite forms (Langacker, 1987), (4) relations to other spatial particles, and (5) grammatical predictions (Langacker, 1987). Firstly, the historical evidence shows that for the English spatial particles they have examined, the earliest attested meanings are most likely to be the primary senses and they are pertinent to a spatial configuration holding between the **trajector** (TR) and the **landmark** (LM). The terms TR and LM were borrowed from Langacker (1987) which represent two salient entities or participants encoded by a spatial expression. A TR is usually considered ‘salient as the one being assessed in regard to location, properties or activity’ (Langacker, 2015, p. 130) and a LM has ‘a salient role in assessing the trajector’. For instance, in an expression describing a spatial relation such as *The lamp is on the table*, the lamp represents the TR while the table represents the LM. Secondly, the notion of predominance within a semantic network means that the unique spatial configuration (i.e. TR and LM configuration) is in the majority of the distinct senses found in the network. For instance, it has been found that among the fifteen distinct senses of the particle *over*, eight directly involve the TR being located higher than the LM, suggesting that the primary sense for *over* involves a TR being located higher than the LM. Thirdly, it has been suggested by Tyler and Evans (2003, p. 48) that failure to participate in composite forms (such as *look over*) can be considered as evidence that the particular sense is not primary in the network. For example, in the case of *over*, it has been found that no attested composite lexical units contain the On-the-other-side-of Sense as in *Arlington is over the river from Georgetown*. However, a number of composite units involve the sense of a TR being located higher than the LM, as in *overhang*, which suggests that the ‘TR is higher than the LM’ sense is a more plausible candidate for the primary sense than the On-the-other-side-of Sense. In addition, as has been argued by Tyler and Evans (2003, p. 49), the particular sense used in the formation of a contrast set, such as *over* and *under*, *above* and *below*, would seem to be a possible candidate as a primary sense. For

example, in the case of *over*, the sense that distinguishes *over* from *above*, *under* and *below* involves 'the notion of a TR being located higher than but potentially within reach of the LM'. Finally, the last criterion of grammatical predictions has suggested that the sentential context a particular particle is used can provide additional information regarding the distinct sense, and that a primary sense can be traceable from its distinct sense and the context in which the distinct sense occurs. For example, the distinct, Covering/obscuring sense of *over* can be derived from its primary sense (i.e. 'higher than') and the context such as in the sentence *The tablecloth is over the table*. In this example, the fact that the tablecloth is higher than the table and our knowledge regarding the size and viewing position of the tablecloth all together contribute to the distinct Covering/obscuring for *over* (see Tyler & Evans, 2003, p.44 for a detailed discussion).

Tyler and Evans (2003) have introduced the notion of **spatial scene**, which is 'an abstract representation of a recurring real-world spatio-physical configuration mediated by human conceptual processing'(p. 50). Put in another way, a spatial scene is an abstract reflection of our interactions with the spatial-physical world in our minds. A spatial scene contains both a spatial configuration (i.e. TR and LM) and a functional element (i.e. the interaction between a TR and LM). The concept of spatial scene is developed from image schema, however it emphases the functional elements occurring in the interactions between a TR and LM in a particular situation. For instance, in the expression *The infant is in her playpen*, the LM (i.e. playpen) has the function to contain and delimit the TR's (i.e. infant) range of activity. Following Langacker (1987)'s idea of **construal**, Tyler and Evans (2003, p. 53) have also indicated that a spatial scene can be viewed in different ways. The notion of **proto-scene** has also been introduced by Tyler and Evans (2003, p. 52) to distinguish a primary sense of a spatial particle and other distinct senses that are derived from the primary sense. A proto-scene is 'an idealized mental representation across the recurring spatial scenes pertained to a particular spatial particle', which is an abstraction includes all the general features of similar spatial scenes. The term *proto* reflects the 'idealized conceptual relation', while *scene* stresses 'spatial-physical and hence perceptual awareness of a spatial-physical scene'(Tyler & Evans, 2003, p. 52).

In addition, as described in the quotation below, Tyler and Evans (2003, pp. 42-43) have proposed two criteria for determining if a particular instance of a spatial particle considers as a distinct sense. The first criterion indicates that the distinct meanings are not strictly spatial in

nature, and/or the spatial configurations (i.e.TR and LM configuration) in the distinct meanings are different to those found in other senses. The second criterion emphasizes that the distinct senses cannot be relied on other usages and the specific contexts of use. For example, as in the instance *The hummingbird hovered over the flower*, *over* indicates a spatial relation in which the TR (i.e. the hummingbird) is located at a place higher than the LM (i.e. the flower), there is no additional meaning encoded in the TR-LM configuration. However, in expressions such as *John nailed a board over the hole in the wall*, the TR (i.e. the board) is located at a place next to the LM (i.e. the wall), which contains a distinct configuration. Moreover, only by looking at the sentence itself, we cannot get the information that the TR covers the LM, therefore it is *over* which designates a sense of covering the hole and obscuring it from view.

> First, for a sense to count as distinct, it must contain additional meanings that not apparent in any other senses associated with a particular form, that is a distinct sense must involve non-spatial meanings or a distinct configuration between the TR and LM than found in the proto-scene. Second, there must be instances of the sense that are context independent, that is, in which the distinct sense could not be inferred from another sense and the context in which it occurs.

Tyler and Evan's PPM represents a clear-cut and far reaching theory of polysemy which has provided a rigorous method to distinguish the various senses (both the spatial and non-spatial) associated with spatial particles. In addition, by taking into account the context English preposition under study occurs, a usage-based insight has been adopted to the analysis of English prepositions. Nevertheless, Tyler and Evan have only focused on the contemporary usage of English prepositions which has ignored the relations between synchronic polysemy and diachronic semantic change. Moreover, Tyler and Evans' analysis (2003) have been based almost exclusively on English prepositions which need to be integrated with cross linguistic evidence for testifying the hypothesis in regarding to universal application. In Chapters 4 and 5, we will apply PPM to testify the various senses of *shang* occurring from Archaic Chinese (AC) to Contemporary Chinese (CC).

2.4.4. **Invited Inferencing Theory**

Drawing on several strands of research and focusing on both cognitive and functional issues, Traugott and Dasher (2002) have proposed an *Invited Inferencing Theory of Semantic Change* (hereinafter IITSC) which includes cognitive studies of linguistic meanings, pragmatics of the conventionalizing of implicatures, and discourse analysis on the interaction of grammar and use in written texts. In this approach, the dynamic nature of language change is emphasised,

involving the interactions between speakers/writers (S/Ws) and addressees/readers (AD/Rs), and the processes they bring 'on-line' to the act of language use (ibid pp. 7-9). The active role of the S/Ws in contexts is highlighted since they evoke implicatures and invite AD/Rs to infer them (ibid, p. 5).

Building on Levinson (1995)'s classification, three levels of meaning relevant to a lexical item are distinguished in Traugott and Dasher (2002, pp. 16-17) (although the distinctions sometimes overlap): (1) *coded meanings*; (2) *utterance-type meanings*; and (3) *utterance-token meanings*. As for the first kind of meaning, it is 'a convention of a language at a given time'. For example, in present day English, two coded meanings 'from the time that' and 'because' are associated with the conjunction *since*. Utterance-type meanings are what Traugott and Dasher (2002) called the generalized invited inferences (GIINs), which are 'preferred meanings, and conventions of use in language-specific communities, but may be cancelled.' For instance, being used as a preposition, *after* may imply causality as in *After the trip to Beijing he felt very tired* +> 'because of the trip he felt very tired.', however, 'causality is not a coded meaning of *after,* and is easily cancelled' as in *After the trip to Beijing he felt very tired. It turned out he had been sick for quite some time* (Traugott & Dasher, 2002, p. 12). The third type of meanings is termed invited inferences (IINs) by Traugott and Dasher (2002), which "have not been crystallized into commonly used implicatures (and) they arise in context 'on the fly'"(p. 17). Therefore, it is possible to see that an IIN may not become a GIIN in a language.

The IITSC explains the historical procedures of a pragmatic meaning being conventionalized and reanalysed as a semantic meaning. The process indicates that 'grammars do not change by themselves, but in language use' (Traugott & Dasher, 2002, p. 35). Or to put it differently, language change occurs in language use through the repeated occurrence of a specific usage event (see Bybee, 2003, 2010b), and language use can further shape a linguistic structure, which is like a kind of 'feedback loop' (this is a notion first employed by Kemmer and Barlow (2000, p. ix) when accounting for the interaction between usage events and linguistic structures). In Chapters 4 and 5, we will analyse the innovative meanings of *shang* that are formed by invited inferences.

2.4.5. **Constructional Approach to Language Change**

It has been suggested from a synchronic perspective by several researchers in cognitive linguistics, such as Goldberg (2006) and Langacker (2008), that language is considered as being formed by form-meaning pairings or 'constructions' organized in a network. Drawing on a number of insights from the constructional accounts of language, especially Cognitive Constructional Grammar (e.g. Goldberg, 1995, 2006; Lakoff, 1987) and Radical Construction Grammar (Croft, 2001, 2013), Traugott and Trousdale (2013) have proposed a constructional approach to language change, which applies a constructional framework to work on grammaticalization and lexicalization and provides ways to explore the creation of and the nature of changes in constructions (i.e. form-meaning pairings). Three assumptions are fundamental to Traugott and Trousdale (2013, p. 2)'s approach: firstly, 'while certain features of grammar (e.g. networks, hierarchic organization and inheritance) may be universal, and shared with other cognitive systems, grammar itself, understood as knowledge of a linguistic system, is language-specific', which means grammar is associated with the structure of an individual language such as English or Chinese; secondly, 'change is change in usage', indicating that the focus of change is on an instance of use; thirdly, change and innovation should be distinguished, in which 'innovation (i.e. a feature of individual mind) is only potential for change', and a change occurs when an innovation has been 'replicated across populations of speakers resulting in conventionalization'. In other words, innovation is considered as a change when it has been integrated 'in a tradition of speaking or writing, as evidenced by textual materials left to us'(ibid p. 2).

Following Goldberg (2006), the notion of a 'construction' in Traugott and Trousdale (2013) includes words, partially filled words (e.g. V-*ing*), complex words, idioms as well as phrasal linguistic patterns. Two main types change are focused on in Traugott and Trousdale (2013, p. 1):

1. Constructional changes: changes that affect features of an existing construction but do not lead to a new construction, e.g. semantics (will-'intend'>future), morphophonology (will>'ll), collocational constraints (expansion of the *way*-construction to include verbs denoting actions accompanying creation of a path, e.g. *whistle one's way home*), etc.
2. Constructionalization: the creation of a $form_{new}$-$meaning_{new}$ pairing.

According to Traugott and Trousdale (2013, p. 34), several contextual factors are involved in helping the analyst to identify the constructional changes that take place before

constructionalization, which normally includes ‘expansion of pragmatics, semanticization of that pragmatics, a mismatch between form and meaning, and some small distributional changes’. These changes are called ‘pre-constructionalization constructional changes’ (PreCxzn CCs for short). In turn, further constructional changes may occur after the constructionalization, which are called ‘post-constructionalization constructional changes’ (PostCxzn CCs for short). These changes typically involve ‘expansion of collocations, and may also involve morphological and phonological reduction.’ Therefore, the succession of changes involved in constructionalization contains PreCxzn CCs, constructionalization (Cxzn for short) and PostCxzn CCs. It can be seen that there is a succession of micro-steps before the creation of a new node in a network. However, Traugott and Trousdale (2013, p. 38) admit that there also exist instantaneous or ‘on-the-spot’ changes, which contains words that are borrowed from other languages (e.g. *sushi*) or words formed by conversion (e.g. *to google*).

Another aspect that has been highlighted by Traugott and Trousdale (2013, p. 56) is that ‘constructions are linked in a network, with more schematic constructions sanctioning those lower in the taxonomy’. It means that a network has nodes that are represented by schemas, subschemas, and mirco-constructional type and that each node contains different properties of its dominating nodes. In Chapter 6, we will discuss Traugott and Trousdale (2013)’s approach in more detail and apply it to the analysis of the various constructions containing *shang*.

2.5. Research Questions

Tracing the semantic change based on instances of *shang* in Chinese, this study aims to answer the following questions:

1. What can diachronic semantic change tell us about synchronic polysemy? To be more specific, what are the lexical source and evolutionary paths (from both semantics and grammatical aspects) of Chinese polysemous spatial term *shang*; how do various senses of *shang* develop in various diachronic stages to form multiple related meanings synchronically?

2. How do conceptual metaphors and pragmatic inferences contribute to the semantic change and polysemy of Chinese spatial term (i.e. *shang*)? To be more specific, what roles do conceptual metaphors and pragmatic inferences play on the various meanings of *shang* in every historical period?

3. Can we apply the constructional approach to the analysis of Chinese spatial terms? To be more specific, how do constructions containing *shang* develop and form a network; whether the development of various constructions containing *shang* affects the semantic change of *shang*?

4. What roles do other contextual factors play in the semantics of Chinese spatial term (i.e. *shang*)? To be more specific, how do various contextual factors, including collocates, constructional meanings, frequency of use and genre types contribute to the usages of *shang*?

2.6. Summary

We expect that an in-depth study on the various usages of a Chinese spatial word *shang* based on authentic language data from AC to CC can shed light on the semantic change and grammaticalization of Chinese locative terms and reveal the interactions between older and newer meanings of a spatial word. In addition, a historical analysis on the instances of *shang* based on conceptual metaphors and pragmatic inferences can display how embodied experience and encyclopedic knowledge contribute to the development of a linguistic form and lead to its current semantic network. Furthermore, by investigating the development of constructions containing *shang*, this study can reflect the relations between constructions in a network. Generally speaking, this study is able to show the way conventional units sanction new usages and how language use reshapes a linguistic structure.

Chapter 3. Data Collection and Processing

This chapter introduces the data sources and demonstrates how the data for all the following analysis in this thesis are collected and processed. We use Tyler and Evans (2003)'s Principled Polysemy Model to testify the various senses associated with the spatial word *shang* and we also adopt Traugott and Trousdale (2013)'s constructional approach to analyse the constructions containing *shang*. I will first illustrate the isolating nature of the Chinese language that pertains to the diachronic development of *shang* in both its meanings and grammatical functions.

3.1. The Isolating Nature of Chinese Language

It is important to point out at the outset that the Chinese language family consists of many varieties which are traditionally considered as 'dialects' (they are usually classified as separate languages by scholars outside of China), although they may be different from one another in the sense of being mutually unintelligible (i.e. northern versus southern dialects) (C. N. Li & Thompson, 1981, p. 2). Therefore, if without further differentiating, what we mean by Chinese language or Chinese in the following discussion is within the scope of Mandarin Chinese, i.e. the official language of China that was established based on the Beijing dialect. Compared to languages such as Latin and Turkish that have a relatively rich inventory of suffixes and prefixes (or even English that has minimal agreement marking), the Chinese language manifests very little morphological complexity in terms of inflectional and derivational morphemes (ibid, p. 11). Such a language has been referred to an isolating language. However, it should be noted that Chinese (especially Contemporary Chinese) is relatively rich in another type of morphological combination, that is compounding (ibid, p. 13) and there are some suffixes in Chinese too.

Chinese displays a rich and continuous body of historical data with the earliest record of more than 3000 years (Xing, 2012, p. 3). There seem to be no major typological shifts in the writing system that makes Archaic Chinese completely unreachable by speakers of Contemporary Chinese nowadays (at least most characters are still recognizable and we still can get the meanings of some words from AC), but the word structure, functions of words, and word order etc. all changed over the past 3000 years. It is also believed that the isolating nature of the Chinese language contributes to the 'accretion' of meanings in the development of Chinese lexemes (see Xing, 2004, 2006, 2012). Therefore, before introducing the result of our study on

shang, it is important to demonstrate the isolating nature of the Chinese language at three levels: morphological, syntactic and discourse levels.

3.1.1. **At the Morphological Level**

Two typological parameters of Chinese at the morphological level relate to the diachronic development of a linguistic item such as *shang*, which are (1) the structural complexity of words; (2) and the number of syllable per word (C. N. Li & Thompson, 1981, p. 10). Regarding the first aspect, the morpheme in Chinese mostly corresponds to an orthographic character (i.e. a single syllable). In addition, there is no agreement as to grammatical categories like number, case, gender, tense, mood, etc. (Xing, 2012, p. 5). The only plural marking in Chinese is the suffix 们 (men) that attaches to singular pronouns. Such morphological features that are seen in every historical stage of Chinese language to some extent affect the development of polysemies in Chinese. The same word, such as the spatial term *shang* that is analysed in this study, performs various grammatical functions in different periods of Chinese language, including being a subject, object, adverb, postposition, main verb, or verb complement. It is evident that the unmarked word structure in Chinese allows 'flexibility and relative freedom' in the interpretation of the grammatical functions of a single lexical word, which accordingly can lead to the co-existence of various meanings of the same lexical item (i.e. the polysemous feature) (Xing, 2012, p. 5).

Two different views are seen regarding the normal number of syllable per word in Chinese depending on how the notion of 'word' is defined. If we believe the idea that 'word' is equated with 'character', then Chinese can be considered as a monosyllabic language, since each character corresponds to only one syllable in the spoken language (C. N. Li & Thompson, 1981, p. 13). Thus, there are two words in expressions such as 上帝 (*shang di*) 'lord'. However, the term 'word' can also be regarded as 'a unit in the spoken language characterised by syntactic and semantic independence and integrity' (ibid, p. 13). In line with this perspective, disyllabic or polysyllabic forms, e.g. 上帝 (*shang di*) 'lord', constitute single words even though they are written with two or more characters. However, there seems to be a general agreement that Chinese in its earliest days appears to have been a monosyllabic language (e.g. Hannas, 1997, p. 8; C. N. Li & Thompson, 1981, p. 14). We thus hold the view that Chinese was at first a monosyllabic language with every word consisting of only one morpheme but it shows a tendency to become a disyllabic or even polysyllabic language with one word including two or more morphemes. According to Dong (2002, p. 7), monosyllabic words were predominant in

AC. Disyllabic words first appeared in Early Western Zhou (approximally 10th c. B.C.), and the number of disyllabic words increased from Spring and Autumn period (approximally 770 to 476 BC) (X. Guo, 1994; Z. Ma, 1980). In Eastern Han period (approximally 206 BC to 23 AD) disyllabic words further developed (Cheng, 1992; Fang, 1996) and they comprised the main lexical system in Tang dynasty (618-907) (Q. Zhu, 1990). As argued by Dong (2012, p. 237), disyllabic words, mostly being compounds, are formed by combining two morphemes or characters. For instance, the disyllabic word or compound 上帝 (*shang-di*) 'lord' was formed by combing characters/words 上 (*shang*) 'above' and 帝 (*di*) 'lord', and the independent word 上 (*shang*) in 上帝 (*shang-di*) was originally a modifier preceding the independent nominal 帝 (*di*) in a clause. According to Dong (2012, p. 237), most disyllabic words in Chinese emerged through the reanalysis of phrases containing two monosyllabic lexical words. This is a process of lexicalization in which the word boundary between two monosyllabic words are lost, and a single disyllabic word is established. After the lexicalization, the meaning of one morpheme in the disyllabic word, such as 上 (*shang*) 'above' in 上帝 (*shang-di*) may become vaguer.

3.1.2. **At the Syntactic Level**

The lack of agreement marking in Chinese makes it difficult when classifying the semantic relations between syntactic units at the sentence level (Xing, 2012, p. 8). In other words, the semantic and/or grammatical roles of morphemes in sentences of Chinese may not be easily discovered in the first place when compared to those languages (e.g. Latin) that have clear markings for the case, tense and/or mood. However, we can still identify the semantic relations between various morphemes in Chinese sentences relying on two aspects: the 'topic' and the word order of a sentence. It is recognized that in addition to the grammatical relations of 'subject', and 'direct object', the description of Chinese must also involve the element 'topic' since Chinese is a 'topic-prominence' language that sets it apart from subject prominent languages (C. N. Li & Thompson, 1981, p. 15). A topic is basically what a sentence is about. It always comes first in a sentence and describes things that are assumed to be known by the listeners. The 'topic-prominence' feature of Chinese language leads to another characteristic, that is, the flexible word order. For example, it is found that most instances of *shang* are in the postverbal position in EAC as shown in the example (3.1), but there are more instances of *shang* that occurred in the preverbal position in LAC as displayed in example (3.2). One reason for *shang* to appear in the preverbal position in example (3.2) is that it represents the topic of the sentence, that is 'the situation of being at a place'. However, the topic in sentence (3.1) is the 'the divinity of the king that is at a place'.

(3.1) *Wen-wang* *zai* ***shang*** (EAC: The Classic of Poetry)
Wen-king be-located **above** (postposition)
'(The divinity of) Wen-king is in the high region of sky/ the highest region of space.'

(3.2) ***shang*** *ke* *er* *li* *tian* (LAC: Mozi)
above (norminal) can CONJ benefit sky
'(Being) at the high or highest part, (it) can benefit the sky.'

3.1.3. **At the Discourse Level**

The lack of inflectional morphology in Chinese can best be determined at the discourse level. Here 'discourse' is understood as consisting of words that make up a sentence/sentences. As argued by Xing (2012, p. 9), Chinese sentences are arranged by the logical relation of 'cause/reason-result'. The relatively fixed discourse structure, a feature of isolating languages, can help us identify the interpretation of a Chinese clause and the meaning of a lexical item in the clause. For instance, as shown in the example (3.3), the meaning of the verb *shang* describes a result of the motion 'pushing' that is represented by the verb 推 (*tui*) 'push'. The 'cause/reason-result' logical relation that is embedded in the discourse is that 'when somebody is pushed by others, he/she will be at a higher position'. Verbs that are used to describe two or more related events in a sentence are termed a serial verb construction (C. N. Li & Thompson, 1981, p. 595).

(3.3) *shi-gu* *tui* *er* ***shang*** *zhi* (LAC: Mozi)
so push CONJ **above** (causative verb) PRO
'So push (them) and make them being at a higher social position'.

As shown in the above discussion, the isolating nature of Chinese language requires us to rely on the sentential contexts when classifying the meanings and grammatical functions of a linguistic item. The flexible interpretations regarding the grammatical functions and meanings of *shang* (especially before the period of Contemporary Chinese) indicate that the meanings and grammatical functions of a word (such as *shang*) in a clause of Chinese can be easily coerced into an interpretation that fits the contextual meaning of the whole sentence. Therefore, aspects that might affect the diachronic development of *shang* in specific usage events need to be investigated including the types of word that are often used with *shang*, the grammatical functions and meanings of *shang* in each clause, the overall meanings and the word orders of the clauses where *shang* occurs.

3.2. Data Collection and Processing

3.2.1. **Data Source**

The authentic Chinese language data in diachronic corpora provides us with the best way of tracing the diverse meanings of the locative term *shang*. However, there is not a single corpus that contains texts or written works of Chinese language produced in periods from archaic to a more recent time in the 21st century. Moreover, although it is better for us to investigate all the usages of a specific linguistic item in a large historical corpus, it can be difficult and time-consuming in a real practice since many repeated usages may be found in a single diachronic corpus that contains large number of texts. Therefore, representative texts and written works from three Chinese corpora are selected, which comprise the source of the data in the current study. The three Chinese corpora are Corpus from the Centre for Chinese Linguistics at Peking University (CCL corpus), Sheffield Corpus of Chinese (SCC) and the second edition of the UCLA Written Chinese Corpus (UCLA2). The detailed information of the three corpora and reasons for adopting certain texts or written works in these corpora are introduced below.

Corpus from the Centre for Chinese Linguistics PKU (CCL corpus) (See: http://ccl.pku.edu.cn:8080/ccl_corpus/) is built by the Centre for Chinese Linguistics, Peking University, China with the aim of collecting Chinese written texts that cover different eras as large as possible for using in Chinese language research and teaching. The texts written in ancient Chinese in the CLL corpus contain approximately 163 million Chinese characters produced in periods from Zhou Dynasty to the Republic of China (that is approximately from the year of 1046 B.C. in Early Archaic Chinese to 1949 in Modern Chinese). And the texts written in contemporary Chinese contain 509 million Chinese characters with texts appearing after the year of 1949 (when the People's Republic of China was founded). The advantage of the CLL corpus is that it contains the largest amount of historical Chinese language data currently available online. Therefore, we collect most instances of *shang* in Archaic Chinese (AC), Medieval Chinese (MC) and Modern Chinese (MOC) from the CCL corpus. However, the text types or types of genre were not distinguished in the CLL corpus, and the contemporary texts included in the CLL corpus were mainly produced around the time of the mid-1990s. Another problem of the CLL corpus is that some historical works in a classic book written by both the original writer in an earlier time and an editor in a later stage are considered as representing a single work that is produced at the same time (such as texts in the book *尚书 'The Classic of History'*), mixing the language features or styles of different historical periods.

Therefore, texts in other two corpora are considered in this study for purposes of supplement and remediation.

Sheffield Corpus of Chinese (SCC) (See: https://www.hrionline.ac.uk/scc/db/scc/index.jsp) provides 'an extensive digital resource for historical Chinese texts covering different text types and genres and arranged in different time periods'(X. Hu, Williamson, & Mclaughlin, 2005, p. 281). The historical texts from the SCC are divided based on their time of occurrence in reference to the chronological framework proposed by Peyraube (1996), including Early Archaic Chinese (EAC, 10^{th}-6^{th} c. B.C.), Late Archaic Chinese (LAC, 5^{th}-2^{nd} c. B.C.), Pre-Medieval Chinese (Pre-MC, 1^{st} c. B.C.- 1^{st} c. A.D.), Early Medieval Chinese (EAC, 2^{nd}-6^{th} c.), Late Medieval Chinese (LMC, 7^{th}-mid-13^{th} c.), Pre-Modern Chinese (Pre-MC, mid-13^{th}-14^{th} c.), and Modern Chinese (MC, 15^{th}-mid-19^{th} c.). We adopt this chronological framework when collecting our data. The historical texts selected in the SCC represent a wide range of kinds of writing found in the different time periods and are structured in two main text types – literary and non-literary. Both types contain texts of different genres. The inclusion of texts in different time periods of the SCC depends on original dates of production of the texts rather than the printed dates of some old texts. The SCC allows us to search for all occurrences of *shang* in specific texts, and these searches can also be restricted by types of genre and periods of occurrence time. Unlike the CLL corpus, contents in the same historical works modified by editors or scholars in a later period are excluded in the SCC corpus, which enables us to collect historical texts occurred in a specific period. The SCC is therefore used in this study to provide historical texts that are not found in the CCL corpus and remove data in the CLL corpus that do not exactly represent works written in a specific period. However, since there are not many texts that are included in the SCC, historical texts in this study are mostly collected from the CLL corpus.

Three factors are considered when select historical texts in SCC and CLL corpora, which are the original time when the texts in selected books or essays were produced, the types of genre represented by the texts, and the popularity and representativeness of the books or essays written in a specific time. The text types were quite limited in AC in which philosophical texts were dominant. Philosophical texts contain many conversations or stories which are comparable with the contemporary data. In order to balance the type of text in AC, we also include texts describing history, warfare, legal works and poetry. To ensure the diversity and compatibility, genres of texts selected in MEC and MOC include fiction, natural science, novel, and poems. Table 3.1 below shows the features of texts in classic books that are selected from

SCC and CLL corpora. These historical texts comprise the data sources of AC, MC, and MOC in this study.

Chronological Framework	**Corpus**	**The Book Title of Texts**	**Time of Production**	**Types of Genre**
Early Archaic Chinese (10^{th}-6^{th} c. B.C.)	CCL	Classic of Poetry	11^{th}-7^{th} c B.C.	Poetry and song
	SCC	The Classic of History	6th c B.C.	History
	SCC	The Classic of the Way and Virtue	6th- Early 5th c B.C.	Philosophical text
	SCC	The Art of War	515-512 B.C.	Warfare
Late Archaic Chinese (5^{th}-2^{nd} c. B.C.)	CCL	Mozi	476–221 B.C.	Philosophical text
	CCL	Analects	475-221 B.C.	Philosophical text
	CCL	Mencius	372-289 B.C.	Philosophical text
	SCC	The Book of Lord Shang	From the 3rd c B.C.	Legal works
	CCL	Great Learning	221-206 B.C.	Philosophical text
	SCC	The Doctrine of the Mean	221-206 B.C.	Philosophical text
Pre-Medieval Chinese (1st c. B.C.- 1st c. A. D.)	CCL	Huainanzi	Before 139 BC	Philosophical text
Early Medieval Chinese (2nd – 6th c.)	CCL	A New Account of the Tales of the World	420–479	'Minor talk' or fiction

Late-Medieval Chinese (7^{th}-mid 13^{th} c.)	CCL	Three Hundred Tang Poems	618 - 907	An anthology of poems
	CCL	The Dream Pool Essays or Dream Torrent Essays	1086-1093	Natural science
Pre-Modern Chinese (mid-13th-14th c.)	CCL	Romance of the Three Kingdoms	14th century	Historical novel
Modern Chinese (15th -mid 19th c.)	CCL	The Travels of Lao Can	1903	Fiction

Table 3.1 Data sources of AC, MC, MOC

Second Edition of UCLA Written Chinese Corpus (UCLA2) (See: http://www.lancaster.ac.uk/fass/projects/corpus/UCLA/) is designed as a Chinese counterpart for the Freiburg-LOB Corpus of British English (FLOB) and the Feiburg-Brown corpus of American English (Frown) for contrastive research, as well as a recent update of the Lancaster Corpus of Mandarin Chinese (LCMC) for diachronic studies of possible changes in written Chinese from the years of 2000 to 2012. The samples in the corpus are all collected from written contemporary Chinese available from the internet, during the periods of 2000-2012, though some texts may have been converted from paper-based publications in earlier years. The UCLA2 covers a variety of genres including reportage, editorials, reviews, religion, skills, trades and hobbies, popular lore, essays and biographies, reports and official documents, academic prose, general fiction, mystery and detective stories, science fiction, adventure stories, romantic fiction, and humour. Since the contemporary texts that were included in the CCL corpus were mostly written in the mid-1990s and works were not classified based on the types of genre in the CCL corpus, we collect our data of Contemporary Chinese from the UCLA2. As shown in Table 3.2 below, written works in the following types of genre from the UCLA2 are selected as the sources of CC. The reason for choosing written works in the

following types of genre is because we try to maintain the consistency of genre types when compared with those selected texts in AC, MC, and MOC in corpora of SCC and CLL.

Contemporary Chinese (mid-19th-20th c.)	General fiction
	Science fiction
	Reportage
	Academic writing
	Romance stories

Table 3.2 Data sources of CC

3.2.2. **Data Collection**

With the searching tools that are available online in the three corpora, we first search for character 上 (*shang*) in the selected texts and written works, and then manually collect all the concordance lines containing instances of *shang*. Most instances of *shang* appearing in the concordance lines are collected and analysed in this study. However, only every third instance of *shang* that occur in texts of *Mozi*, *Romance of the Three Kingdoms* and *The Travels of Lao Can* are collected since there are too many instances of *shang* in these texts. Likewise, every third instance of *shang* appearing in written works of different genres in CC is collected to limit the number of instances. Instances of *shang* that represent other phonetic loan characters such as 尚 *(shang*) 'hope' are manually deleted. Table 3.3 demonstrates the token frequencies of *shang* collected from the selected texts and written works in the three corpora in different periods of Chinese language.

	Tokens of *Shang*
Early Archaic Chinese (10th-6th c. B.C.)	122
Late Archaic Chinese (5th- 2nd c. B.C.)	360
Pre-Medieval Chinese (1st c. B.C.- 1st c. A. D.)	319
Early Medieval Chinese (2nd – 6th c.)	138
Late-Medieval Chinese (7th-mid 13th c.)	287
Pre-Modern Chinese (mid-13th- 14th c.)	303
Modern Chinese (15th -mid 19th c.)	389
Contemporary Chinese (mid-19th-20th c.)	831

total	2749

Table 3.3 Token frequencies of *shang*

3.2.3. **Data Processing**

All grammatical functions and meanings of instances *shang* in the clauses of the concordance lines are first analysed and classified. Four kinds of resource and reference are relied on when making the classifications, which are materials that provide interpretations of selected historical works (e.g. B. H. Li, 2008; T. Liang, 2010; Z. Sun, 2013), Chinese language dictionaries (Chen, 2003; Lü, 1999), grammar books (C. N. Li & Thompson, 1981; Y. Liu, 1998; J. Lu, 2013; B. Yang & He, 2012), and previous studies on *shang* (e.g. Peyraube, 2003; Tong, 2006; P. Xiao, 2009; H. Zhang, 2002). By consulting these references, we aim to restrict the subjectivity of classification. However, it is admitted that we have to rely on native speaker's intuition when judging the meanings of *shang* in certain cases.

When analyzing the data, the meanings and grammatical functions of *shang* that often occur and usages of *shang* that are more distinctive from others in texts of certain stage are paid more attention. Both cognitive and contextual motivations associated with the more innovative usages of *shang* in different periods are provided based on theoretical framework of usage-based language studies. By looking at the concomitant contexts where *shang* occurs, we decide whether the innovative usages of *shang* are due to conceptual metaphors, pragmatic inferences, types of collocates or changes of constructional meanings.

Firstly, Sullivan (2007)'s method in distinguishing metaphor from inferencing-based change is adopted. For unequivocal metaphoric changes, we show the well-recognized underlying metaphor (like MORE IS UP) and explain why the extension could not have been inferencing. For inferencing-based extensions, we show the early ambiguous examples in which the inference may have begun and then provide a later example in which the extended sense is unambiguous to prove that the extended meaning has become a generalized invited inference. In addition, we also display the overlap between metaphoric extension and invited inferencing and show why and how the two mechanisms work together in motivating the innovative meaning of *shang*.

Secondly, Tyler and Evans (2003)'s Principled Polysemy Model is adopted to distinguish senses of *shang*. The primary sense of *shang* is provided based on the five linguistic evidence

suggested by Tyler and Evans (2003, p. 47) , which are the earliest attested meaning; predominance in the semantic network (i.e. the unique TR-LM configuration that is involved in most distinct senses of *shang*); use in composite form (i.e. *shang* in *shang di* 'the lord' and *shang tian* 'the sky'); relations to other spatial particle (i.e. *shang*'s meaning in relative to *xia* 'below'); and the grammatical predication (i.e. the contexts in which *shang* is used can provide information regarding the relations between primary and distinct senses). Innovative meanings of *shang* are claimed to be polysemous or distinct based on the two criteria provided by Tyler and Evans (2003, pp. 42-43): a distinct sense of *shang* should involve non-spatial meanings or a distinct configuration between the TR and LM than the one found in the primary sense; the senses of *shang* should be context independent which could not be inferred from another sense and the context in which it is used.

Thirdly, we adopt Traugott and Trousdale (2013)'s constructional approach to language change to analyse the the various constructions containing *shang*. We show that a meaning is part of a construction containing *shang* by comparing it with a construction that is identical but lacks *shang*. For instance, the construction [SUB Be-located N *shang*] means 'someone is located at a high part of a place or an object' while [SUB Be-located N *xia*] refers to 'someone is located at a low part of a place or an object'. Additionally, we decide whether an aspect of meaning is constructional by substituting words in the lexically open slots and see if a particular meaning of construction changes. For instance, the construction [SUB V PRE N *shang*] expresses the constructional meaning 'add something to the top surface of another thing'. When we substitute words in the slots of SUB, V and N, the particular meaning does not go away. At least two examples of a construction are provided to show that meanings are attributed to a specific construction rather than the lexical items in the construction. In addition, we focus on the following aspects in the analysis, involving the life-cycle of constructions in which *shang* appears (i.e. how a new construction enters a schema, stays at the margins, and even obsolesces), the reconfiguration of links among various constructions in a network, and the multiple schemas that sanctioned the usages of *shang*. In the analysis, we also observe the features of nouns that appear with *shang* and see which kinds of noun are usually used with *shang* in each historical period and in different genres of CC.

3.3. Summary

This chapter discusses the isolating nature of Chinese language which may affect the development of the meanings and grammatical functions of *shang*. We also introduce the data source and how the data are collected and processed. Although subjectivity is inevitably involved in the analysing process, the usage-based approach adopted can largely minimize the subjective impact on the result of this study. We will discuss the multible senses associated with *shang* from AC to CC in Chapter 4 and Chapter 5, following which we will discuss the developments and relations of various constructions containing *shang* in Chapter 6.

Chapter 4. Semantic Networks for *Shang* in AC and MEC

In the previous chapter, we have discussed the isolating nature of Chinese language and the way data are collected and analyzed. In this chapter, we first introduce how spatial relations are coded by spatial particles; then discuss how metaphor and invited inferencing motivate extensions after which we elaborate on the path of semantic development. Distinct senses associated with *shang* in AC and MEC are then illustrated and we show how these senses are formed based on metaphors and invited inferences.

4.1. Spatial Relations and Meanings

Spatial particles like English *above* and Chinese *shang* describe spatial relations and they prompt for spatial-physical experience. As pointed out by Tyler and Evans (2003, p. 25), spatial physical experience provides much of the fundamental semantic structure from which spatial-based concepts are constructed, and only by understanding the foundational nature of spatial-physical experience can we understand why speakers of certain language like English consistently use spatial particles (e.g. *over*, *in* etc.) as they do. For instance, the spatial word *in* in English describes the spatial configuration of a TR being located in a LM as in *I awoke in my bedroom*. In this case, we understand the spatial configuration of a TR surrounded by a LM in terms of the embodied experience of containment and this kind of experience can give rise to the concept of containment as coded by the spatial particle *in* in English. In addition, as argued by Tyler and Evans (2003, p. 26), the interactions between a TR and a LM in a spatial relation can lead to important consequences for the two participating entities, so that the meaningful consequences for a TR in a container is that the activity of the TR is constrained and delimited by the LM (also the container). The functional elements between a TR and LM in a spatial configuration can also be extended to describe a non-spatial situation as in *Will is in love* in which the state is conceptualized as a container influencing the person who is in love. That is to say, the functional nature of TR and LM configuration can also lead to correlated non-spatial consequences and inferences, by doing which non-spatial meanings develop and become associated with a particular spatial particle. As will be shown in our analysis below, the spatial configuration encoded by *shang* (i.e. a TR is located at a high location of a LM) is related to both spatial and non-spatial (or metaphorical) meanings of *shang*.

4.2. Metaphoric Extension and Invited Inferencing in Semantic Change

Metaphoric extension (cf. Sweetser, 1990) and invited inferencing (Traugott & Dasher, 2002) have been considered as two important motivations that lead to semantic change. It can be seen that changes such as *see* 'know/understand' can be successfully explained by either model. Sullivan (2007) has demonstrated how the two accounts explain the extended sense of *see* 'know/understand'. On the metaphor account, the extended meaning of *see* 'know/understand' reflects the well-recognized conceptual metaphor KNOWING IS SEEING (cf. Sweetser, 1990). Based on Sweetser (1990, p. 33), Sullivan (2007) has pointed out that the extended meaning of *see* may have begun in Indo-European, when the item **sek^{w}-* (> Eng. *see*) was used by a speaker as an innovative metaphor to refer to 'know'. The structured mappings of KNOWING IS SEEING allowed the speaker to adopt a lexical item from the source domain, i.e. *see* from SEEING, to express the target-domain meaning 'know/understand' in KNOWING. Because of the metaphor, a hearer knew that the verb *see* did not literally refer to vision but mean 'know/understand' in a context such as *I see what you mean*. On the invited inferencing account, the item *see* 'visually see' invited the inference of 'knowing' in an ambiguous context that contained the two interpretations. Overtime, the repeated use of *see* in these ambiguous contexts allowed the inferential pattern to spread throughout the language community, resulting in a generalized invited inference. The generalized inference then became lexicalized as a polysemous sense or coded meaning of *see*. The change for '*see*' to mean 'know/understand' represents an instance of metaphor/inferencing overlap, which shows that metaphor and inferencing represent two types of change that can work together to motivate the novel usage of an item.

There are also extensions that can either be explained by invited inferencing or metaphoric extension, indicating that each model can account for changes that the other cannot (cf. Sullivan, 2007). For instance, as shown in Sullivan (2007) the 'dating' sense of *seeing* (as in *Are you seeing anyone right now*?) first began in ambiguous contexts where both interpretations of 'dating' and 'seeing and meeting with' were found. The inferencing of 'dating' later became generalized throughout the English-speaker population and appeared in unambiguous contexts. There is no evidence of an underlying conceptual metaphor that can account for the 'dating' sense of *seeing*, which indicates that the change for 'seeing' to mean 'dating' has been the result of invited inference. Sullivan (2007) has also shown that there are unequivocal examples of metaphoric extensions. For example, extensions such as *brilliant* 'intelligent' are linguistic

instantiations of the conceptual metaphor KNOWING IS SEEING. Being part of the KNOWING IS SEEING metaphor, LIGHT SOURCES map to SOURCES OF KNOWLEDGE, which allows speakers to retrieve the target-domain meaning 'intelligent' from the source-domain 'light-emitting' meaning of *brilliant*. There is not ambiguous usage of *brilliant* that has both the interpretations of 'light-emission' and 'intelligence' which is due to the fact that 'people who are smart never literally radiate light, and as a result, emitting light will never lead to inferences of intelligence' (Sullivan, 2007). The lack of ambiguous contexts between the two interpretations of *brilliant* indicates that the 'intelligent' sense of *brilliant* could not has been the result of invited inferencing. As will be shown in our analysis below, we distinguish metaphor from inferencing-based change and illustrate how extended senses of *shang* are formed based on the two models.

4.3. How a New Meaning Becomes Conventionalized

We know that in the 'on-line' production of language, speakers or writers may initiate a new use of a lexeme based on metaphor or/and invited inferencing. However, it is argued by Traugott and Dasher (2002, pp. 34-35) that new usages may or may not spread to other speakers; it is only when they 'acquire social value(s) and become salient in a community, they are likely to spread to other linguistic contexts and to other SP/Ws' (ibid, p. 35). That is to say, an inference becomes generalized through frequent contexts of use by language users. As is pointed out by Traugott and Dasher (2002, p. 35), historically there is a path from coded meanings (or older meanings) to utterance token meanings (or invited inferences) to utterance type meanings (or generalized invited inferences) to new polysemous (coded) meanings. It means that new usages arise based on older usages. An innovative usage is considered GIIN under the condition that 'the original coded meaning is dominant or at least equally accessible; however, when the 'original meaning becomes merely a trace in certain contexts or disappears, then the GIIN can be considered to have become semanticized as a new polysemy or coded meaning' (p. 35). In other words, a GIIN becomes a coded meaning when the original meaning it derived from is not easily identified or even disappears. However, it should be noted that the change from a GIIN to a new polysemy (or a coded meaning) is gradual, which means the older meaning of the same linguistic item may coexist with the newer meaning for over several hundred years (ibid, p. 12). In our analysis below, we will show the way *shang* acquired its new polysemous meanings based on older usages and illustrate how new meanings become conventionalized through repeated contexts of use.

4.4. The Primary Sense for *Shang*

Building upon Langacker (1987, p. 376)'s suggestion that there are various types of evidence that can help us identify the structure of a complex category, Tyler and Evans (2003, p. 47) believe that there is a more principled, inter-subjective method of determining the appropriate primary sense for individual spatial particles. The linguistic evidence Tyler and Evans (2003) proposed for determining the primary sense are (1) earliest attested meaning; (2) predominance in the semantic network; (3) use in composite forms; (4) relations to other spatial particles (Langacker, 1987, p. 235), and (5) grammatical predictions (Langacker, 1987, p. 401). The primary sense for *shang* is proposed below based on these criteria.

As argued by Tyler and Evans (2003, p. 47), due to the very stable nature of the categorization of spatial relations within a language, one likely candidate for the primary sense is the historically earliest sense. According to the explanation in *An Explanatory Dictionary of Chinese Characters* *说文解字* (the first Chinese dictionary written in Han Dynasty), the spatial word *shang* is referred to *gao* 'high' (S. Xu, 1963). Since Chinese is an isolating language that involves unmarked word structure, it is difficult to know the part of speech of the earliest usage of *shang*. The flexibility of interpreting the part of speech of *shang* allows the existence of three possible earliest meanings, which are 'high', 'a high location' and 'towards a high location'. The three usages focus on different aspects: the meaning 'high' emphases the long distance away from the ground; 'a high location' highlights the high location at which an object or a person is located; 'towards a high location' stresses the direction towards a high location. Due to the limited amount of historical record, we could not know which one of these three meanings occurred first. However, we found in our data that *shang* in EAC often expressed the meaning of 'a high location', indicating that 'a high location' may be the best representation for the earliest usage of *shang*. Tyler and Evans (2003, p. 48) interpret predominance to mean 'the unique spatial configuration that is involved in the majority of the distinct senses found in the network'. We have found that there are eight distinct senses associated with *shang* in AC, in which four involves a TR being located at a high location (this is discussed extensively in section 4.5). Thus, the primary sense for *shang* involves a TR being located at a high location (the LM can sometimes be left unelaborated). In addition, as found in our data in AC, *shang* appears in the most often occurred composite lexical units such as *shang di* 'the lord' and *shang tian* 'the sky'. These units involve the relation of a TR (i.e. the lord or the sky) being located at a high location. Based on the four criteria in terms of the relations to other spatial particles,

what we label as *shang* is partially determined by what we label as *xia* 'below'. For instance, as shown in example (4.1), representing a contrast set *shang* and *xia* describe 'a high location' and 'a low location', which indicates that the primary sense for *shang* is 'a high location'.

(4.1) *qiang da chu xia, rou ruo chu* ***shang*** (EAC: The Classic of the Tao and Its Virtue)
strong big be-locate below, soft weak be-locate **above** (postposition)
'Entities that have a strong power is located at a low place; entities that have a weak power is located at a high place.'

As for the grammatical predications, it means that by observing the sentential context a particular particle is used, we can find the close relations between a primary sense and a distinct sense that was derived from it (Tyler & Evans, 2003, p. 49). This idea is inconsistent with Langacker (1987)'s discussion of a 'sanctioning' sense leading to additional sense through extension. For example, *shang* had the distinct sense 'a high ranking official/governor/monarch' in AC as shown in example (4.2). Sentence (4.3) provides the context showing that a person who is located at a place higher than others have more power and should be treated with respect. The distinct sense 'a high ranking official' is associated with *shang* based on the metaphor HIGH STATUS IS UP in which a person with a high status is conceptualized as staying at a high place. That is to say, the distinct meaning 'a high ranking official' links to the primary sense 'a high location' through metaphor, and through frequent context of use, the metaphorical usage became part of the meaning of *shang*.

(4.2) *ling min yu* ***shang*** *tong yi* (EAC)
make citizen and **above** (noun) same idea
'Require citizens to have the same idea as the governor'.

(4.3) *wei ren* ***shang*** *zhe, nai-he bu jing*? (EAC: The Classic of History)
as people **above** (modifier) person, why not respect?
'Why not respect the person who stays at a position higher than (normal) people?'

4.5. Distinct Senses for *Shang* in AC

Recalling that Tyler and Evans (2003, pp. 42-43)'criteria for determining distinct senses associated with a spatial particle indicate that firstly, the distinct senses are not spatial in nature, and/or the spatial configuration (i.e. TR and LM configuration) in the distinct meanings are unique; secondly, the distinct sense could not be inferred from another sense and the context in which it occurs. Based the two criteria, we have found eight distinct senses associated with the spatial word *shang* in AC in which four involves conceptual metaphor and one relates to

invited inference. Extended meanings of *shang* based on metaphors are 'a high ranking official', 'good/the best', 'more' and 'an earlier time/past'. Distinct sense associated with *shang* through invited inference is 'sky/heaven'. The causative meaning of *shang* 'make something move a high/higher place' occurred as a result of a general development of causative verb in AC. Other two meanings 'move to a high/higher location' and 'move and arrive at a high/higher location' appeared after *shang* acquired the verbal function from another construction.

4.5.1. **Semantic Extensions for *Shang* Involving Metaphors**

It has been argued that a large number of polysemy is due to metaphorical usage (Johnson, 1987; Lakoff, 1987; Lakoff & Johnson, 1980), which indicates that meanings associated with a spatial particle like *shang* may be due to metaphoric extension. According to Tyler and Evans (2003, p. 42), when a metaphoric meaning (i.e. a non-spatial meaning) is associated with a spatial word, it can be considered as an instance of a distinct sense for the spatial particle. Metaphors that involve spatial orientation, such as up-down, in-out, or front-back, are termed orientational metaphors by Lakoff and Johnson (1980, pp. 14-17), which have a basis in our physical and cultural experience. For instance, the increase of quantity is conceptualized in terms of the spatial concept UP. The spatial metaphor MORE IS UP enables *shang* to describe the increase of price as shown in example (4.4). It is found that the distinct senses associated with *shang* in AC, which are 'a high ranking official/governor', 'good/best', 'more' and 'an earlier time', become part of the meanings of *shang* through well-recognized underlying metaphors.

(4.4) *Ji-dan jia-ge you* ***shang*** *qu le*
Egg price again **above** (verb) go CRS
'The price of egg has gone up again'.

a) D*istinct Sense 'a High Ranking Official/Governor'*

The distinct sense 'a high ranking official/ governor' associated with *shang* in AC is the linguistic instantiation of the conceptual metaphor HIGH STATUS IS UP. As argued by Lakoff and Johnson (1980, p. 16), the social and physical basis for this metaphor is that status is correlated with (social) power and (physical) power is UP. That is to say, we understand social power in terms of verticality. Examples of *shang* in AC meaning 'a high ranking official/governor' are shown below in (4.5) and (4.6).

In these examples, *shang* ‘a high location’ is metaphorically referred to ‘a high ranking official’. The mapping A HIGH RANKING OFFICIAL IS A HIGH LOCATION captures the fact that height is associated with power, which maps to the high social status of an official. The mapping A HIGH RANKING OFFICIAL IS A HIGH LOCATION allows speakers to retrieve the target-domain meaning ‘a high ranking official’ from the source-domain meaning ‘a high location’.

(4.5) *ju xia wei er bu huo yu* ***shang*** (LAC: Mencius)
stay below position CONJ not get PRE **above** (noun)
‘(Someone) stays at a low position and cannot receive (trust) from the controller.’

(4.6) *jie yu de* ***shang*** *zhi shang yu* (LAC: Mozi)
All want get **above** (noun) ASSOC award praise
‘All (people) want to get the award and praise from the monarch/governor.’

It should be noted that we cannot find evidence to show that the two usages can appear in the same context. In other words, there are the lack of ambiguous contexts between the two usages ‘a high location’ and ‘a high ranking official’. People who have great social power may not be physically located at a high place and a high location never leads to inference of a high ranking official. Therefore, the extension for *shang* to mean ‘a high ranking official’ cannot have been the result of invited inferencing. The inapplicability of an invited inferencing interpretation leaves metaphoric extension as the best description of this change.

b) Distinct Sense ‘Good/The best’

Another distinct sense ‘good/the best’ was associated with *shang* in AC through the metaphor GOOD IS UP. As claimed by Lakoff and Johnson (1980, p. 16), ‘happiness, health, life and control-the things that principally characterize what is good for a person-are all UP.’ That is to say, normally when a person feels happy, healthy, and energetic, his/her body tends to show an upright position. Therefore, we conceptualize things or people that have the best quality as superior than others and are physically located at a higher or the highest place. Examples of *shang* referring to ‘good/the best’ are shown in (4.6) and (4.7). In these examples, *shang* ‘high’ is metaphorically referred to ‘good/the best’. The mapping GOOD IS HIGH shows that there is a correlation between elevation and good quality, which allows the source domain HIGH to map onto the target domain GOOD. The mapping GOOD IS HIGH allows speakers to retrieve the target-domain meaning ‘good/best’ from the source-domain meaning ‘high’. Similarly, there are the lack

of ambiguous contexts between the two meanings ‘high’ and ‘good/best’. Things or people that have good quality may not be physically located at a high location and a high location could not lead to an inference of good quality. Therefore, the distinct meaning ‘good/best’ associated with *shang* must be attributed to metaphor but not invited inferencing.

(4.7) ***Shang*** *shan ruo shui* (EAC: The Classic of the Tao and its Virtue)
Above (modifier) kindness like water
‘The best kindness is like water.’

(4.8) *Gu* ***shang*** *bing fa mou* (EAC: The Art of War)
So **above** (modifier) weapons attack plan
‘So the best way of using weapons is to destroy the enemy’s plan.’

c) Distinct Sense ‘More’

The spatial word *shang* had the ‘more’ sense in AC. As mentioned, quantity and verticality correlate due to the common experience we have when adding things to a pile and seeing that a pile gets higher (Lakoff & Johnson, 1980, pp. 15-16). Quantity and verticality are not objectively the same, however, they are linked in our cognitive system, which allows us to understand the target domain MORE in terms of the source domain UP. Examples of *shang* meaning ‘more’ are shown in (4.9) and (4.10). If adopt a metaphoric account, we can say that *shang* acquired the target-domain meaning ‘more’ from the source-domain meaning ‘high’ through the mapping MORE IS UP. However, it is found that there are ambiguous contexts in which *shang* can either mean ‘more’ or ‘high’. For instance, as shown in example (4.11), when describing the deepness of water, *shang* ‘high’ implies that there are more water. It is unsure as to which of these two interpretations, ‘high’ (the central meaning) and ‘more’ (the inferred meaning), was intended by the speaker. Therefore, there is an overlap between metaphor and invited inferencing in the process of acquiring the distinct sense ‘more’ for *shang*.

(4.9) *che-zhan de che shi cheng yi* ***shang*** (EAC: The Art of War)
chariot-battle get car ten CL PRE **above**
‘Get more than ten cars in the chariot battle.’

(4.10) *shui-gang, rong san dan yi* ***shang*** (LAC: Mozi)
water-vat contain three CL PRE **above**
‘The water vat (must) contain more than three litres (of water).’

(4.11) *shi wai shui shen zhang yi* ***shang*** (LAC: Mozi)
see out water deep CL PRE **above**
‘Saw that the water outside was more than/higher than one Zhang (a unit of length = 3 1/3 metres).

d) Distinct Sense ‘an Earlier time/Past’

The usage of *shang* in AC to indicate earlier times involves the metaphor EARLIER TIME IS SHANG. This metaphor fits into the larger system of TIME AS SPACE metaphor as noted by many researchers (Evans, 2013; Lakoff, 1993; Lakoff & Johnson, 1980; Yu, 1998, 2012). In particular, EARLIER TIME IS SHANG underlines the metaphor that TIME PASSING IS MOTION ALONG THE VERTICAL AXIS. Chinese people consider an earlier time above a later time, which is probably due to the fact that they worship past events and ancestors and regard them as being located at a higher place. In saying that Chinese conceptualize an earlier time as above a later time does not mean that this way of understanding time never exist in the conceptual system of English language. Yu (1998, p. 112) mentioned that a family tree is drawn by putting the oldest generation at the top and then tracing it down to the youngest generation. Therefore, a heritage or a property is passed **down**, never **up**, from generation to generation. However, compared to Chinese, English tends to conceptualize a later time above an earlier time as shown in the linguistic instance 'from 1918 **up** to 1945' or 'from the Middle Ages **up** to the present day' (Lan, 2002, p. 170). The ways of lexicalizing time with spatial vocabularies in the two languages indicate that our physical experience provides many possible bases for spatial metaphors. However, which metaphors are chosen and which ones are major may vary from culture to culture (Lakoff & Johnson, 1980, p. 20). According to Radden (2015, p. 228), a vertical axis of time conforms to the widespread view of time as flowing or the 'river model' of time. In China, the cultural importance of the Yangtze River may have reinforced the preference for considering time as vertical. As shown in examples (4.12) and (4.13), the spatial word *shang* 'a high location/high' is metaphorically referred to 'an earlier time/past'. The correlation between elevation and past time allows the source domain A HIGH LOCATION or HIGH to map onto the target domain AN EARLIER TIME or PAST. The mapping A HIGH LOCATION IS AN EARLIER TIME or HIGH IS PAST allows speaker to retrieve the target-domain meaning 'an earlier time/past' from the source-domain meaning 'a high location/high'.

It is also believed that the spatial word *shang* acquired its metaphoric sense 'an earlier time/past' in AC through metaphor but not invited inferencing since there are the lack of ambiguous contexts between the two usages 'a high location/high' and 'an earlier time/past'. An earlier time should not be physically located at a high location and a high location could not lead to an inference of an earlier time. Accordingly, the distinct sense 'an earlier time/past' for *shang* must has been the result of metaphor.

(4.12) *wo zu di sui chen yu* ***shang***（EAC: The Classic of History）

our ancestor settle achieve old be-located **above**
'Our ancestor establishes the old (law) at first (in time)'

(4.13) *gai* ***shang*** *shi cheng you bu zang qi qin zhe* (LAC: Mencius)
probably **above** times once has not bury PRO relative people
'Maybe there once had people in the old times that did not bury their relatives.'

4.5.2. **Semantic Extension for *Shang* Based on Pragmatic Inference**

One distinct sense for *shang* in AC can only be explained by invited inferencing. It can be seen that *shang* and *xia* 'below' were used together as a unit as shown in examples (4.14) and (4.15). The expression *shang xia* in example (4.14) indicates 'everywhere in a high and low location', which implies 'everywhere in heaven and earth'. Therefore, *shang* in EAC can either refer to the central spatial 'a high location' sense or the inferential 'heaven/sky' sense as shown in example (4.14). The 'heaven/sky' sense of *shang* later became generalized and lexicalized, as evidenced by the example (4.15) found in LAC. The utterance in (4.15) only makes sense if the extended meaning 'heaven' is available as a lexical polysemy of *shang* since the sentence describes a person's feeling of offending the heaven and earth. However, it should be noted that rather than being used alone, spatial word *shang* often expressed the meaning of 'heaven/sky' when it appeared with *xia* to express a whole vertical concept.

(4.14) *guang bei si biao, ge yu* ***shang-xia*** (EAC: The Classic of History)
light cover four surface, arrive PRE **above-below**
'(A monarch's) brilliance enlightens above and below areas in (heaven and earth)'.

(4.15) *wei zhi de-zui yu* ***shang-xia*** (LAC: Mozi)
not know offend PRE **above-below**
'(I) do not know (how I) offend the sky and earth.'

4.5.3. **New Grammatical Function of *Shang* in LAC**

It is found in our data that, in EAC, *shang* only indicated the direction of motion and it was the verb in the [SUB *shang* V_{motion}] construction that denoted motion. For instance, *shang* in example (4.16) expressed the adverbial meaning 'towards a high location'. In LAC, we found instances of *shang* being used as a verb to denote an upward movement. Next, we discuss the possible motivations that lead to the verbal function of *shang* in LAC.

First, the development of causative verb in LAC motivated the verbal function of *shang*. In example (4.17), *shang* is used as a causative verb meaning 'causing something to move to a high/higher location'. In other words, the verb *shang* in example (4.17) expresses an 'action-result' relationship. As stated in Y. Shi (2002, p. 46), the usage of a single word as a device to

express the meaning of 'cause something to have some result' was common in Old and Middle Chinese (i.e. Archaic Chinese and Medieval Chinese), which is considered as a morphological causative (Spencer, 1991, p. 24). When the word *shang* was used to indicate the 'cause-result' relation, it acquired a new grammatical function, that is a verb.

(4.16) *liang fu* ***shang*** *xiang* (EAC: The Classic of Poetry)
two horses **above** (adverb) rise
'Two horses (on the ground) raised (their heads) towards a high/higher location.'

(4.17) *ling yi ren xia* ***shang*** *zhi* (LAC: Mozi)
ask one person below **above** (causative verb) PRO
'Ask one person to make it move from a lower to a higher place.'

Second, *shang* acquired the motion meaning from the [SUB *shang* V_{motion}] construction (which will be discussed in more detail in chapter 6). When the process of an upward movement is emphasized, *shang* can mean 'move to a high/higher location' as shown in example (4.18). When the result of an upward movement is highlighted, *shang* can refer to 'move and arrive at a high/higher location' as shown in example (4.19).

(4.18) *duan qing zhe* ***shang*** (LAC: Mozi)
short light PRO **above** (verb)
'The short and light object moves to a higher place.'

(4.19) *zheng* ***shang*** *wu cheng* (LAC: Mozi)
vie **above (verb)** PRO city-wall
'(The enemy) vie with each other in climbing onto our city wall.'

It has been shown that *shang* acquired its new grammatical (or verbal) function in LAC to fulfil specific communicative needs. The causative verbal function 'make something move to a high or higher location' first appeared because there was a need to express the 'cause-result' relation. Furthermore, the two verbal usages of *shang* occurred since language users need to emphases the process and the result of an upward movement.

4.5.4. **Meanings of *Shang* in AC**

As shown in the above discussion, the spatial word *shang* was referred to 'a high location', 'high' and 'towards a high location' in EAC. It then acquired eight distinct senses in LAC, which are 'a high ranking official', 'good/the best', 'more', 'an earlier time/past', 'heaven/sky', 'make something move to a high or higher location', 'move to a high /higher location', and 'move and arrive at a high or higher location'. The motivations that lead to these distinct senses

for *shang* are conceptual metaphor, invited inference, constructional meaning, and the development of verbal function.

4.6. Distinct Senses for *Shang* in MEC

We found that there were six novel meanings associated with *shang* in MEC, which are 'offer something to a high ranking official', 'get to a larger amount', 'improve/become better', 'an inner space', 'a range' and 'a top surface'. The first three senses are related to conceptual metaphors and the other meanings were produced on-line by adopting various inferencing strategies including our knowledge of real-world force dynamics and typological extension. Next, we will discuss the changes involved metaphorical extensions first after which we will introduce the inferencing-based changes in MEC.

4.6.1. **Changes Involved Metaphoric Extensions in MEC**

a) Distinct Sense 'Offer Something to a High/Higher Ranking Official'

In MEC, *shang* had the distinct sense 'offer something to a high (or higher) ranking official' as shown in examples (4.20) and (4.21). This usage occurred because the conceptual metaphor HIGH STUTAS IS UP. As mentioned in section 4.5.3, in LAC *shang* acquired the causative meaning 'make something move to a high (or higher) location'. Due to the HIGH STATUS IS UP metaphor (mentioned in section 4.5.1), speakers understand the target domain A HIGH RANKING OFFICIAL in terms of the source domain A HIGH LOCATION. Therefore, the process of OFFER SOMETHING TO A HIGH RANKING OFFICIAL can be conceptualized as the same as MAKE SOMETHING MOVE TO A HIGH LOCATION. The way of metaphoric thinking allows speakers to retrieve the target-domain meaning 'offer something to a high (or higher) ranking official' from the source-domain meaning 'make something move to a high (or higher) location'. However, in ancient China (or even now under some circumstances), when people offer something, such as, a present, a petition, or an official stamp, to their superiors, they normally present these objects respectfully by holding them up towards the superiors, which means these objects given to the superiors can be physically moved to a higher place. Therefore, the sense 'offer something to a high ranking official' could be a pragmatic inference which arises when describing the situation of holding up the objects and make them move to the superiors. For instance, the fan in example (4.20), the wine in example (4.21) and the seal and silk ribbon in example (4.22) may be physically moved up to the high authority, which means it is ambiguous in terms of which meaning of *shang* was denoted in such contexts. Therefore, the sense 'offer something to a high (or higher) ranking official' may

also occur as an inference. That is to say, both metaphor and invited inference can take part in the meaning of 'offer something to a high (or higher) ranking official'.

(4.20) *yi mao shan* ***shang*** *Wu di* (EMC:NATW)
use feather fan **above** (verb) Wu Emperor
'Offer the feather fan to Emperor Wu.'

(4.21) ***shang*** *ru yi bei jiu* (EMC:NATW)
above (verb) you one CL wine
'Offer you one glass of wine.'

(4.22) ***shang*** *yin-shou* (LMC: Dream Torrent Essays)
above (verb) seal silk ribbon
'Offering seal and its silk ribbon (to a high or higher authority).'

b) Distinct Sense 'Improve/Become better'

There is another distinct sense for *shang* which was derived from metaphor in MEC. As mentioned in section 4.5.3, *shang* had the verbal meaning 'move to a high or higher location' in LAC. In MEC, there are instances of *shang* meaning 'improve' as shown in examples (4.23) and (4.24). This extended meaning occurred due to the metaphor GOOD IS UP which has been discussed in section 4.5.1. Since A GOOD OR BETTER QUALITY IS A HIGH OR HIGHER LOCATION, the abstract process of 'become better or improve' is conceptualized as the same as the physical process of 'move to a higher location'. Therefore, when speakers retrieved the target-domain meaning 'become better or improve' from the source-domain meaning 'move to a higher location', *shang* acquired the metaphorical meaning 'become better or improve'. It should be noted that there are the lack of ambiguous contexts between the two usages 'move to a higher location' and 'become better or improve'. When something is getting better does not mean that it should move to a higher location and the situation of moving to a higher location could not lead to an inference of getting better. Therefore, the distinct sense 'become better/improve' for *shang* must have been the result of metaphor.

(4.23) *ri hua* ***shang*** *er qian-shan* (PMEC: Huainanzi)
day change **above** (verb) CONJ become-good
'Change and improve everyday so that one's errors can be corrected.'

(4.24) *feng qi ri* ***shang*** (EMC: NATW)
demeanour mettle day (adverb) **above** (verb)
'(His) demeanour and mettle improve every day.'

c. Distinct Sense 'Get to a Larger Amount'

The extended meaning ‘get to a larger amount’ was associated with *shang* through the metaphor MORE IS UP (which has been discussed in section 4.5.1). As mentioned, *shang* had the spatial meaning ‘move and arrive at a high/higher location’. Due to the metaphor MORE IS UP, the abstract process of ‘get to a larger amount’ is conceptualized as the same as the physical process of ‘move and arrive at a high/higher location’. Thus, when speakers retrieved the target-domain meaning ‘get to a larger amount’ from the source-domain meaning ‘move and arrive at a high/higher location’, *shang* acquired the metaphorical meaning ‘get to a larger amount’ as shown in example (4.25). Although we could not find ambiguous contexts in our data between the two usages of *shang* ‘move to a higher location’ and ‘get to a larger amount’, the ‘get to a larger amount’ sense of *shang* could arise from an inference. Let us think about the rising water in a container. It is normal to see that once the water moves and arrives at a higher level, it gets to a larger amount. Therefore, speakers may use *shang* to describe the situation of getting to a larger amount of water in this case. That is to say, the extended meaning ‘get to a larger amount’ could be derived from an inference when the two situations of moving up and getting to a larger amount co-occur. Thus, the distinct sense ‘get to a larger amount’ of *shang* could be derived from both metaphor and invited inference.

(4.25) *zhi* ***shang*** *bai-wan shu* (EMC: NATW)
straight **above** (verb) million number
‘The number goes up to a million.’

4.6.2. **Inferencing-based Changes Occurred in MEC**

It is found that three extended meanings ‘a region’, ‘a top surface’ and ‘an inner space’ were related to *shang* in MEC. These three meanings were derived from the primary sense of *shang* ‘a high location’ based on invited inferencing. However, as discussed below, the third meaning ‘an inner space’ did not become a coded meaning of *shang* since it strongly relies on specific contexts. Before introducing the three usages of *shang*, let us first discuss the way language users conceptualize space and spatial relations and how this affects the meanings of a spatial particle like *shang*.

As pointed out by Talmy (2000b), the principles of Euclidean geometry do not hold at the level of conceptual structure, which means that conceptualized space and spatial relations do not always reflect fixed distance, amount, size, contour, angle, etc. Instead, conceptualized space and spatial relations are topological in essence, that is, they ‘involve relativistic relations rather than absolutely fixed quantities.’ (Talmy, 2000b, p. 170). In other words, a TR-LM configuration associated with a spatial scene can be distorted conceptually, as long as the

spatial relation denoted by the primary sense for a spatial particle does not change (Tyler & Evans, 2003, p. 58). For instance, the primary sense for *shang* is 'a high location', which indicates a spatial relation of a TR being located at a high location of the LM. However, it is possible for speakers to conceptually distort the relations between the TR and LM of *shang* in certain usage events, by which new interpretations of the word can occur. The three novel usages of *shang*, which are 'a region', 'a top surface' and 'an inner space' appeared because the TR-LM configuration associated with the proto-scene of *shang* has been distorted. We will illustrate this process in more detail with some examples below.

Furthermore, it has been observed by a number of scholars that through frequent usages, inferences deriving from experience can be conventionally associated with lexical form identified with the implicature (e.g. Bybee, 2010b; Bybee et al., 1994; Traugott, 1989; Traugott & Dasher, 2002; Tyler & Evans, 2001). This process can be seen in semantic change, in which an implicature (or an invited inference) that arise in context 'on the fly' may become a preferred meaning (or generalized invited inference) in a community through frequent contexts of use and the preferred meaning may be semanticized as a new polysemy or coded meaning when the original meaning it derived from becomes merely a trace (Traugott & Dasher, 2002, p. 35). By way of illustration, let us have a look at some examples of how *shang* acquired the new meanings of 'a region', 'a top surface', and 'an inner space' in MEC.

a. Distinct Sense 'a Region'

Examples (4.26) to (4.29) demonstrate the inference-based semantic extension for *shang* from meaning 'a high location' to 'a region'. The word *shang* 'a high location' invited the inference of 'a region' when it was used with words such as *tian* 'sky' and *shui* 'river' in sentences (4.26) and (4.27). This is because 'a high location of the sky' or 'a high location of the river' contains regions of the sky or the river. A region is defined as consisting of 'a set of interconnected entities' (Langacker, 1987, p. 198), which involves unlimited boundary. Since the LMs of *shang* involve regions, the TR-LM configurations of *shang* in examples (4.26) and (4.27) have been distorted, in which the TRs are conceptualized as being located in the regions of the LMs. Therefore, an invited inference 'a region' appeared in the contexts where *shang* was used and was associated with *shang* through frequent contexts of use. For instance, the TR 'a person' in example (4.27) is considered as being killed in the region of Xiong River (i.e. the LM). It is ambiguous in terms of whether *shang* refers to the primary meaning 'a high location' or the inferential meaning 'a region'. Over time, the repeated use of *shang* in contexts like (4.26) and

(4.27) allowed the inferential pattern to speared throughout the language community, leading to a generalized invited inference (GIIN). The GIIN ‘a region’ then eventually become lexicalized as a polysemous sense of *shang*. It can be seen that the generalized inference of ‘a region’ became a distinct sense of *shang* in EMC. As shown in examples (4.28) and (4.29), *shang* was used with words indicating unspecified locations to describe the regions of *Huai* and the road. The primary meaning ‘a high location’ which the extended meaning ‘a region’ was derived from is hardly identified in examples (4.28) and (4.29). In addition, it has been found that more words representing places can be used with *shang* to describe the regions of a place, which means that the extended meaning ‘a region’ is context independent. For instance, without mentioning the specific context in which *shang* appears, native speakers would know that the expression *jie shang* ‘street above’ indicates the region of a street. Therefore, we can say that the GIIN ‘a region’ has become a coded meaning of *shang*.

(4.26) *fang hu jiu tian zhi* ***shang*** (PMEC: Huainanzi)
stay PRE nine sky GEN **above** (postposition)
‘Stayed at the high location (region) of the sky’.

(4.27) *sha jiu-ying yu xiong shui zhi* ***shang*** (PMEC: Huainanzi)
kill Jiu-ying PRE Xiong River GEN **above** (postposition)
‘Killed Jiu-ying at the high location (region) of Xiong River’.

(4.28) *ke wen huai* ***shang*** *li hai* (EMC: NATW)
guest ask Huai **above** (postposition) good bad
‘The guest asks the progress of the battle in the region of Huai.’

(4.29) *ling bi lu* ***shang*** *dan fen* (EMC:NATW)
make servant-girl road **above** (postposition) carry excrement
‘Asked the maidservant to carry excrement on the street.’

b. Distinct Sense ‘a Top Surface’

Examples (4.30) to (4.33) indicate the semantic change of *shang* from meaning ‘a high location’ to ‘a top surface’. Normally, the top surface of an object is outstanding conceptually and can be considered as the highest part. The word *shang* ‘a high location’ invited the inference of ‘a top surface’ when things are located on and have contacts with the highest part of another thing. Here we apply our knowledge of force-dynamics when describing the spatial relations between the TR and the LM of *shang*. For instance, when interpreting sentences such as (4.30) and (4.31), the interlocutors have the knowledge that most entities cannot floats in midair, unless they owns the means or ability for doing so. General knowledge of ‘altars’ and ‘grains’ includes that they cannot hover above ‘mountain’ and ‘stone’. Therefore, ‘altars’ and ‘grains’ (i.e. TRs) in examples (4.30) and (4.31) are located on and have contacts with the high parts of ‘Tai

mountain' and 'stone' (i.e. LMs). Since the highest part or the top surface of the LM is highlighted, the configuration between the TR-LM of *shang* has been distorted, in which *shang* in this case involves the relation of a TR on the top surface of a LM. Accordingly, an invited inference 'a top surface' appeared in sentences where *shang* was used and was associated with *shang* through frequent contexts of use. It is ambiguous as to which interpretations of *shang* was intended by the speaker (i.e. 'a high location of an object' or 'the top surface of an object'). In fact, the speaker maybe intended for the hearer to understand both the meanings. Over time, the frequent use of *shang* in contexts such as (4.30) and (4.31) allowed the inference 'a top surface' to speared throughout the language community, resulting in a generalized invited inference (GIIN), which can finally become a coded sense of *shang*. Examples (4.32) and (4.33) represent unambiguous contexts in which *shang* meaning 'a top surface'. In other words, it is semantically anomalous for *shang* to describe the 'high location of a knee' or 'the high location of the stele back' in examples (4.32) and (4.33). It can be seen that the primary meaning 'a high location' where the inferential meaning 'a top surface' was derived has become a trace in examples (4.32) and (4.33). Moreover, it has been found that more words in MOC can be used with *shang* to describe the top surface of an object, which means that the extended meaning 'a top surface' is context independent. For instance, without mentioning the sentential context in which *shang* occurs, native speakers would normally agree that the expression *qiang shang* 'wall above' and *zhi shang* 'paper above' denote the top surface of the wall and the paper. Therefore, we can say that the GIIN of 'a top surface' has become a distinct sense of *shang*.

(4.30) *Tai shang zhi **shang** you qi-shi tan* (PMEC: Huainanzi)
Tai Mountain GEN **above** (postposition) has seventy altar
'There are seventy altars on the high part (top surface) of Tai Mountain.'

(4.31) *shi **shang** bu sheng wu gu* (PMEC: Huainanzi)
stone **above** (postposition) not grow five grain
'There are not grains that grow on the high part (top surface) of the stone.'

(4.32) *sui zhang da, you bao zhuo xi **shang*** (EMC:NATW)

even-so grew big, still hold PRE knee **above** (postposition)
'Even though (he) has grown up, (he) holds (him) on (the top surface of) his lap.'

(4.33) *bei bei **shang** jian ti zuo* (EMC: NATW)
stele back **above**(postposition) see theme works
'There are theme works on the (top surface of) the stele back.'

c. The Generalized Invited Inference 'an Inner Space'

The spatial word *shang* is also found indicating the inference-based meaning ‘an inner space’ in EMC. The word *shang* ‘a high location’ invited the inference of ‘an inner space’ when it was used with words such as ‘hall’ or ‘car’ as shown in examples (4.34) and (4.35). These kinds of words represent the LMs of *shang* and are conceptualized as containing large inner space. Since the LM of *shang* involves an inner space, the TR-LM configuration of *shang* has been distorted in contexts such as (4.34) and (4.35), in which the TR can be conceptualized as being located in the inner space of the LM. Therefore, an invited inference ‘an inner space’ appeared in the sentences where *shang* was used and was associated with *shang* through repeated contexts of use. For instance, the TRs can be conceptualized as being in the LMs in examples (4.34) and (4.35). It is ambiguous in terms of whether ‘the plan’ (i.e. TR) was discussed at ‘the high location of the imperial court’ or in ‘the inner space of the imperial court’ in example (4.34). Likely, we cannot tell if the object (i.e. TR) in example (4.35) was held on ‘the high location of the car’ or in ‘the inner space of the car’. Therefore, it is unsure whether *shang* indicates the central meaning ‘a high location’ or the inferential meaning ‘an inner space’ in examples (4.34) and (4.35). Example (4.36) represents an unambiguous example in which *shang* refers to ‘an inner space’. This is because we have the knowledge that the LM ‘the nest’ normally surrounds and supports the TR ‘the baby’. Over time, the frequent contexts of use of *shang* allowed the inference ‘an inner space’ to speared throughout the language community, leading to a GIIN. However, it should be noted that the inference ‘an inner space’ did not become a coded meaning of *shang*. This is because *shang* tends to indicate ‘an inner space’ when being used with words referring to vehicles. For instance, *shang* indicates ‘an inner space’ when using with words such as ‘car’ or ‘boat’ as shown in examples (4.37) and (4.38). It means that the particular meaning of *shang* ‘an inner space’ strongly depends on the contexts in which it appears.

(4.34) *gu yun chou yu miao-tang zhi* ***shang*** (PMEC: Huainanzi)
so plan manage PRE imperial court GEN **above** (postposition)
‘So conducts the planning and management at the high part (in the inner space) of the imperial court.’

(4.35) *tuo yu che* ***shang*** (PMEC: Huainanzi)
hold PRE car **above** (postposition)
‘Hold (the object) on the high part (inner space) of the car’.

(4.36) *tuo ying-er yu cao* ***shang*** (PMEC: Huainanzi)
hold baby PRE nest above (postposition)
‘Hold the baby in the (inner space of the) nest.’

(4.37) *fu zai che **shang***（EMC:NATW）
Fu be-located car **above** (postposition)
'Fu (a person's name) is in the (inner space of the) car'.

(4.38) *ju chuan **shang** xian shi se fen san* (EMC:NATW)
whole boat **above**(postposition) all turn pale separate disperse
'All the people in the boat scared and dispersed.'

4.6.3. **The Verb Complement Function of *Shang* in MEC**

As mentioned in section 4.5.3, since LAC *shang* can function as a causative verb to indicate the meaning 'cause something to move to a high/higher location'. For instance, *shang* function as a causative verb in example (4.39). However, it should be noted that *shang* in example (4.39) followed another verb *tui* 'push' and appeared in the [V_1 CONJ V_2 OBJ] construction. The two verbs in example (4.39) shared the same object (which was represented by a pronoun *zhi* 'it'). Therefore, the construction can be broken down into [V_1 OBJ CONJ V_2 OBJ]. According to Y. Shi (2002, p. 53), the situation of each of the verbs that bears an 'action-patient' relation to the object was common in 700-200 B.C (approximately between EAC to LAC). It is argued that 'only two (maximally four) transitive verbs can share (precede) an object' as shown in the formula [V_1 V_2] O (ibid, p. 44), which is termed 'the verb coordination principle'. In addition, it can be seen that the action represented by the first verb in [V_1 CONJ V_2 OBJ] has a more effective influence on the object than the action represented by the second verb (Hopper & Thompson, 1980). For instance, *shang* in example (4.39) did not have a high degree of transitivity as compared to the first transitive verb *tui* 'push'. This is because the causative verb *shang* was originally a intransitive verb. As mentioned by Y. Shi (2002, p. 46), once a intransitive verb is used as a causative form, it 'would be signaled inflectionally' and shows a transitive feature. Therefore, the verb *shang* in example (4.39) tends to indicate the result caused by the action represented by the first verb *tui* 'push'.

(4.39) *tui er shang zhi* (LAC: Mozi)
push CONJ **above** (causative verb) PRO
'Push (them) and make (them) move to a higher/the highest social position.'

As has been pointed out, the conjunction *er* 'and' in the verb coordination declined steadily over time and it can only be found in some fixed expressions today (Y. Shi, 2002, p. 54; M. Zhu, 1958, p. 22). It is believed that the disappearance of the conjunction *er* 'and' allowed V_1 and V_2 to occur next to each other as in [V_1 V_2 OBJ], which creates the possibility for V_2 to become a verb complement. The fact that serial verb constructions can give rise to complements has been recognized by Bybee (2015, p. 165). In addition, there was a a strong

tendency towards disyllabification in Medieval Chinese, in which two monosyllabic words that often co-occur in the contexts are subjected to compounding (Dong, 2012, p. 237; Y. Shi, 2002, p. 68). It has been argued by Hopper and Traugott (1993, p. 49) that the process of disyllabification can lead to lexicalization and grammaticalization. Furthermore, as noted by Givón (1990, p. 826), 'the more two events/states are integrated semantically or grammatically, the more will the clauses that code them be integrated grammatically'. Therefore, it is possible to believe that as V_1 and V_2 in [V1 V2 OBJ] more often occur together, they can be integrated syntactically allowing the second verb to experience grammaticalization. For instance, as shown in example (4.40), the action represented by the first verb *juan* 'roll' is linked to the action represented by *shang* through an 'cause-result' relation. It can be seen that the two events represented by *tiao* 'roll' and *shang* are highly integrated in terms of semantics, in which *shang* can reflect the result caused by the first action (i.e. the result of making the curtains move up). Accordingly, after frequently following verbs that denote movements, *shang* has experienced grammaticalization and acquired the grammatical function of verb complement indicating 'the result of making something move to a high or higher location'.

(4.40) *juan* *shang* *zhu-lian* (LMC: Three Hundred Tang Poems)
roll **above** (verb complement) bead-curtains
'(Someone) rolled the curtains.'

4.6.4. **The Adverbial and Adjective Functions of *Shang* in MEC**

We found that as *shang* acquired the verbal function and denoted a real movement towards a high or higher location in LAC, it was seldom used as an adverb to denote a direction towards a high location in EMC. The adverbial function of *shang* 'toward a high/higher part' seen in example (4.41) was gradually disappeared after EMC. This is partly due to the fact that the original adverbial function of *shang* was replaced by combining adverbs meaning 'toward' and *shang* 'a high location' as shown in example (4.42). Another possible reason is that some *shang* + Verb combinations has become compound words in which the adverbial function of *shang* becomes unspecified as shown in example (4.43).

(4.41) *xia* *shui* ***shang*** *teng* (PMEC: Huainanzi)
below water **above** (adverb) rise
'The water at lower area rise toward a higher area.'

(4.42) *wang* ***shang*** *reng* (MOC: The Travels of Lao Can)
toward **above** (adverb) throw
'Throws it toward a high/higher place.'

(4.43) *Jia-ge* ***shang****-sheng* (CC)
price rise
'The price goes up.'

As mentioned in section 4.4, *shang* can also be used as an adjective meaning 'high' in EAC. For instance, as shown in example (4.44), *shang* describes 'the wind from a high area'. Conceptually we divide a whole area or an object as containing a high and low parts. Therefore, what we label as 'high parts' is relative to what we understand as 'low parts', which means sometimes there is not an absolute standard in dividing up an upper or lower parts in cases such as example (4.44). The adjective *shang* is found in MEC to describe the 'high parts of an object' as shown in example (4.45). In addition, when being used as an adjective, *shang* had the extended meaning 'good/best' in AC, which is due to the conceptual metaphor GOOD IS UP as discussed in section 4.5.1. (See example 4.46). This usage of *shang* meaning 'good/best' was still found in MEC as shown in examples (4.47).

(4.44) *huo fa* ***shang*** *feng* (EAC: The Art of War)
fire ignite **above** (modifier) wind
'Set on fire from the high wind'.

(4.45) *kai* ***shang*** *chi* (LMC: Dream Torrent Essays)
clean **above** (modifier) tooth
'Clean the tooth at the high part.'

(4.46) *zheng yue* ***shang*** *ri* (EAC: The Classic of History)
the first month (of the lunar year) above (modifier) day
'The best day in the first month.'

(4.47) *wei ya zhang wei* ***shang*** *pin* (LMC: Dream Torrent Essays)
only sprout long is **above** (modifier) variety
'Only long tea sprout represents the best variety'

4.6.5. **Innovative Meanings of *Shang* in MEC**

As shown in the above discussion, the spatial word *shang* acquired six innovative meanings in MEC, which are 'offer something to a high ranking official', 'improve', 'get to a larger amount', 'a region', 'a top surface', and 'an inner space'. The first three extended meanings associated with *shang* based on conceptual metaphors and the last three related to *shang* through invited inference. However, the meaning 'an inner space' did not become the coded meaning or distinct sense of *shang* since it relies on specific contexts. In addition, as often following verbs in a serial verb construction, *shang* in MEC acquired the new grammatical function of a verb complement indicating 'the result of making things move to a high/higher location'.

4.7. Summary

This chapter discusses how innovative meanings or grammatical functions were associated with the spatial word *shang* in AC and MEC. It is found that novel usages of *shang* often appeared through conceptual metaphors and invited inferences. Furthermore, for a novel usage of *shang* to be considered as a distinct sense, it must contains non-spatial meaning (i.e. metaphorical meaning) and/or the meaning has to be context-independent. Finally, only through repeated contexts of use, can an invited inference that arises from specific contexts becomes parts of the meanings of *shang*. Figure 4.1 below shows the semantic networks for *shang* in AC and MEC. Senses associated with *shang* in AC and MEC are written in black and blue respectively.

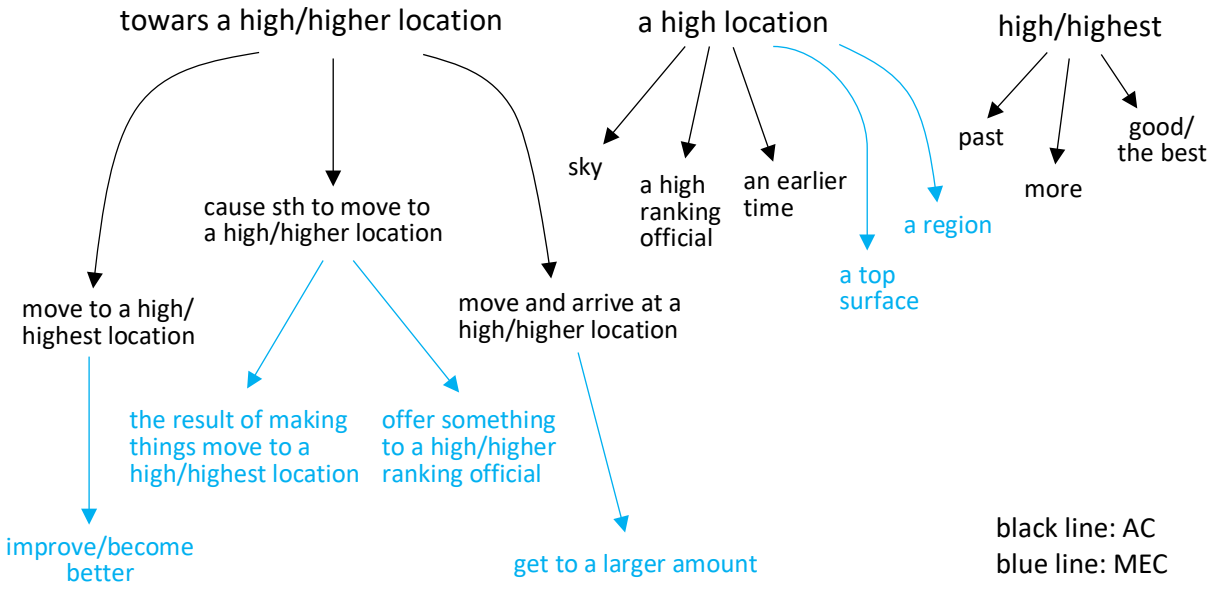

Figure 4.1 Semantic networks for *shang* in AC and MEC

Chapter 5. Semantic Networks for *Shang* in MOC and CC

In previous chapter, we have discussed the extended meanings associated with *shang* in AC and MEC. We have shown that the various distinct senses were derived from the primary senses of *shang* in a principled way based on metaphors and invited inferences. It can be seen that metaphor was active and contributed to the extended meanings of a spatial word even in an early stage while invited inference may take effect on the meanings of the particle throughout its development. Through repeated contexts of use, an invited inference which arises in a specific context may be accepted by most speakers in the community and become a generalized invited inference (GIIN). However, a GIIN may be canceled and cannot turn into a polysemous sense of a word. In this chapter, we will demonstrate the innovative meanings associated with *shang* in MOC and CC. It is found that as being used in more diverse contexts, the meanings of *shang* tend to become more abstract, and metaphor seems to pay less important role than invited inference on the meanings of *shang* in MOC and CC.

5.1. From Lexical to Grammatical Meanings

Before illustrating the distinct senses associated wish *shang* in MOC and CC, we will first discuss the tendencies or paths of semantic change in general and show the motivations that lead to the more schematic or grammatical meanings of an lexical item. It has been found that in the process of meaning change, locative terms experience grammaticalization and gradually lose their lexical features (Heine et al., 1991, p. 100). For instance, as has been demonstrated by some researchers, when following nouns, the meaning of *shang* became vaguer from denoting a precise position in AC to describing undifferentiated location in MEC (Chappell & Peyraube, 2008, p. 25; Peyraube, 2003, p. 192; Qi, 2014, pp. 133-143). Examples (5.1) and (5.2) demonstrate the semantic change of *shang* following nouns from AC to MEC.

(5.1) *wang zuo yu tang* ***shang*** (LAC: Mencius)
king sit PRE hall **above** (postposition)
'The king sat at the high/highest part of the hall'

(5.2) *sui zhang da, you bao zhuo xi* ***shang***（EMC:NATW）
even-so grew big, still hold PRE knee **above** (postposition)
'Even though (he) has grown up, (he) holds (him) on (the top surface of) his lap.'

In fact, considerable progress has been made toward understanding the loss of specific meanings in grammaticalization. Firstly, it has been recognized that meaning tends to shift from concrete to abstract than in the opposite direction (Sweetser, 1987, 1990; Traugott, 1982, 1986). For instance, vision verbs in the physical domain develop abstract senses of mental activity in the psychological domain as in the case of using the verb *see* to mean 'know/understand' (Sweetser, 1990, p. 33). In addition, the evolution of a grammatical maker is represented by a loss of specificity leading to its applicability to a broader range of contexts (Bybee & Pagliuca, 1985; Bybee et al., 1994). For example, compared to the deontic use of *may* in example (5.3a), the restriction of occurring in sentences where the subject is animate and willful is lost when the epistemic use of *may* develops as shown in example (5.3b), and we can see that the epistemic sense of *may* is more general than the deontic meaning.

(5.3) **a. The deontic use of *may***

The student *may* check books out of the library at any time (permission)

b. the epistemic use of *may*

The storm *may* clear by tomorrow (possibility) (Bybee & Pagliuca, 1985, p. 65)

Furthermore, it has been observed by Traugott (1982, 1988, 1989, 1990) that meanings tend to shift from portraying 'propositional' to 'textual' and to 'expressive' situations indicating that there is a general tendency for meanings to transfer from describing a physical and social world to reflecting the speaker's subjective belief or attitude towards the proposition. For instance, the original meaning of *while* is 'at the time that' in Old English, and it developed the meanings of 'during' in Middle English and 'although' in Present-Day English. According to Traugott (1989), 'at the time that' describes a temporal state which can be considered as 'propositional'; 'during' represents a cohesive time relation which can link either two events or two clauses so that it has both a textual as well as a temporal function; and 'although' in the concessive sense is mainly used to express the speaker's attitude. It is highly unlikely to see the reverse change from expressive > textual> propositional in the development of any one grammatical marker. Therefore, as shown in previous discussion, as an element becomes grammaticalized, it undergoes a change of meaning rather than becoming meaningless. Then, the question we should ask is how grammatical meanings come about. It has been recognized that both metaphorical extensions and pragmatic inferences motivate the grammatical function of lexical items in which metaphors emphasize the mapping from one semantic domain onto another (see Bybee & Pagliuca, 1985; Heine et al., 1991; Sweetser, 1990) while pragmatic inferences

highlight the speakers' attempt to negotiate strategically in the interaction. However, as argued by Traugott (1989, 1995); Traugott and Dasher (2002), compared to metaphors, it is pragmatic inferences that adequately account for the more abstract and subjective meanings of a lexical item. In the following discussion, we will show how pragmatic inference takes effect on the more schematic or subjective meanings of *shang* in MOC and CC.

5.2. Distinct Senses for *Shang* in MOC

We found that there were five novel meanings associated with *shang* in MOC in which three performed the verbal function and the other two functioned as verb complement to indicate resultant states. The three verbal meanings of *shang* are 'go to', 'get onto' and 'attach to' and the two resultative meanings are 'the result of arriving at a destination' and 'the result of making contacts'. The five extended senses have been the results of pragmatic inferences as speakers tend to use *shang* to express more abstract and subjective ideas.

5.2.1. **Distinct Sense 'Go to'**

In LAC and MEC, *shang* had the meaning 'move to a high/higher location' as shown in example (5.4) below. When appearing with nouns indicating locations, *shang* invited the inference of 'go to'. This is because speakers believe that the ultimate goal of moving to a high location is to arrive at the location. For instance, it is ambiguous in terms of whether *shang* referred to the physical meaning 'climb to the hall' or the inferential meaning 'go to the hall' in example (5.5). Over time, the frequent use of *shang* in contexts such as (5.5) allowed the inference to speared throughout the language community, which leads to a GIIN and finally a coded meaning of *shang* in MOC. As evidenced by examples (5.6) and (5.7), *shang* means 'go to' although the nouns following *shang* do not represent high locations. The older meaning 'move to a high or higher location' is hardly recognized in examples (5.6) and (5.7) when comparing the usage of *shang* in examples (5.4) and (5.5). The distinct sense 'go to' involves a unique spatial configuration of a TR going to a LM. In addition, the extended meaning 'go to' does not depend on a specific context because this meaning appears when *shang* is used with most words represent locations. For instance, *shang* can occur with 'pharmacy' to mean 'go to the pharmacy' as shown in example (5.8). Since this usage of *shang* is context-independent, we can say that the meaning 'go to' becomes lexicalized as a polysemous sense of *shang*. The usage of *shang* meaning 'go to' is still seen in CC as demonstrated in example (5.8).

(5.4) *yu nv* ***shang*** *an-ling cheng-luo* (EMC: NATW)
with daughter **above** (verb) An-ling city wall
'I climbed the An-ling city wall with my daughter.'

(5.5) *chong* ***shang*** *jun-zi tang* (LMC: Three Hundred Tang Porms)
again **above** (verb) Jun-zi hall
'(Someone) climbed (went to) the Junzi hall again'

(5.6) ***shang*** *na-li qu le* (MOC: The Travels of Lao Can)
above (verb) where go PERF
'Where did you go?'

(5.7) ***shang*** *jie zhi-ban xing-li* (MOC: The Travels of Lao Can)
above (verb) street buy luggage
'(Somebody) went to the street and brought something for travelling.'

(5.8) *wo* ***shang*** *yao-fang mai yao* (CC)
I **above** (verb) pharmacy buy medication
'I went to the pharmacy and brought some medication.'

5.2.2. **Distinct Sense 'Get onto'**

The verb *shang* 'move to a high or higher location' in MEC also invited the inference of 'get onto' when it was used with words indicating large objects. This inference occurred because speakers have the general knowledge that the purpose of moving to the high part of an object is getting on it since the object can support the person who stands, sits or lies on it. For instance, it is ambiguous in terms of if *shang* indicated the meaning 'climb to the bed' or the inferential meaning 'get onto the bed' in example (5.9). It is found that through frequent contexts of use, the inference 'get onto' has become a GIIN and then a coded meaning of *shang* in MOC. As shown in examples (5.10) and (5.11), *shang* is used with the words 'car' and 'stage' to mean 'get on to the car' and 'get onto the stage'. Instead of emphasizing the motion of moving up to the car or the stage, *shang* in examples (5.10) and (5.11) highlights the aspect of coming to the car or the stage. Therefore, the distinct sense 'get onto' involves a unique spatial configuration of a TR getting onto the LM. In addition, the surrounding contexts where *shang* was used in examples (5.10) and (5.11) do not provide information regarding the 'get onto' meaning, which means that the extended sense of *shang* (i.e. 'get onto') has become parts of the meanings of *shang*. The usage of *shang* meaning 'get onto' is still seen in CC as shown in example (5.12).

(5.9) *yang jing* ***shang*** *da chuang* (EMC: NATW)
Yang directly above (verb) big bed
'Yang directly climbed or got onto the big bed.'

(5.10) ***shang*** *le che* (MOC: The Travels of Lao Can)

above (verb) CRS car
'(Someone) has got onto the car.'

(5.11) ***shang*** *chang* (MOC: The Travels of Lao Can)
Above (verb) stage
'Got onto the stage.'

(5.12) ***shang*** *shou-shu tai* (CC)
Above (verb) operation table
'Got on the operation table.'

5.2.3. **Distinct Sense 'Attach to'**

Another inference that was invited by the verb *shang* 'move to a high/higher place' in MEC is 'attach to'. This inference appeared because speakers have the knowledge that an object (or a person) can attach (or be attached) to another object after the first item (or the first person) moves to the second one that is located in a relatively higher place. As shown in example (5.13), the context is ambiguous as to which of the interpretations of *shang* (i.e. 'climb to the seat' or 'attach to the seat') was intended by the speaker. The first usage emphasizes the upward movement to the seat while the second one highlights the result of moving onto the seat. Over time, the repeated use of *shang* in contexts such as (5.13) allowed the inferential pattern 'attach to' to be used by most speakers throughout the language community, leading to a GIIN and then eventually a polysemous sense of *shang* in MOC. Examples (5.14) to (5.15) represent unambiguous contexts in which *shang* refers to 'attach to'. In (5.14), 'the handcuffs' was attached to 'hands' and 'the latch' was attached to 'the door' in (5.15). In example (5.16), *shang* means 'psychologically attach to' or 'be addicted to', indicating that the meaning of *shang* becomes more abstract and tends to reflect speakers' inner world. As demonstrated from examples (5.14) to (5.16), the distinct sense of *shang* 'attach to' involves a unique spatial configuration of a TR attaching to a LM. In addition, the contexts in which *shang* occurs do not provide information regarding the 'attach to' sense of *shang*. Therefore, we can say that the sense 'attach to' becomes lexicalized as a coded meaning of *shang*.

(5.13) ***shang*** *zuo bian yan* (EMC: NATW)
above (verb) seat then say
'(Someone) climbed (or attached) to the seat and said.'

(5.14) ***shang*** *shou-kao* (MOC: The Travels of Lao Can)
above (verb) handcuff
'Put handcuffs (on somebody).'

(5.15) *ba da men* ***shang*** *le da shuan* (MOC: The Travels of Lao Can)
BA big door **above** (verb) PREF big latch

'Put the big latch on the big door.'

(5.16) ***shang*** *yin* (MOC: The Travels of Lao Can)
above (verb) addiction
'Be addicted to something.'

5.2.4. **Distinct Sense 'The Result of Arriving at a Destination'**

As mentioned in section 4.6.3, in MEC *shang* can function as a verb complement to indicate the meaning 'the result of moving to a high/higher location'. When following verbs denoting movements, the verb complement *shang* invited the inference 'the result of arriving at a destination'. This is because speakers know that the result of moving to a high location may bring to the result of arriving at the location. As shown in example (5.17), it is ambiguous in terms of whether *shang* indicated the meaning 'the result of moving up to the boat' or the inferential meaning 'the result of arriving at the boat'. Over time, the repeated use of *shang* in contexts such as (5.17) allowed the inferential pattern 'the result of arriving at a destination' to be shared by most speakers throughout the language community, leading to a GIIN and then eventually a polysemous sense of *shang* in MOC. For instance, in examples (5.18) and (5.19), being used with verbs *dai* 'bring' and *zuo* 'sit', *shang* expressed the meaning of 'the result of arriving at the hall'. Unlike example (5.17) in which the verb *tiao* 'jump' represented a movement toward a high location, *dai* 'bring' and *zuo* 'sit' in examples (5.18) and (5.19) did not indicate upward movements which shows that the meaning of the verb complement *shang* may be grammaticalized and used as a grammatical maker to describe 'the result of arriving at a destination'. In addition, it can be seen that the extended meaning of *shang* 'the result of arriving at a destination' could not be inferred from the contexts in which it is used since a number of verbs indicating movements, such as *zou* 'walk', *pao* 'run' and *zhuai* 'drag' can all appear with *shang*. That is to say, there seems no restrictions on the motion verb that could be used with *shang* when describing the result of arriving at a destination. Therefore, the distinct sense 'the result of arriving at a destination' has become a coded meaning of *shang*.

(5.17) *sui tiao* ***shang*** *chuan* (EMC: NATW)
then jump **above** (verb complement) boat
'(Someone) then jumped (up) onto the boat.'

(5.18) *jiang san ren dai* ***shang*** *tang* (MOC: The Travels of Lao Can)
lead three people bring **above** (verb complement) hall
'(Someone) brought the three people to the hall.'

(5.19) *fu xing zuo* ***shang*** *tang* (MOC: The Travels of Lao Can)
Fu-xing sit **above** (verb complement) hall
'Fu xing (a person's name) sat on the hall.'

5.2.5. **Distinct Sense 'The Result of Making Contacts'**

As mentioned in section 4.6.3, in MEC *shang* also indicated the meaning 'the result of making something move to a high/higher location'. The verb complement *shang* can invite the inference of 'the result of making contacts'. This inference occurred because speakers have the general knowledge that the result of making things move to a high location can lead to the result of making things contact to each other. As shown in example (5.20), the context is ambiguous as to which of the interpretations of *shang* (i.e. 'the result of moving up the curtains' or 'the result of making the curtains in contact') was intended by the speaker. The frequent uses of *shang* in contexts such as (5.20) enabled the inference to spread throughout the language community, resulting in a GIIN and finally a coded meaning of *shang* in MOC. For example, *shang* in example (5.21) indicated the meaning of 'the result of making the fire contact the candle' and *shang* in example (5.22) described 'the result of making the oil contact the cup.' Unlike example (5.20) in which the verb *juan* 'roll' still indicated a movement towards a higher location, *dian* 'light' and *dao* 'pour' in (5.21) and (5.22) did not represent upward movements which proves that the meaning of *shang* may change and become grammaticalized. It can be seen that the older meaning 'the result of making something move to a high/higher location' was hardly recognized in examples (5.21) and (5.22). In addition, as often appearing together, the V and *shang* can be used together to modify a noun (see example 5.22), which shows that there is a stronger association between the V and the verb complement *shang* both semantically and syntactically. Furthermore, as shown in example (5.23), when following verbs describing a psychological contact such as *gou-da* 'hook up', *shang* in MOC can even describe an abstract meaning of 'the result of making contacts psychologically'. This again proves that the meaning of *shang* has been grammaticalized and become more abstract. In addition, the extended meaning of *shang* 'the result of making contacts' could not be inferred from the context where *shang* appears. Even without mentioned the surrounding context, speakers would have a sense that *shang* in *dao shang* in example (5.22) indicated the result of making the liquid in contacts with a container. Therefore, the distinct sense 'the result of making contacts' has become a coded meaning of *shang*.

(5.20) *juan* ***shang*** *zhu-lian* (LMC: Three Hundred Tang Poems)
roll **above** (verb complement) bead-curtains
'(Someone) rolled (up) the curtains.'

(5.21) *dian* ***shang*** *la-zhu* (MOC: The Travels of Lao Can)
light **above** (verb complement) candle

'(Someone) lit a candle.'

(5.22) *na shi xin dao-**shang** de dong you* (MOC: The Travels of Lao Can)
that is new pour-**above** ASSOC frozen oil
'That is the frozen oil which has been newly poured (to the cup).'

(5.23) *jia da ni zi yu wu er gou-da **shang** le* (MOC: The Travels of Lao Can)
Jia-da-ni-zi with Wu-er hook **above** (verb complement) PREF
'Jia-da-ni-zi and Wu-er hooked up.'

5.2.6. **The Adjective Function of *Shang* in MOC**

As discussed in section 4.6.4, *shang* in MEC can describe the higher parts of an object. This usage of *shang* indicating the meaning of 'high parts of' is still found in MOC. For instance, as an adjective, *shang* can describe the 'higher half part' in example (5.24) and the 'higher part of the couch or bed' in example (5.25).

(5.24) ***shang** ban-jie* (MOC: The Travels of Lao Can)
Above (modifier) half part
'Higher half part.'

(5.25) ***shang** ta* (MOC: The Travels of Lao Can)
Above (modifier) couch/bed
'Higher part of the couch/bed.'

5.2.7. **Innovative Meanings of *Shang* in MOC**

As shown in the above discussion, the spatial word *shang* acquired five innovative meanings in MOC, which are 'go to', 'get onto' 'attach to', 'the result of arriving at a destination' and 'the result of making contacts.' These novel usages occurred due to the strengthening of pragmatic inferences. In general, the meaning of *shang* tends to reflect speakers' subjective beliefs at this stage. In addition, it has been found that as being used with more kinds of words, the meanings of *shang* tend to become more abstract in MOC.

5.3. Usages of *Shang* in CC

Denoting both spatial and non-spatial meanings, the spatial word *shang* mainly serve four grammatical functions in CC, which are postposition, verb, verb complement and adjective.

5.3.1. **Shang Follows Noun as a Postposition in CC**

There is one distinct sense associated with *shang* in CC, which is 'an abstract region'. In this usage, *shang* follows nouns to denote the region of an event, activity or a state. This meaning is derived from the older meaning 'a region' and it occurs as *shang* 'a region' often follows

nouns describing activities, events and psychological states in CC. Here, ontological metaphors are involved in which events, activities, emotions, ideas, etc., are conceptualized as entities and substances. According to Lakoff and Johnson (1980, p. 26), ontological metaphors arise since we impose artificial boundaries on things that are not clearly discrete or bounded in order to satisfy certain purposes. For example, the experience of rising prices can be metaphorically considered as an entity via the noun *inflation* as shown in examples (5.26 a-b) given by Lakoff and Johnson (1980, p. 27). As shown in these examples, viewing inflation as an entity provides us a way to referring to the experience.

INFLACTION IS AN ENTITY

(5.26) a. *Inflation* is lowering our standard of living.

b. If there's much *more inflation*, we will never survive. We need to *combat inflation.*

In sentences where *shang* occurs, events, activities, emotions, ideas are metaphorically viewed as entities or substances via abstract nouns such as *meeting*, *conference*, *career*, *soul*, *mind*, *meaning*, *degree* etc. Since these experiences are viewed as entities or substances through ontological metaphors, speakers could impose boundaries on them. Therefore, when the word *shang* follows nouns indicating these experiences, it gives boundaries to them by limiting the range of activity. For instance, since the experiences of a meeting and a mental activity are considered as entities, *shang* can be used with nouns *zuo-tan-hui* 'meeting' and *xin-li* 'mind' to indicate 'the region of a meeting' and 'the region of minds' in examples (5.27) and (5.28). Since the extended meaning of *shang* 'an abstract region' is often seen in CC, there is more chance for it to be conventionalized and become a polysemous sense. In addition, even without mentioning the sentential contexts in which *shang* 'an abstract region' is used, speakers would know that expressions like *shi-jie shang* 'world above' or *li-shi shang* 'history above' denote the regions of world or history. Therefore, we can say that the distinct sense of *shang* 'an abstract region' is context-independent and has become a coded meaning of *shang*.

(5.27) *Zhu-rong-ji* *zai* *zuo-tan-hui* ***shang*** *jiang-hua* (CC: Reportage)
Zhu-rong-ji be-located meeting **above** (postposition) talk
'Zhu-rong-ji (the former premier of China) gave a speech in the meeting.'

(5.28) *wen-ti* *shou-xian* *biao-xian* *zai* *xin-li* ***shang*** (CC: Academic Writing)
problem first show be-located mind **above** (postposition)
'The problems first appear in (people's) minds.'

In addition, we found that the types of nouns that often follow *shang* have gradually changed from AC to CC. As has been argued by Hilpert (2011, p. 134), the typical collocates of a grammatical construction reflect its meaning; therefore the shifting of typical collocates of a grammatical construction can indicate the change of meaning. For instance, the English auxiliary *can* used to denote a mental ability so that it only appeared with infinitive complements that express actions of sentiment human beings, as in *teach*, *say* or *agree*. Overtime, as the meaning of *can* developed, it came to occur with a wider set of collocates. Therefore, it is possible to believe that the occurrence of new collocate for *shang* can also indicate the semantic change of *shang*. As shown in Figure 5.1 below, the types of noun that often occurred with *shang* developed from place nouns in EAC, LAC, and PMEC (see example 5.29), substance nouns in EMC and MOC (see example 5.30), to abstract nouns in CC (see example 5.31), which again proves that the meaning of *shang* as a postposition have changed from denoting a high location to a top surface, a region and an abstract region.

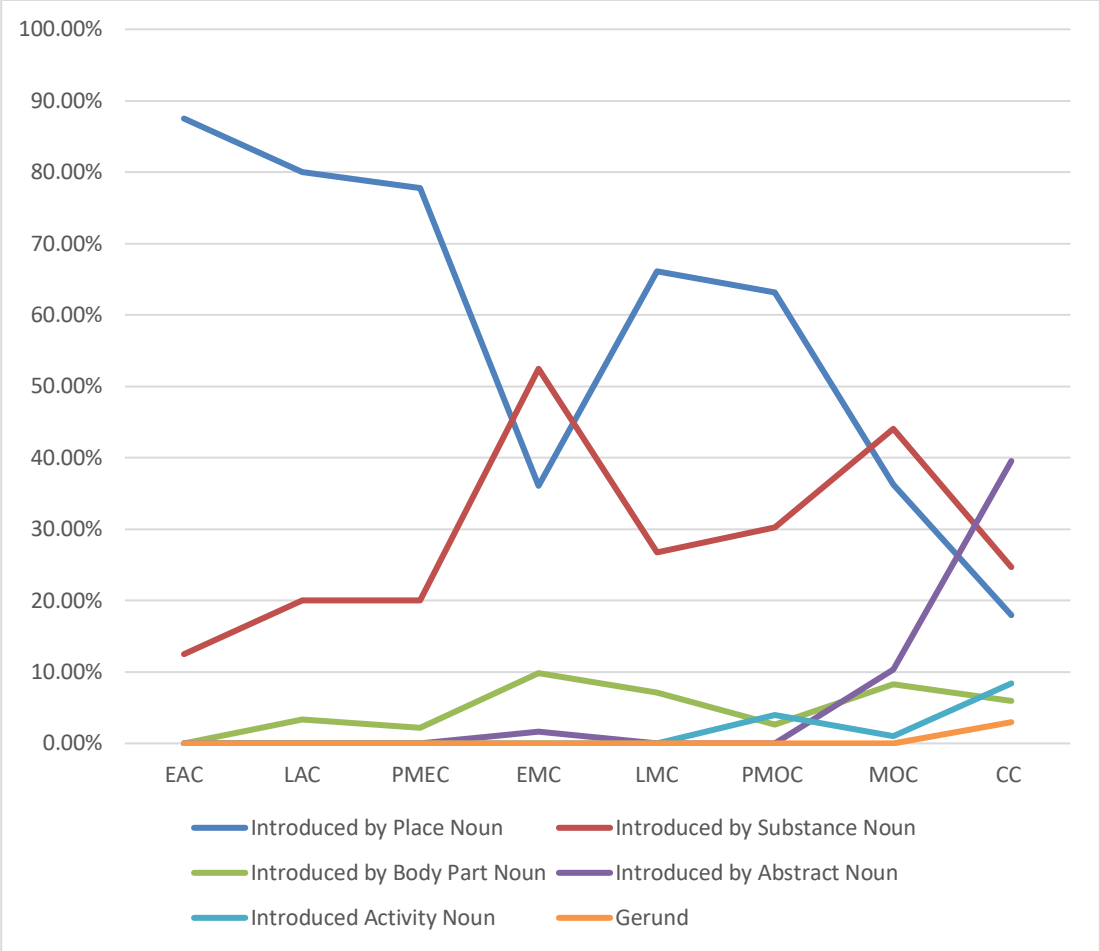

Figure 5.1 The types of noun often occurred with *shang* from AC to CC

***Shang* follows a place noun meaning 'a high location'**

(5.29) *zai Song cheng **shang** dai Chu kuo* (LAC: Mozi)
be-located Song city **above** (postposition) wait Chu enemy
'Waiting the enemy from Chu at the high part of Song city.'

***Shang* follows a substance noun meaning 'a top surface'**

(5.30) *gu **shang** fang le liang ge tie pian* (MOC: The Travels of Lao Can)
drum **above** (postposition) put AUX two CL iron slice
'Two iron slices are put on the drum.'

***Shang* follows an abstract noun meaning 'an abstract range'**

(5.31) *ba qian hua zai yang-zhi-ye **shang*** (CC)
ba money spend PRE breeding-industry **above** (postposition)
'Money is spent on the breeding industry.'

It should be noted that although the meaning of *shang* used after nouns generally become more abstract in CC, *shang* tend to follow a particular type of noun in different kinds of genre. As shown in Figure 5.2 below, we found that most instances of *shang* are used with abstract nouns in academic writings (54.81%) and reportage (48.28%); instances of *shang* are often used with substance nouns in romance stories (42.86%) and general fiction (39.08%); the word *shang* usually appears with place nouns in science fiction (42.02%). In addition, activity nouns are more often used with *shang* in reportage (26.73%) and body parts nouns more often appear with *shang* in romance stories (14.29%). Examples (5.31) to (5.36) show the instances of *shang* following different kinds of nouns in the five types of genres in CC.

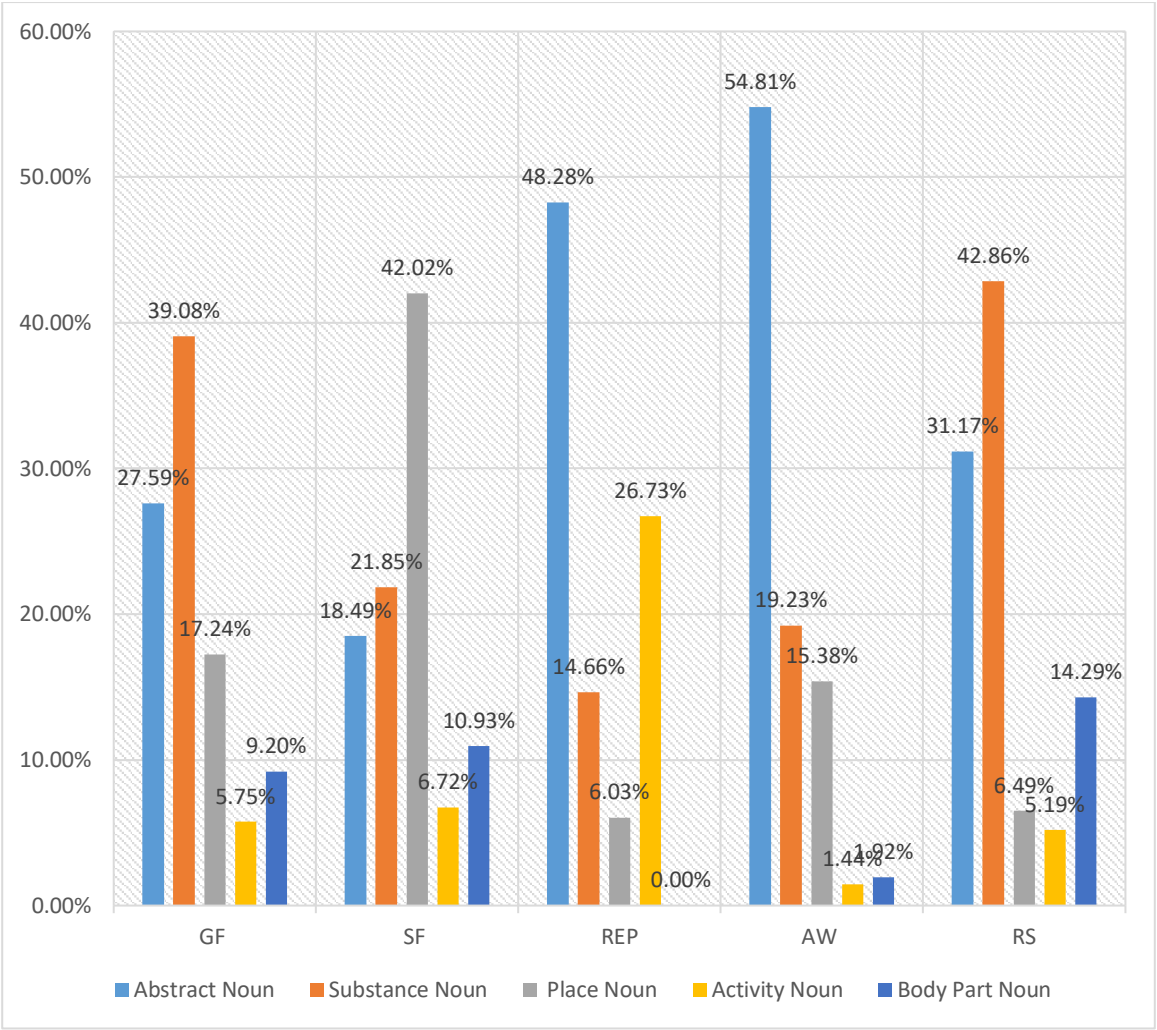

Figure 5.2 Shang following various types of nouns in different genres in CC

Shang follows an abstract noun in academic writing

(5.31) *zai mou-zhong cheng-du* ***shang*** *ji-fa le ren-men de re-qing* (CC)
PRE some degree **above** (postposition) activate CRS people ASSOC enthusiasm
'It has motivated people's enthusiasms in some (abstract range of) degree. '

Shang follows an abstract noun in reportage

(5.32) *li-shi* ***shang*** *ju-you zhong-da yi-yi de yi nian* (CC)
history **above** (postposition) has great meaning ASSOC one year
'It is a year that had great significance in (an abstract range of) history.'

Shang follows a substance noun in general fiction

(5.33) *yin zai xin-zhi* ***shang*** *de yi ju ying-yu* (CC)
print PRE letter paper **above**(postposition) ASSOC one sentence English
'One English sentence that was printed on the (top surface of the) letter paper.'

Shang follows a place noun in science fiction

(5.34) *jiang-luo zai hao-wu sheng-qi de di-qiu* ***shang*** (CC: Science Fiction)
landing be-located no alive ASSOC earth **above** (postposition)
'It landed at (the region of) the lifeless earth.'

Shang follows an activity noun in reportage

(5.35) *zai xin-wen fa-bu hui* ***shang*** *wei zuo ping-pan* (CC)
PRE press conference **above**(postposition) no make judgement
'(Someone) has not made a judgement at the (abstract region of) press conference.'

Shang follows a body part noun in romance story

(5.36) *yi-wei zai ta de jian-bang* ***shang*** (CC)
snuggle be-located PRO ASSOC shoulder **above** (postposition)
'(She) snuggled on (the top surface of) his shoulder.'

It can be seen that when following nouns, *shang* performs various discourse functions in different kinds of genres. As shown in examples (5.31) and (5.32), *shang* is used with abstract nouns in academic writings and reportages to mark the regions of abstract aspects such as the regions of 'degree' and 'history'; *shang* appears with substance nouns in general fictions to describe the top surface of an object as demonstrated in example (5.33); *shang* follows place nouns in science fictions to indicate the region at which something is located as demonstrated in example (5.34); *shang* occurs with activity nouns in reportages to denote the regions of events or activities as seen in example (5.35); and *shang* is used with body part nouns in romance stories to describe the top surface of a body part as shown in example (5.36).

5.3.2. **Other Grammatical Functions of *Shang* in CC**

More abstract meanings are found to associate with *shang* in CC when it performs the grammatical functions of verb and verb complement. These meanings occur as *shang* are used with more kinds of words in various contexts to denote abstract concepts or subjective believes. For instance, the verb *shang* is used with *ceng-ci* 'level' in example (5.37) to indicate the situation of 'moving to a higher mental level' and the verb complement *shang* appears with the verb *gen* 'follow' in example (5.38) to express the meaning of 'the result of making abstract concepts contact.' Since these abstract usages of *shang* strongly rely on the contexts in which *shang* appears with, they do not become parts of the meanings of *shang*. That is to say, meaning such as 'moving to a higher mental level' is context-dependent and only occurs as *shang* is used with words denoting 'mental level'. As mentioned in 4.5.1, *shang* can indicate past time

in EAC. This usage of *shang* as an adjective is still seen in CC as shown in examples (5.39) and (5.40).

(5.37) *dai-ling ren-men* ***shang*** *ceng-ci* (CC: Academic Writing)
lead people **above** (verb) level
'Leading people move to a higher (mental) level.'

(5.38) *wen-hua sheng-huo gen* ***shang*** *le* (CC: General Fiction)
culture life follow **above** (verb complement) CRS
'The cultural life now keeps up (with the trend).'

(5.39) ***shang*** *shi-ji* (CC: Reportage)
above (modifier) century
'Last century'

(5.40) *wo* ***shang*** *xing-qi er cai shen-qing ru-hui* (CC: General Fiction)
me **above** (modifier) week two only apply enrolment
'I have just applied for enrolment last Tuesday.'

5.3.3. **Innovative Meanings of *Shang* in CC**

As shown in the above discussion, the spatial word *shang* has acquired one innovative meaning 'an abstract region' in CC. This meaning arises as *shang* is usually used with nouns that denote activities, events and psychological states. Although in CC *shang* still expresses the older (or physical) meaning of 'a high location' or 'a region', the spatial meaning often occurs in science fiction compared to other types of genres. Generally speaking, being used with more types of words in various types of contexts, meanings of *shang* become more abstract.

5.4. Summary

This chapter discusses the distinct senses for *shang* in MOC and CC. Compared to the usages of *shang* in EAC and MEC, meanings of *shang* has become more abstract and tend to involve speakers' subjective beliefes. In addition, as shown in our dissussion, metaphors seem to play a less important role than invited inferences on the grammatical meanings of *shang* in MOC and CC. Figure 5.3 below shows the semantic networks for *shang* in MOC and CC.

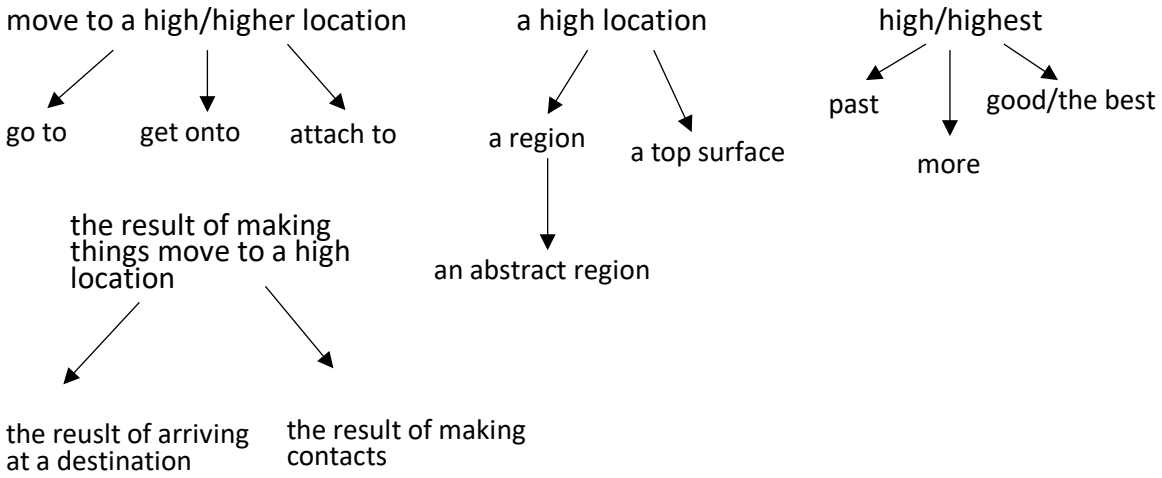

Figure 5.3 Semantic networks for *shang* in MOC and CC

Chapter 6. Network of Constructions Containing *Shang*

In previous chapters, we have demonstrated the extended senses associated with *shang* in different periods of Chinese language. It has been shown that both conceptual metaphors and pragmatic inferences contribute to the various meanings of *shang*. In this chapter, we elaborate on the usage-based approach to language change and demonstrate the idea that language is a network of relations among constructions. In particular, we illustrate the significance of networks in accounting for the development of constructions in which *shang* appears and show how the network of constructions grows and contracts.

6.1. Usage-based Approach to Language Change

Representing a usage-based model, Traugott and Trousdale (2013) have proposed a constructional approach to language change which has emphasized the importance of both knowledge and use. In a usage-based model of change, knowledge is considered as 'the ground out of which innovation emerges'. Knowledge may contain individual knowledge (i.e. the reflection of an individual mind), community knowledge (i.e. the representation of the structure of Chinese at a given point in time) and linguistic knowledge (i.e. conventional usage of utterances). The term 'emerge' (or 'emerging') in Traugott and Trousdale (2013, p. 48) means 'coming into being on the basis of use of extant structures and norms'. Therefore, it is believed that speakers use existing resources (i.e. mental processing and conventional understanding) to create novel expressions. However, it is argued by Traugott and Trousdale (2013, p. 46) that 'innovations may be one-offs or idiosyncrasies of a particular speaker or hearer', which are not 'changes at a population level'. It is only when 'modifications to meaning or form are replicated in attested data' can we say that 'innovations in question have been adopted by other speakers in a social network' (ibid). In other words, it is necessary to identify the conventionalized 'changes' among language users. As will be shown in section 6.3, innovations are first manifested as small-step mirco-changes in a network, and they involve new links among features of a network node, but no new node in the network (see a further discussion in section 6.1.1). When the innovations frequently occur and are adopted by most speakers in a community, they become conventional usages and can further shape the knowledge (or the schema). It is at this time that a new node (i.e. a new construction) in the network appears.

Two important issues for usage-based models are briefly mentioned in the next subsections: (a) storage and entrenchment as a unit and (b) the extent to which a scheme, once established,

sanctions new constructs and constructions. We will then introduce two types of change classified by Traugott and Trousdale (2013): constructional change and constructionalization.

6.1.1. **Storage and Entrenchment as a Unit**

A usage-based model embraces the idea that constructions are entrenched, stored units (see Langacker, 1987, 1988; Traugott & Trousdale, 2013, p. 48). As described by Langacker, a unit is 'a structure that a speaker has mastered quite thoroughly, to the extent that he can employ it in a largely automatic fashion, without having to focus his attention specifically on its individual parts or their arrangement'(Langacker, 1987, p. 57). That is to say, despite its internal complexity, once a structure is manipulated as a 'pre-packaged' assembly through repetition, it acquires the status of a unit and 'constitutes a well-rehearsed, thoroughly familiar routine' (ibid, p. 58). For instance, frequent encounters with and use of the plural form *glasses* may mean that it is entrenched as a unit, and a constructive effort is no longer needed to understand the individual parts of the construction (i.e. *glasses* are formed by combining the single form *glass* and the suffix *es*). It should be noted that Langacker's sense of 'a unit' consists of an established concept, a familiar sound and the symbolic association between a semantic and phonological structure. Nevertheless, Traugott and Trousdale (2013), citing Goldberg (2006) and Croft (2001), regard a unit (or a construction) as the conventionalized assembly of both meaning and form in which a meaning contains semantics, pragmatics, and discourse functions and a form includes syntax, morphology, and phonology. Although focusing on different aspects, researchers in favouring of a usage-based model share the common ground that a unit is formed in the process of language use by abstracting away commonalities and an utterance which is used repeatedly in various contexts is more likely to be entrenched or stored as a unit. Since in this chapter we are looking at language change at the constructional level beyond the single morpheme *shang,* we rely on Traugott and Trousdale (2013)'s perspective on construction.

In order to understand the character of constructionalization (i.e. the creation of a new node or construction), we must know how a construction acquires its unit status through the exposure to actual usage events in different periods. Firstly, it can be seen that linguistic system is formed by gradually abstracting more general representations (e.g. phonemes, morphemes, and syntactic patterns) from the repetition of similar instances of use (Langacker, 1987, 1988, 2000). For instance, the knowledge of noun pluralization is established by abstracting away commonalities of specific instances like *beads*, *eyes* or *dogs* in various contexts of use. Secondly, frequent encounters with and use of a particular form enhances the likelihood of it

to be entrenched as a unit (Bybee, 2007, 2010b; Bybee & Hopper, 2001). For instance, the frequently occurring irregular morphological forms such as *were*, *had*, *knew* and *kept* acquire their unit status and are resistant to change, however the past tense of the lower frequency forms such as *leap* has regularized from *leapt* to *leaped* (Bybee, 2010b, p. 66).

6.1.2. **Schemas Sanction New Constructions**

In the synchronic usage-based literature, the task of finding appropriate linguistic expression for a conceptualization is referred to as the problem of coding; and the solution is called a target structure, which is a usage not directly given by the grammar of a language but is formed to fit into a particular set of circumstances (Langacker, 1987, pp. 65-66). When a target structure accords with a conventional unit in the grammar, it is said to be more or less 'sanctioned' by the more general unit or schema. Therefore, through frequent use, an innovative usage or a construction may become sanctioned by an extant schema. For example, although the construction *a lot of* can either be understood as a partitive or a quantifier prior to the beginning of the 19th century, it was probably not conventionalized as a quantifier until the late 18th century when examples in this use begin to proliferate (Traugott & Trousdale, 2013, p. 49). As *a lot of* began to be used as a quantifier, it came to be sanctioned by the extant quantifier schema, which already had members like *a deal of*, *much*, *many*, *few*, and *a little*. The quantifier schema further developed after sanctioning more new micro-constructions such as *a lot of* and *lots of* (ibid).

Two kinds of sanctioning are distinguished by Langacker (1987): full and partial sanction, which roughly correspond to instantiation and extension. Since sanction is considered to be a type of categorization, it is a matter of degree and subject to the judgment by language users. Full sanction/instantiation happens when 'the target is compatible with the sanctioning unit, and is therefore judged to be an unproblematic instantiation of the category it defines' (ibid, p. 68); partial sanction/extension occurs 'when there is some conflict between the specification of the sanctioning and target structures' (ibid, p. 69). In addition, partial sanction represents the situation of a category being defined in terms of prototypical instances and is thus judged to be an extension from the prototype (ibid). However, since normally 'a considerable amount of nonconventionality' is tolerated in language use, these two types of categorization are closely related and 'there is no specific cut-off point' between them.

Focusing on both form and meaning, Traugott and Trousdale (2013, p. 16) have proposed a minimal set of constructional levels for description and analysis of constructional change,

which includes schemas, subschemas, and micro-constructions. They have also recognized that there are not absolute distinctions among these categories, and the relationships between them may change over time. According to Traugott and Trousdale (2013), in every usage event, micro-constructions are instantiated by 'constructs', which are 'instances of use on a particular occasion'. Serving a specific communicative role, constructs are uttered by a particular speaker (or written by a particular writer), and they are infused with a large number of contextual or pragmatic meaning, much of which may be inaccessible if being separated from the specific speech event (ibid). Traugott and Trousdale (2013) have suggested that one necessary step for the constructionalization (or conventionalization) of an innovative micro-construction is 'when the partial sanction results from mismatch'(p. 50). That is to say, there must first be some conflicts between the new micro-construction and the schema it is based on. Constructs might be fully sanctioned after a new micro-construction node in the network is created. Moreover, as argued by Traugott and Trousdale (2013, p. 50), a partial sanction can also be seen 'when a schema or some of its members obsolesce' which makes them become so peripheral to an existing micro-construction. Following Traugott and Trousdale (2013), we will illustrate how constructions containing *shang* acquire unit status and how *shang* is sanctioned by various schemas in section 6.3.

6.1.3. **Constructional Changes and Constructionalization**

Drawing on various approaches to construction grammar (e.g. Croft, 2001; Goldberg, 2006; Langacker, 1987; Sag, Boas, & Kay, 2012) and studies in grammaticalization (e.g. Bybee et al., 1994; Heine et al., 1991; Himmelmann, 2004), Traugott and Trousdale (2013, p. 11) agree on Goldberg (2003, 2006)'s the idea that a construction is 'a pairing of form and meaning' ranging from 'atomic constructions' (i.e. monomorphemic, for example *dog*, *un*-) to 'cranberry expressions' (i.e. intermediate constructions which are partially analysable, for instance, *bonfire*) and to 'complex ones' (i.e. units made up of analysable chunks, for example *on top of*); and they propose a constructional framework to language change that comprises constructional change (i.e. changes in meaning or form alone) and constructionalization (i.e. the creation of a $form_{new}$-$meaning_{new}$ pairing or a new sign that has new syntax or morphology and new coded meaning). It is noted that both the form and meaning of a construction have to change in constructionalization. Therefore, the difference between constructional change and constructionaliztion is that the first one does not involve the creation of a new node while the latter forms new type nodes. However, constructional changes (i.e. a succession of small-step

changes) have to occur prior to constructionalization. In Traugott and Trousdale (2013)'s framework, a construction is represented by the basic template below (ibid:, p. 8):

(6.1) [[F] ↔ [M]]

The notation F stands for Form (this is different from Langacker's idea who regards a form as containing a phonological structure); specifically contains SYN (tax), MORPH (ology), and PHON (ology). M stands for Meaning; particularly involves DIS (course), SEM (antics) and PRAG (matics). DIS here does not refer to discourse context but 'Discourse Function' (see Croft, 2001) of a construction such as 'information structuring' or 'connective function'. The double-headed arrow illustrates the connection between form and meaning, and the external brackets indicate that 'the form-meaning pairing is a conventional unit'(Traugott & Trousdale, 2013, p. 8).

6.2. Networks in a Usage-based Model

The network model plays a significant role in cognitive linguistics because of the key claim that the organization of language is not essentially different from the configuration of other aspects of cognition (e.g. Bybee, 2010b; Goldberg, 2006; Langacker, 1987, 2008). Bybee (2010b) has demonstrated that language patterning results from our domain-general ability to categorize, establish units, store details of experience, create novel usages based on previously experienced utterances and to make cross-modal associations. Langacker (2008) has defined his model of cognitive grammar as a constructional network:

> [W]e can describe a language as a **structured** inventory of conventional linguistic units. This structure- the organization of units into networks and assemblies- is intimately related to language use, both shaping it and being shaped by it. (Langacker 2008:222, emphasis original)

The quotation above indicates that conventional linguistic items are organized in a network and they are modified as being used in various usage events. Earlier works on the various senses of a morpheme demonstrated that lexical categories and semantic networks can be considered as being structured by prototypical meanings (Brugman & Lakoff, 1988; Lakoff, 1987). Langacker (1987) furthered elaborated on the topic and proposed that categorization by prototypes and schemas should be treated as cases of a unified phenomenon, together leading to complex semantic categories or networks (ibid, p. 371). However, from the perspective of language change, Traugott and Trousdale (2013, p. 51) have argued that a network is multi-

dimensional. For them, a network has nodes that are represented by schemas, subschemas, and micro-constructional types; moreover, a node in the network contains 'form and meaning content' showing different degrees of complexity and specificity; and links are arranged in varying directions between the semantics, pragmatics, discourse function, syntax, morphology, and phonology of any node. Furthermore, 'each node is linked in various ways to other nodes in the network' (ibid, p. 51). As shown by Traugott and Trousdale (2013), a network is formed in a complex way and is continually shaped in the process of language use. We will demonstrate the network involving the morpheme *shang* in section 6.3 before which different types of links and the growth, obsolescence and reconfiguration of links in a network are introduced below.

6.2.1. **Types of Links**

Based on previous work on construction grammars (e.g. Goldberg, 1995, 2006), Traugott and Trousdale (2013, pp. 59-62) have explained two types of link occurring in a network, which are inheritance link and relational link. It is noted that the notion 'inheritance' does not, in the context of construction grammar, pertain to sources. It denotes 'synchronic taxonomic relationships' (ibid, p. 59). That is to say, the term 'inheritance' does not imply that there are chronological orders among constructions. Inheritance relations 'allow for categorizations at various levels of generality' (ibid, p. 61) which means they not only involve superordinate groups but also subcategories. Therefore, each node contains multiple properties of its dominating nodes. For instance, the expression *Jack sings* inherits properties of the English intransitive construction, which belongs to the English subject-predicate construction. In addition, Goldberg (1995, 2006) suggests that inheritance links may be partially motivated, allowing partial sanction in the sense of Langacker (1987): 'construction B inherits properties from construction A but has some additional features specific to that construction' (Traugott & Trousdale, 2013, p. 61). In other words, construction A sanctions construction B through the inheritance link but construction B may have its unique features that are in conflict with construction A. For example, inheritance explains the fact that most verbs in English indicate past tense by adopting the morpheme *-ed*. At the most schematic level, the 'default inheritance' of a verb combining the morpheme *-ed* to form a past tense is most likely to spread to individual micro-constructions. However, an exception is allowed in a certain situation which breaks the rule of the default inheritance (e.g. *sang*, *broke*). Furthermore, it is emphasised by Traugott and Trousdale (2013, p. 61) that an essential feature of inheritance in the constructional network is that 'expressions typically inherit from several constructions', which is called 'multiple inheritance' by Goldberg (2013). For instance, the expression in example (6.2) given by

Traugott and Trousdale (2013, p. 61) inherits from interrogative subject-auxiliary inversion, negative, passive, present perfect, and transitive constructions. From the perspective of constructional change, it is pointed out that properties of any or all of the constructions that pertain to multiple inheritance may undergo change (ibid, p. 62). That is to say, constructional changes might be seen when many micro-constructions are combined to form a new micro-construction.

(6.2) Hasn't the cat been fed yet?

It is also mentioned that one of the problems of applying the inheritance links is that they are largely tied to form (Goldberg, 1995). Therefore, it can be seen that the double-object ditransitive construction (e.g. *John gave Rose a book*) and the prepositional double object construction (e.g. *John gave a book to Rose*) 'are not related by an inheritance link' (ibid, p. 100) since the two constructions do not share the same form. However, they are related by meaning and it is linked by what is called a semantic synonymy-link (ibid, p. 91). It is thus vital to consider other types of links when a full understanding of a network is to be achieved.

Relational links specify the kinds of relations among constructions. Four types of relational link originally proposed by Goldberg (1995) are illustrated in Traugott and Trousdale (2013, pp. 59-60) including polysemy links, metaphorical extension links, subpart links, and instance links. Polysemy links specify 'the semantic links between the prototypical sense of a construction and its extensions' (ibid, p. 59). The example provided by Goldberg is the ditransitive construction, which is comprised of the syntax [SUBJ V OBJ_1 OBJ_2] and the prototypical semantics [X CAUSE Y TO RECEIVE Z] as shown in example (6.3):

(6.3) Tom gave Jane the cake.

However, as illustrated by Goldberg, there are many related patterns that are considered as polysemous extensions of the prototypical usage, for example:

(6.4)

a. Tom refused Jane the cake. [[SUBJ V OBJ_1 OBJ_2] ↔ [X CAUSE Y not to RECEIVE Z]]
b. Tom made Jane the cake. [[SUBJ V OBJ_1 OBJ_2] ↔ [X ENABLE Y to RECEIVE Z]]

As shown in the above examples, the syntactic specifications of the constructions are the same, but the semantic features are different. In addition, it is mentioned that the polysemy links are often presented 'at the subschema level, not at the level of individual micro-constructions'. (Traugott & Trousdale, 2013, p. 59). That is to say, rather than just choosing words like *refuse* and *make*, a class of verbs of refusal (e.g. *deny*, *reject*) and creation (e.g. *bake*, *create*) may appear in examples (6.3 a.) and (6.3 b.).

Metaphorical extension links are described as involving a specific metaphorical mapping (Traugott & Trousdale, 2013, p. 60). Goldberg (1995, pp. 81-89) argues that metaphorical links can account for many of the connections between possible and impossible resultative constructions. For instance, a metaphorical link between location and state is seen in an expression *He went crazy* in which a change of state is understood as a metaphorical extension of a change of location. This kind of metaphorical link shows that resultative constructions are the metaphorical extensions of caused-motion constructions. The association between the two constructions can be seen in examples (6.5 a.) and (6.5 b.):

(6.5)
a. Sally sent him home.
b. Sally sent him wild.

Subpart links describe the part-whole relationship between a construction and an independent larger unit. For instance, the intransitive motion schema as shown in the example (6.6 a.) is part of the caused-motion schema as demonstrated in example (6.6 b.):

(6.6)
a. The little girl walked to school.
b. She walked the little girl to school.

Lastly, instance links happen when a certain construction is a 'special case' (Goldberg, 1995, p. 79) of another construction. For instance, the X in *drive someone* X is often represented by words or idioms showing negative emotions (e.g. *drive someone crazy*, *nuts* or *up the wall*) but not positive ones. It is also argued that constructions may be more or less constrained in their development, so the criteria of deciding if a construction is a special case of another construction may depend on the fact that it is on the margin of a constructional schema (Traugott & Trousdale, 2013, p. 60). As demonstrated above, the various relational links exist between closely related concepts (e.g. the concepts between location and stage), and these

concepts activate one another in a conceptual network based on the encyclopaedia knowledge (Langacker, 1987).

6.2.2. **Growth, Obsolescence and Reconfiguration in a Network**

It is argued by Traugott and Trousdale (2013, p. 62) that constructional changes to individual micro-constructions do not create new nodes in a network. It is only when constructionalization occurs that such nodes appear. That is to say, a new node is created when both the meaning and form of an older construction change and the change spreads through a population of language users. A conceptual network grows, develops and reconfigures in various usage events by abstracting away general features and making extension based on earlier constructions. It is evident that new families of construction types may be categorised into 'schemas, sometimes with subschemas', and 'subschemas or some of their members' may sometimes 'become obsolescent'. In addition, 'links in the network may even be broken' (ibid, p. 62). Following Traugott and Trousdale (2013)'s approach, in this section we illustrate how new constructions enter into a schema at the margins, stay at the margins and obsolescence; then show the reconfiguration of a network.

Growth at the margins

Growth in the network is most often associated with grammatical constructionalization (Gisborne, 2011; Traugott, 2012) in which a series of pre-constructional changes may lead to the creation of a new-micro construction (Traugott & Trousdale, 2013, p. 63). An example that is often discussed and shows the growth of a network is the development of English modals. In Old English, there were verbs (e.g. *scul-* 'shall' and *mot-* 'be able to') indicating modal meanings (like ability, desire etc.) but these verbs had characteristics distinct from other verbs (see Traugott & Trousdale, 2013, p. 63), making them on the margins of the verb category. However, because of the modal meanings expressed by these verbs, some of them were relatively frequently used. Over time, verbs like *will-* and *scul-* became different from their forerunners. By Middle English, past tense forms, such as *could*, *might* and *should*, started to be used in similar ways, which acquired unique modal functions and separated from their present forms *can*, *may* and *shall*. As do-insertion developed, old syntactic patterns (e.g. inversion in questions) were maintained and associated with these modals, which enabled them to become more distinct from other verbs. Finally, we now have the 'cold modals' being established as a model subschema belonging to a growing auxiliary schema (ibid p. 63). In addition, it has been shown that growth in the network is also associated with lexical constructionalization (i.e. word-formation patterns). For instance, as described by Traugott and

Trousdale (2013, p. 64), the individual noun *dom* in Old English indicated concrete meanings such as 'command, state, condition'. It was also frequently used in some abstract noun compounds like *freodom* 'freedom'. By the end of the Old English period, the meanings of *-dom* began to be bleached; and after experiencing type expansion and phonological reduction, *-dom* was used as a derivational suffix. This shows the gradual growth in the network of a lexical schema (i.e. [[ADJ/N] + [dom] ↔ ['entity indicating abstract state]]).

Staying at the margins

It is argued that when certain members (micro-constructions) of a schema are less frequently used owing to facts like the restriction to specific genre types or the unpopularity among a group of speakers, these micro-constructions might be stay at the margins of the network throughout their life-cycle (Traugott & Trousdale, 2013, p. 64). For instance, Hoffmann (2005, p. 143) demonstrates that certain complex prepositions in English are infrequently used in the written texts of the BNC (e.g. *in presence of, without breach of, in distinction to, at cost of, by analogy to*) compared to others. However, when closely looking at text types, some of the prepositions might be found relatively frequent in certain types of genre (e.g. *at cost of* in the discussion of pricing). In addition, it is indicated that although some complex prepositions are most often seen, they can also be restricted by text types (e.g. *in terms of* is found to be very rare in imaginative prose and leisure texts). Hoffmann also shows that the complex preposition *in front of*, was not only rare since it first arose in Middle English but also it is less frequent than its competitor *before* in present-day English as illustrated by the BNC (Hoffmann, 2005, p. 150). However, *in front of* experienced grammaticalization (i.e. fusion as a unit, function as a preposition, loss of lexical meaning, and little phonological reduction) and no longer indicates temporal meaning as *before*. These examples show that the degrees of popularity and collocational possibilities together decide the centrality of a micro-construction within a schema (Traugott & Trousdale, 2013, p. 65).

Marginalization and loss of a construction

As described by Traugott and Trousdale (2013, p. 65), members of an existing schema and even the schema per se may be subject to decline and loss, normally after a period of expansion. In some cases, we may also see the accompanying situation of 'renewal' in which a new micro-construction arises and compensates for the loss of the older one (Givón, 1979, p. 209; Lehmann, 1985). For instance, after the inflectional case was lost, prepositions in English were used to indicate case (Traugott & Trousdale, 2013, p. 65). However, as pointed out by Meillet

((1958 [1915/16])), categories like conjunctions and negation are usually subject to loss and renewal while other categories may not, leading to the coexistence of new and older members of the category for quite a long time, which is termed the 'principle of layering' (Hopper, 1991). For instance, as illustrated by Peyraube and Li (2012, p. 152), the volition verb *gan* 敢 in Chinese 'dare to do something' performed two functions in periods between 11th-6th c. BC (approximately EAC): one, a modal verb meaning 'dare to'; the other, a special kind of adverb called 'respect-signalling adverb' which denotes 'the speaker's respect towards the relevant person'. It is hypothesized that the adverbial use of *gan* was derived from the modal use due to the frequent occurrence of the pragmatic meaning 'how dare' in rhetorical questions. When the meaning 'how dare' was gradually conventionalized into the lexical meaning, *gan* acquired its adverbial use. Therefore, the two usages of *gan* coexisted. However, the adverbial use of *gan* declined after LAC but the meaning of modal *gan* has been maintained up to now (ibid).

Traugott and Trousdale (2013, p. 68) answer the question of 'how should loss be modelled in a constructional network' by showing that the same principles they adopted for growth can be applied to obsolescence, although a further factor of 'competition' must be added in the constructional network. It is argued that frequent and repeated use of similar tokens allows language user to generalize by which a construction may be created as a consequence of often exposure to similar tokens (ibid). On the contrary, infrequent use of a construction, supporting by the fact that there are infrequent constructs sanctioned by the constructions, will lead to the declining of that part of the constructional network in which speakers and hearers reinterpret the construct and consider it to not be sanctioned by a more productive construction (ibid). In some situations, a subschema that used to be productive may obsolesce. For instance, few members of the subschema with the form [ADJ+dom] remain, e.g. *freedom*, *wisdom* (ibid). During obsolescence, formerly productive patterns 'become idiosyncratic and unproductive', leading to the situation of the general template sanctioning fewer and fewer instances and eventually 'non-use and severance of the link between a subschema and a micro-construction' (ibid). To prove their argument, Traugott and Trousdale (2013, pp. 68-69) demonstrate the obsolescence of one historically fairly productive constructional template: [[ADJ+th] ↔ [entity with property denoted by the ADJ]] as seen in words such as *warmth*, *health*, *truth*, and so on. This pattern was part of a more general deadjectival noun-forming schema which contains subschemas with the forms [ADJ+ness] and [ADJ+ ity]. The form [ADJ+th] became less productive over time compared to the other two templates. Therefore, in later periods, the generality of the pattern [ADJ+th] reduced and only instances of the template such as *stealth*,

truth and so on became entrenched. In other words, as the general pattern became less productive and more isolated from the more productive parts of the morphological network, language users started to treat forms such as *wealth, depth* and *breadth* as simple instances that do not closely bound with the general pattern. In some extreme cases, the more general types are so disassociated from the network; thus they are not considered by language users as being part of a family at all (Traugott & Trousdale, 2013, p. 69). For instance, when the historically productive patterns of word-formation are lost, these forms are not understood as deriving from the general pattern (e.g. Old English [ADJ/V+-sum] to Modern English *buxom, lissom, winsome*).

It is also pointed out by Traugott and Trousdale (2013, p. 71) that many constructions can survive for a quite a long time (e.g. the temporal sense of *as long as* has been used since the time of Early Medieval English, although with changing phonology). But sometimes constructions can be used for a short period of time. For instance, the use of *do* in affirmative clauses in Early Modern English (Nevalainen, 2004). The determining factor of how long a construction exists is decided by the 'convention in a population of speakers'(Traugott & Trousdale, 2013, p. 71). That is to say, it is in fact mainly the language users who decide the life-cycle of a construction, not the schema alone.

Reconfiguration of links

Other than having changes in regards to creation and loss in the network over time, there may also have changes in the configuration of families of related nodes (Traugott & Trousdale, 2013, p. 71). That is to say, the configuration of categories of related subschemas and even schemas may change. An example of changes in polysemy links is shown by (Patten, 2010, 2012) when explaining the types of IT-cleft. Patten argues that the developments of certain kinds of IT cleft are extensions that are linked by polysemy to the Focus IT-cleft. It is proposed that the IT-cleft was originally a focus construction from Old English containing a NP focal element which is specific and unique and the relative is a presupposed relative clause like present-day English as shown below:

(6.7) It was Sally who killed her (Patten, 2010, p. 226)

In example (6.7), the post-copular element *Sally* is the focus and is considered as the specific member of a group of people who killed a person. However, as pointed out by Patten, there

have been fewer restrictions on the post-copular slot over time, because of which prepositional phrases, because-clauses, and even adjectives can be focused as exemplified in (6.8).

(6.8)

a. It is ***in December*** that she's coming

b. It is ***because it is your birthday*** that she is coming.

c. It is ***not sick*** that he was but tired. (Patten, 2010, p. 239)

6.3. Schemas and the Development of Constructions Containing *Shang* in a Network

In this section, we demonstrate how constructions involving *shang* acquire multiple unit status through the exposure to actual usage events in different historical periods and become sanctioned by various schemas. We also show that one necessary step for the constructionalization of an innovative construction containing *shang* is when there are some conflicts (in meaning or form) between the new construction and the subschema it is based on. A new construction is fully sanctioned after a new node is created in the network. In addition, it is demonstrated that links of any node are arranged in varying directions and each node is linked in different ways to other nodes in the network. Lastly, we illustrate that like any other networks, the network of constructions containing *shang* is shaped gradually in the process of language use.

Based on constructs containing the morpheme *shang*, we identify three main developmental paths that were associated with *shang*. Firstly, since EAC, *shang* was used as a modifier before a noun and certain combinations of *shang* and noun may develop into compound words after frequently occurred together. In addition, more kinds of noun are modified by *shang* in later periods, allowing the occurrences of new meanings for the [*shang* N] construction. Secondly, *shang* was a relational noun, and it appeared in various constructions. These constructions are linked in different ways, allowing them to develop distinctively and sanctioned by different subschemas or schemas. Thirdly, by acquiring the constructional meaning of 'movement' from the [*shang* V_{motion}] construction, *shang* started to be used as a verb, and later a verb complement expressing resultative meanings. As shown in the following discussion, developing in various constructions, which are [*shang* N], [SUB $V_{be\text{-}located}$ *shang*], [SUB *shang* V], and [V CON *shang* OBJ], the spatial word *shang* is now mainly sanctioned by schemas of modifier, postposition, predicate and verb complement. In addition, as the overall meanings of constructions changed, the individual meaning of *shang* became vaguer or even hard to identify in some constructions in CC.

6.3.1. **The Development of [*shang* N] Construction**

In EAC, we found instances of *shang* appearing with nouns in [*shang* N] to modify the nouns; The nouns in the construction were represented by people or things that are physically or abstractly located at a high (or highest) place. When *shang* was used in the [*shang* N] construction, the selection of noun that can be used with *shang* was relatively limited at first in EAC. It is acknowledged that the limited type of genre in EAC might restrict the diversity of noun in [*shang* N]. Combinations like *shang tian* 'the high or the highest sky', *shang di* 'the high or the highest lord', *shang shi* 'the best scholar' were commonly seen in EAC. As shown in Table 6.1, the construction [*shang* N] acquired some new meanings based on the metaphorical link (i.e. through the metaphors GOOD IS UP and EARLIER TIME IS SHANG as discussed in Chapter 4).

Forms	**Constructional Meanings**	**Examples**	**Link**
shang N	Something that is physically located at a high location	*shang di* 'the high lord' *shang tian* 'the high sky'	Metaphorical link
shang N	Something that is abstractly located at a high location	*shang shi* 'the good/best scholar' *shang shan* 'the best kindness' *shang pin* 'the best dish'	
shang N	Something that is located in the past	*shang gu* 'the remotest ancient time' *shang shi-ji* 'last century'	

Table 6.1 New meanings of [*shang* N] constructions

In addition, it has been found that the kinds of noun in the [*shang* N] construction expended in MEC. The N in the construction [*shang* N] was always represented by words showing positive aspects in EAC such as a respectable person (e.g. *shi* 'scholar' in *shang shi* 'the best scholar'), a good personality (e.g. *shan* 'kindness' in *shang shan* 'the best kindness'). However, through the instance link, nouns that do not indicate a positive aspect in its own right can also occur with the construction (e.g. *yao* 'dish' in *shang yao* 'the best dish' and *pin* 'variety' in *shang pin* 'the best variety'). That is to say, the construction [*shang* N] overall acquired a positive meaning. Similarly, when describing time, the [*shang* N] construction nowadays can denote a past time even though the noun in the construction just represents a general time but not a past event. For instance, *xing-qi* 'week' in *shang xing-qi* 'last week'. In other words, *shang* tends to be used with more general words in the [*shang* N] construction.

It can be seen that through repeated use, there could be a loss of internal constituent structure in certain [*shang* N] constructions and the individual meaning of *shang* may be hardly recognized after the change. This is evident by the loss of a specific meaning for *shang* in a

[*shang* N] construction. For instance, it is difficult to locate the individual meaning of *shang* in *shang fang* (literally 'above room'). By looking at the sentential contexts such as in example (6.9), we could not tell whether speakers adopt the expression *shang fang* to mean the main room, the best room or the important room in a house.

(6.9) *zhe* ***shang*** *fang zhu de, yi ge xing li, yi ge xing zhang* (MOC)
This **above** (modifier) room live ASSOC one CL name Li, one CL name Zhang
The two people who are living in the main/best/important/ room name Li and Zhang.

As shown in the above discussion, new meanings can associate with the [*shang* N] construction through the metaphorical link. In addition, through the instance link, more kinds of words can appear with *shang* in the [*shang* N] construction. However, the form of the construction remains the same. Therefore, [*shang* N] has experienced constructional changes rather than constructionalization (except for the loss of internal constituent structure for some fixed combinations such as *shang fang*). That is to say, new links rather than new nodes have been created for [*shang* N] in the network.

6.3.2. **The Development of [SUB $V_{be\text{-}located}$ *shang*]**

As the second major usage, *shang* was a relational noun indicating location. The meaning and form of four constructions in which relational noun *shang* occurred with in AC are demonstrated in Table 6.2. (6.10) to (6.16) below are examples of the four constructions. Two examples represented each construction in AC are listed. However, there was only one example for the [SUB V_{action} PRE N *shang*] construction found in AC (see example 6.14), which could be due to the limited types of genre in AC and also the limited amount of data in our study. Examples of the construction [SUB V_{action} PRE N *shang*] found in later periods will be provided. It can be seen that the first construction [SUB $V_{be\text{-}located}$ *shang*] was the basic construction from which the other three constructions were derived. Being linked in various ways and following multiple directions, these constructions occurring in AC developed individually but overlapped sometimes.

Example	Form	Basic meaning
(6.10/6.11)	SUB $V_{be\text{-}located}$ *shang*	Something is at the high part of the sky
(6.12)/(6.13)	SUB V_{exist} PRE *shang*	Someone exists at the high part of the ground
(6.14)	SUB V_{action} PRE N *shang*	A living thing attaches to the high part of a place
(6.15)/(6.16)	V_t (OBJ) PRE N *shang*	Carry out an activity at the high part of a place

Table 6.2 Relational noun *shang* appearing in four constructions in EAC and LAC

(6.10) *Wen-wang zai* ***shang*** (EAC: The Classic of Poetry)
Wen-king be-located **above** (postposition)
'(The divinity of) Wen-king is at the high part (of the sky).'

(6.11) *He-he zai* ***shang*** (EAC: The Classic of Poetry)
grand be-located **above** (postposition)
'The grand (scene) is presented at the high part (of the sky)'.

(6.12) *ru sheng zai* ***shang*** (EAC: The Classic of History)
you live PRE **above** (postposition)
'You live at the high part (of the ground).'

(6.13) *ren sheng hu di* ***shang*** (LAC: Mozi)
People live PRE ground **above** (postposition)
'People live at the high part of the ground.

(6.14) *niao yu nv-luo, shi yu song* ***shang*** (EAC: The Classic of Poetry)
parasitic plants CONJ creeping plants spread PRE pine **above** (postposition)
'The parasitic and creeping plants spread on the high part (the top surface) of the pine.'

(6.15) *li yu lang-miao zhi* ***shang*** (EAC: The Art of War)
discuss PRE imperial court GEN **above** (postposition)
'Discuss (the battle plan) at the high level of the imperial court'

(6.16) *shi tu shan* ***shang*** (LAC: Mozi)
Spread clay door-screen **above** (postposition)
'Spread the clay on the high part (the top surface) of the door screen.'

6.3.2.1 Development of The Basic Construction [SUB $V_{be\text{-}located}$ *shang*]

The basic construction [SUB $V_{be\text{-}located}$ *shang*] belongs to a more general construction [SUB $V_{be\text{-}located}$ localizer]. As discussed by Peyraube (2003), monosyllabic localizers include *shang* 'above', *xia* 'below', *qian* 'in front of', *hou* 'back', *nei* 'inside', *wai* 'outside', *zuo* 'left', *you* 'right' etc. As shown in examples (6.17) and (6.18), when these localizers such as *xia* 'below', *nei* 'inside' and *wai* 'outside' first appear in [SUB $V_{be\text{-}located}$ localizer], the reference places were not explicitly mentioned. By looking at the development of [SUB $V_{be\text{-}located}$ *shang*], we can have an idea of how the general construction [SUB $V_{be\text{-}located}$ localizer] developed.

(6.17) *ming ming zai* ***xia*** (EAC: Classic of Poetry)
bright light be-located below (postposition)
'The bright light (from the sky) lightens the world (at a lower place).'

(6.18) *jin qi-ji zai* ***wai***, *zheng-dan zai* ***nei*** (EAC: The Commentary of Zuo)
Now Qi-ji be-located **outside** Zheng-dan be-located **inside**
'Now Qi-ji stays outside and Zheng-dan stays inside.'

The basic construction [SUB $V_{be\text{-}located}$ *shang*] first described someone (something)'s high location in terms of the sky (see examples 6.10 and 6.11). From the perspective of its development, both new meanings and forms were associated with this construction. For instance, through the metaphorical link (i.e. a social position is understood as a location), a new meaning of the construction appeared which describes the high social position where someone is located, see examples (6.19) and (6.20).

(6.19) *yi* *ren* *zai* ***shang*** (LAC: Mozi)
morality people be-located **above** (postposition)
'People who have morality stay at a high social position.'

(6.20) *sheng-ren* *zai* ***shang*** (PMEC: Huainanzi)
Saint be-located **above** (postposition)
'The Saint stays at a high social position.'

The form of the construction [SUB $V_{be\text{-}located}$ *shang*] also changed. Initially, there was a blending between the construction [SUB $V_{be\text{-}located}$ *shang*] and another construction [*shang* N VP]. The construction [*shang* N VP] described the behaviour of someone who has a high social status as shown in examples (6.21) and (6.22) (see the metaphor HIGH STATUS IS UP we discussed in section 4.5). It blended with [SUB $V_{be\text{-}located}$ *shang*] and formed another construction [$V_{be\text{-}located}$ *shang* VP] as shown in examples (6.23) and (6.24). The construction [$V_{be\text{-}located}$ *shang* VP] inherited features from [SUB $V_{be\text{-}located}$ *shang*] and [*shang* N VP]. However, instead of emphasising the person who has a high social status, [$V_{be\text{-}located}$ *shang* VP] highlighted the condition of being at high social position. Therefore, the subject or noun, representing the person who has the high social status in [SUB $V_{be\text{-}located}$ *shang*] and [*shang* N VP], were omitted in [$V_{be\text{-}located}$ *shang* VP].

(6.21) ***shang*** *shi* *wen* *dao* (EAC: The Classic of the Way and Virtue)
above (modifier) scholar hear Dao-theory
'The good/best scholar hears the Dao theory.'

(6.22) ***Shang*** *jiang-jun* *ju* *you* (EAC: The Classic of the Way and Virtue)
above (modifier) general stay right
'The main general stays at the right.'

(6.23) *ju* ***shang*** *ke* *ming* (EAC: The Classic of History)
be-located **above** (postposition) can perspicacious
'Being at the high social position should be perspicacious.'

(6.24) *Ju* ***shang*** *bu* *jiao* (LAC：the doctrine of the mean)

Be-located above (postposition) not arrogant
'Being at the high social position should not be arrogant.'

In LAC, through the subpart link, the construction [$V_{be\text{-}located}$ *shang* VP] further developed in two ways. Following one direction, a part of the original construction, that is [*shang* VP], was emphasized. Two meanings were associated with the same form [*shang* VP]: 1) 'the behaviour of a person (i.e. governor or controller) who stays at the high social position' (see examples 6.25 and 6.26); and 2) 'the condition of being at the high part of a place' (see example 6.27 and 6.28).

(6.25) ***shang*** *jue* *yi* (LAC: Mozi)
above (noun) recommend righteousness
'The governor recommends good conduct.'

(6.26) ***shang*** *bian zheng er min yi jiao* (LAC: Mozi)
above (noun) change policy CONJ citizen easy be-taught
'The governor changes policy so citizens can accept instructions.'

(6.27) ***shang*** *ke er li tian* (LAC: Mozi)
above (nominal) can CONJ benefit sky
'Being at the high place, (it) can benefit the sky.'

(6.28) ***shang*** *lv tian shi* (LAC: the doctrine of the mean)
above(nominal) follow sky rule
'Being at a high place, (we must) follow the rule of the sky (or the weather condition).'

The construction [*shang* VP], which was used before a clause to describe the 'behaviour of someone who is at a high social position' or 'the condition of being at the high part of a place', became less frequent in written works in MEC. One possible reason for the first usage of [*shang* VP] to be less frequent is that there appeared some compound words, such as *shou-ling* 'the leader' and *shang-ji* 'high authority', which represent the function of *shang* in [*shang* VP]. Therefore, although the construction [*shang* VP] (describing the behaviour of a controller or governor) was popular around LAC, it stayed at the margin of the network and almost disappeared in MOC. In addition, one of the reasons for the second usage of construction [*shang* VP] (indicating the condition of being at a high part of a place) to be less used is that it was gradually replaced by another construction [N *shang* V_{has} P] (we will discuss this in more detail below).

The basic construction [SUB $V_{be\text{-}located}$ *shang*] in EAC also developed into another direction. Through the subpart link, a larger unit [SUB $V_{be\text{-}located}$ N_{place} *shang*] was formed. Compared to [SUB $V_{be\text{-}located}$ *shang*], the larger unit [SUB $V_{be\text{-}located}$ N_{place} *shang*] had a noun being added to

denote a specific place. The construction [SUB $V_{be\text{-}located}$ N_{place} *shang*] normally described a high part of a place where a person is located as shown in examples (6.29) and (6.30). In EMC, through the polysemy link, not only place nouns but also nouns representing large objects, such as *che* 'car' and *chuang* 'bed', were used in the construction [SUB $V_{be\text{-}located}$ N *shang*], see examples (6.31) and (6.32). The adding of the types of noun in the construction allowed [SUB $V_{be\text{-}located}$ N *shang*] to have new meanings. For instance, it was able to describe a high part of a large object where somebody is located (i.e. the inner space of a car or the top surface of a bed). Compared to the original construction [SUB $V_{be\text{-}located}$ *shang*], the newer construction [SUB $V_{be\text{-}located}$ N *shang*] is quite often seen. Therefore, both the form and meaning of the original construction [SUB $V_{be\text{-}located}$ *shang*] changed, which represents the stage of constructionalization and indicates the appearance of a new node in the network.

(6.29) *wu zai Wen* ***shang*** (LAC: Analects)
I be-located Wen **above** (postposition)
'I was located at the high part of Wen-area.'

(6.30) *Yuan zai an* ***shang*** (EMC: NATW)
Yuan be-located bank **above** (postposition)
'Yuan was located at the high part of the bank.'

(6.31) *Fu zai che* ***shang*** (EMC: NATW)
Fu be-located car **above** (postposition)
'Fu (a person's name) is in the car'.

(6.32) *Heng zai chuang* ***shang*** (EMC: NATW)
Heng be-located bed **above** (postposition)
'Heng (a person's name) is on the bed.'

The construction [SUB $V_{be\text{-}located}$ N *shang*] further developed to a larger unit [SUB $V_{be\text{-}located}$ 'be-located' N_{place} *shang* VP]. Since the verb *zai* 'be-located' often appeared in the V slot after LAC, we use [SUB *zai* 'be-located' N_{place} *shang* VP] to represent the newly formed construction. This larger construction normally described 'the behaviour of somebody who is located at a high part of a place' as shown in example (6.33). Through the polysemy link, more meanings associate with the construction. For instance, as shown in examples (6.34) to (6.36), the construction can describe 'the behaviour of somebody who is located at a high part of a large object', and 'the behaviour of somebody who is located in a region or an abstract region'. It is clear that the meaning of the construction becomes more abstract as more kinds of noun occur in the construction. In CC, the construction [SUB *zai* 'be-located' N_{place} *shang* VP] is quite often seen in texts of reportage.

(6.33) *di-zi zai song-cheng* ***shang*** *dai chu kou* (LAC: Mozi)
followers be-located Song-city **above** (postposition) wait Chu enemy
'The followers waited the enemy from Chu at a high part of the Song-city'.

(6.34) *shi-fu zai shu* ***shang*** *cai sang* (PMOC: RTK)
master be-located tree **above** (postposition) pick mulberry
'The Master is picking mulberry on the tree.'

(6.35) *wo zai jie* ***shang*** *zhao le ban tian* (MOC: The Travel of Lao Can)
I be-located street **above** (postposition) find PERF half day
'I looked for it on the street for a while'.

(6.36) *Zhu-rong-ji zai zuo-tan-hui* ***shang*** *jiang-hua* (CC: Reportage)
Zhu-rong-ji be-located meeting **above** (postposition) talk
'Zhu-rong-ji (the former premier of China) gave a speech in the meeting.'

Additionally, a smaller unit, [N *shang* V_{has}P] is found to connect with the larger construction [SUB $V_{be\text{-}located}$ N *shang* VP] through the inheritance link. It can be seen that the elements SUB and $V_{be\text{-}located}$ appearing in [SUB $V_{be\text{-}located}$ N *shang* VP] were omitted and only one specific verb *you* 'has' was allowed to occur in [N *shang* V_{has}P]. The appearance of the construction indicates that the association between the noun and *shang* in [N *shang* V_{has}P] has become stronger. The construction firstly described the meaning 'there is something at the high part of a place' as shown in the examples (6.37) and (6.38). Through the polysemy link, more meanings associate with the construction. For instance, as shown in examples (6.39) and (6.40) the construction can describe 'there is something on the body (or a body part)' and 'there is something in an abstract range'. The combination with more kinds of noun makes the meaning of the construction become more abstract.

(6.37) *Tai shang zhi* ***shang*** *you qi-shi tan* (PMEC: Huainanzi)
Tai Mountain GEN **above** (postposition) has seventy altar
'There are seventy altars on the high part of Tai Mountain.'

(6.38) *an* ***shang*** *you xia chuan zhe* (PMOC: RTK)
bank **above** (postposition) has down (verb) boat PRO
'There are people getting off the boat on the high part of the bank.'

(6.39) *shen* ***shang*** *you lang-hua jian zhe* (MOC: The Travel of Lao Can)
body **above** (postposition) has sea-spray splash AUX
'There are sea spray splashing on the body.'

(6.40) *sheng-hua* ***shang*** *you fu-mu* (MOC: The Travel of Lao Can)
life **above** (postposition) has parents
'There are parents around in life'.

6.3.2.2 Development of [SUB V_{exist} PRE *shang*]

In EAC, the basic construction [SUB $V_{be\text{-}located}$ *shang*] also linked to another construction [SUB V_{exist} PRE *shang*]. Compared to [SUB $V_{be\text{-}located}$ *shang*], the verb in [SUB V_{exist} PRE *shang*] indicates the existence of a person, and it must follow by a preposition when using with *shang*. As shown in example (6.40), [SUB V_{exist} PRE *shang*] inherited features from [SUB $V_{be\text{-}located}$ *shang*] but it emphasized the state of existence for someone who is located at a high part of a place. It is noted that there were two usages of *zai* 'be-located', one served the function of a locative verb and the other a preposition. The preposition function of *zai* was derived from the locative verb *zai* (D. Shi, 2010; h. Wang, 2004). The word *zai* was used as a preposition in example (6.41). Through the subpart link, a larger unit [SUB V_{exist} PRE N_{place} *shang*] appeared in which the place represented by a noun was explicitly mentioned as shown in examples (6.42) and (6.43).

(6.41) *ru sheng zai* ***shang*** (EAC: The Classic of History)
you live PRE **above** (postposition)
'You live on (a high part) of the ground.'

(6.42) *ren sheng hu di* ***shang*** (LAC: Mozi)
people live PRE ground **above** (postposition)
'People live on (the high part) of the ground.'

(6.43) *wang zuo yu tang* ***shang*** (LAC: Mencius)
king sit PRE hall **above** (postposition)
'The king sat at the high part of the hall'

It is noted that construction [SUB V_{exist} PRE N_{place} *shang*] and another construction [SUB $V_{be\text{-}located}$ N_{place} *shang* VP] that we mention above both described the behaviour of someone who is at a high part of a place. However, [SUB V_{exist} PRE N_{place} *shang*] normally denotes the state of existence (e.g. the state of sitting in example 6.43) while [SUB $V_{be\text{-}located}$ N_{place} *shang* VP] often illustrates a real action (e.g. the action of picking mulberry in example 6.34). The different aspects encoded by the two constructions are termed **perfective** and **imperfective** processes by Langacker (1987, p. 254). An imperfective process involves a relationship that is conceptualized as being constant through time (e.g. the state of siting), while perfective process involves a change of state through time (e.g. the action of picking). Therefore, construction [SUB V_{exist} PRE N_{place} *shang*] denotes an imperfective process and construction [SUB $V_{be\text{-}located}$ N_{place} *shang* VP] indicates a perfective process.

In addition, the two constructions [SUB V_{exist} PRE N_{place} *shang*] and [SUB $V_{be\text{-}located}$ N_{place} *shang* VP] blend to form a new construction [SUB V_{exist} PRE N_{place} *shang* VP] in MOC, which describes both a perfective and imperfective processes (see example 6.44 and 6.45).

(6.44) *da-ren zuo yu tang* ***shang*** *deng zhe* (MOC: The Travel of Lao Can)
king sit PRE hall **above** (postposition) wait AUX
'The king was sitting at a high part of the hall and waiting.'

(6.45) *Wo zuo zai tian-di* ***shang*** *ting ge* (CC)
I sit PRE farmland **above** (postposition) listen song
'I sat on the farmland and listened to songs.'

6.3.2.3 Development of [SUB V_{action} PRE N *shang*]

The construction [SUB V_{action} PRE N *shang*] was related to the construction [SUB V_{exist} PRE N_{place} *shang*] through the polysemy link. Compared to [SUB V_{exist} PRE N_{place} *shang*], the verb appearing in [SUB V_{action} PRE N *shang*] denoted an action that is carried out by a living thing (represented by the subject) and the action could affect the place or object (represented by the noun). Although most verbs performing actions can appear in the construction, the construction indicates a unique meaning of 'a living thing attaching to a high part of a place (or a top surface of an object)' as shown in examples (6.45) and (6.46). In CC, [SUB V_{action} PRE N *shang*] is often used in descriptive texts to portray a scenario and the subject in the construction is usually personified (see example 6.47). In addition, in CC only the preposition *zai* 'be-located' is used in the perposition slot in [SUB V_{action} PRE N *shang*].

(6.45) *niao yu nv-luo, shi yu song* ***shang*** (EAC: The Classic of Poetry)
parasitic CONJ creeping plants spread PRE pine **above** (postposition)
'The parasitic and creeping plants spread on (the surface of) the pine.'

(6.46) *qing she pan yu yi* ***shang*** (PMOC: RTK)
green snake twine PRE chair **above** (postposition)
'The green snake twines on (the surface of) the chair.'

(6.47) *chen guang da zai chi-tang* ***shang*** (CC)
morning light strike PRE pond **above** (postposition)
'The morning light strikes on (the surface of) the pond.'

6.3.2.4 Development of [V_t (OBJ) PRE N *shang*]

As discussed above, [SUB V_{action} PRE N *shang*] described an initiative action taking place at a high part of a place. [V_t OBJ PRE N *shang*] inherited features from its dominated

construction [SUB V_{action} PRE N *shang*], however, it was in conflict with [SUB V_{action} PRE N *shang*] by emphasising the thing that is done at a high part of a place. Therefore, the object in [V_t OBJ PRE N *shang*] is emphasised and the subject can be omitted. As pointed out by Tang (1996), it is common to see the omission of a subject in AC, which is a way to maintain a concise writing style. The object in [V_t OBJ PRE N *shang*] can also be left unmentioned in certain situation as shown in example (6.48). Through the polysemy link, nouns representing objects were used in [V_t OBJ PRE N *shang*], the construction can describe the situation of something being attached to a high part of an object (see examples 6.49 and 6.50).

(6.48) *li yu lang-miao zhi* ***shang*** (EAC: The Art of War)
discuss PRE imperial court GEN **above** (postposition)
'The battle plan is discussed at a high level of the imperial court'

(6.49) *tuo zhi yu zhou* ***shang*** (PMEC: Huainanzi)
hold PRO PRE boat **above** (postposition)
'It was held on (the surface of) the boat'

(6.50) *fang zhao yu ji* ***shang*** (PMOC: RTK)
put imperial-decree PRE small-table **above** (postposition)
'The imperial decree is put on (the surface of) the small table.'

It is found that in CC the meaning of the construction [V_t OBJ PRE N *shang*] become more abstract and it is replaced by *Ba* construction. The word *ba* was originally a full verb meaning 'hold'. After experiencing a high degree of grammaticalization, *ba* completely lost its concrete meaning (D. Xu, 2006, p. 47). According to D. Xu (2006, p. 3), the *Ba* construction plays a role of emphasising the object of a sentence by moving it to the preverbal position. Therefore, compared to [V_t OBJ PRE N *shang*], the object in [Ba OBJ V PRE N *shang*] is moved to a preverbal position. As shown in examples (6.51) and (6.52), [Ba OBJ V PRE N *shang*] in CC can describe an object being attached to the high part of another object or a body part. The construction can also denote the adding of things into an abstract region (see example 6.53). It should be noted that only the preposition *zai* 'be-located' is used in [V_t OBJ PRE N *shang*] in CC.

(6.51) *Ba bei-zi fang zai zhuo* ***shang*** (CC)
Ba cup put PRE desk above (postposition)
'The cup is put on (top surface of) the desk'.

(6.52) *Ba xiang-lian gua zai bo-zi* ***shang*** (CC)
Ba necklace hang PRE neck **above** (postposition)
'The necklace is hanged on (the surface of) the neck.'

(6.53) *Ba* *qian* *hua* *zai* *yang-zhi-ye* ***shang*** (CC)
Ba money spend PRE breeding-industry **above** (postposition)
'Money should be spent on the breeding industry.'

It has been shown in the above discussion that different constructions are related to the basic construction [SUB $V_{be\text{-}located}$ *shang*] through various links, including metaphorical link, inheritance link, polysemy link, and subpart link. In CC, constructions that are derived from the basic construction [SUB $V_{be\text{-}located}$ *shang*] are shown in Table 6.3 below. As shown in the table, in all these constructions, *shang* directly follows a noun and is used as a postposition. Therefore, we can say that the original relational noun *shang* is currently sanctioned by the postposition schema.

Period	Form
CC	[SUB *zai*'be-located' N *shang* VP]
CC	[N *shang* V_{has} P]
CC	SUB V_{action} *zai*'be-located' N *shang*]
CC	SUB V_{exist} *zai*'be-located' N *shang* VP
CC	[Ba OBJ V *zai*'be-located' N *shang*]

Table 6.3 Constructions in CC that are derived from [SUB $V_{be\text{-}located}$ *shang*]

6.3.3. **The Development of [SUB *shang* V]**

In EAC, we also found another construction containing *shang*, that is [SUB *shang* V]. It first described the movement of a living thing towards a physical higher place (or the highest place) as shown in examples (6.54) to (6.56). The construction was also used to denote the movement of a person's moral standard towards the best state as shown in example (6.57). When indicating the second meaning, a new metaphorical link was created, which relates a good moral standard to a high location (i.e. GOOD IS UP). Two other constructions, which are [SUB *shang*] and [(SUB) *shang* N], are found to relate to [SUB *shang* V]. It can be seen that *shang* in [SUB *shang*] inherited the motion meaning from [SUB *shang* V] which allows the construction [SUB *shang*] to describe an object's movement to a high/higher place as shown in example (6.58). Similarly, *shang* in [(SUB) *shang* N] again inherited the motion meaning from [SUB *shang* V], however, since [(SUB) *shang* N] emphasized an end point of a movement or the highest place where something arrives at (see example 6.59), a noun, representing a final destination, was used in [(SUB) *shang* N]. When comparing the usages of [SUB *shang*] and

[(SUB) *shang* N], the first one was less used since it first appeared while [(SUB) *shang* N] developed in a more productive way. The dominating construction [SUB *shang* V] was less used and gradually disappeared. One possible reason is that *shang* gradually lost its function as an adverb (unless in some fixed expressions) as more adverbs indicating direction, such as *chao* or *xiang* 'toward', occurred.

(6.54) *liang fu* ***shang*** *xiang* (EAC: The Classic of Poetry)
two horses **above** (adverb) rise
'Two horses (on the ground) raised (their heads) towards a higher/the highest location.'

(6.55) *xia shui* ***shang*** *teng* (PMEC: Huainanzi)
below water **above** (adverb) writhe
'The water from a lower place moves to a higher place.'

(6.56) *qi nai* ***shang*** *zheng* (PMEC: Huainanzi)
air then **above** (adverb) evaporate
'The air then evaporates to a higher place.'

(6.57) *jun-zi* ***shang*** *da* (LAC: The Analects)
gentleman **above** (adverb) reach
'A gentleman reaches towards the best morality.'

(6.58) *duan qing zhe* ***shang*** (LAC: Mozi)
short light PRO **above** (verb)
'The object that is short and light moves to a high/higher place.'

(6.59) ***shang*** *wu cheng* (LAC: Mozi)
above (verb) PRO city-wall
'(The enemy) climbed our city wall.'

In EMC, an adverb was added before the verb *shang* to form a new construction [SUB ADV *shang*] and the construction expressed meanings such as 'something improve everyday' as shown in example (6.60). It can be seen that based on the metaphor GOOD IS UP, new link was created in the network of constructions containing *shang* when the improvement of social behaviour isconceptualized as the same as moving to a higher location. However, as the meaning of *shang* in [SUB ADV *shang*] gradually replaced by some compound words, such as *ti-gao* 'improve', construction [SUB ADV *shang*] becomes less frequent and almost disappear in CC.

(6.60) *feng qi ri* ***shang*** (EMC: NATW)
demeanour mettle day (adverb) **above** (verb)
'(His) demeanour and mettle improve daily.'

The construction [(SUB) *shang* N], however, was quite often used, which allows it to acquire more diverse meanings. For instance, the construction can describe the increase in number (see example 6.61) based on the metaphor MORE IS UP in which an increase in quantity is conceptualized as the same as a physical movement to a high location. More meanings are found and associated with [(SUB) *shang* N] in MOC and CC as the construction being used in more contexts. That is to say, new meanings associate with the construction through the polysemy link. For example, [(SUB) *shang* N] can mean 'get onto a large object' as shown in examples (6.62) and (6.63) (which are also examples 5.12 and 5.13).

(6.61) ***shang*** *bai-wan shu* (EMC: NATW)
above (verb) million number
'The number goes up to a million.'

(6.62) ***shang*** *chang* (MOC: The Travels of Lao Can)
above (verb) stage
'Got onto the stage.'

(6.63) ***shang*** *shou-shu tai* (CC)
above (verb) operation table
'Got on the operation table.'

As shown in the above discussion, developing in various constructions, i.e. [SUB *shang* V], [SUB *shang*], [SUB ADV *shang*] and [(SUB) *shang* N], the spatial word *shang* nowadays is sanctioned by the predicate schema. In particular, *shang* often occurs in the [(SUB) *shang* N] construction in CC.

6.3.4. **The Development of [V CON *shang* OBJ] and [SUB *shang* N]**

In LAC *shang* had the causative meaning 'making something move to a high or higher location' as shown in example (6.64). The causative verb *shang* is also found in a larger unit [V CON *shang* OBJ] in which the first verb and the causative verb share the same object (as represented by the pronoun *zhi* 'it' in 6.64). This construction [V CON *shang* OBJ] denoted the meaning 'move something and make it arrive at a high or higher location' as shown in examples (6.65) and (6.66). The construction [V CON *shang* OBJ] developed in which the conjunction *er* 'and' between the first verb and *shang* was omitted and the pronoun *zhi* was substituted by a proper noun which leads to a new construction [V *shang* OBJ] as shown in example (6.67). In fact, the omission of the conjunction did not change the inner structure of the construction. We have mentioned in section 4.6.3 that due to the omission of the conjunction *er*, there is a stronger association between the V and *shang* in [V *shang* OBJ]. That is to say, the decline of a

conjunction affects the usage of *shang*. After frequently occurring together with the verb, *shang* experienced grammaticalization and lost its concrete meaning. The construction [V *shang* OBJ] then became a serial verb construction around MEC and denoted the meaning 'move something and make it contact with another thing' as shown in examples (6.67) and (6.68). It is noted that when the object in the construction is highlighted, it can be fronted to the preverbal position by adopting the *Ba* construction in [Ba OBJ V *shang*] (see example 6.69).

(6.64) *ling yi ren xia* ***shang*** *zhi* (LAC: Mozi)
ask one person below **above** (causative verb) PRO
'Ask one person to make it move from a lower to a higher place.'

(6.65) *tui er* ***shang*** *zhi* (LAC: Mozi)
push CONJ **above** (causative verb) PRO
'push (them) and make (them) move to a higher social position.'

(6.66) *ji er* ***shang*** *zhi* (PMEC: Huainanzi)
surge CONJ **above** (causative verb) zhi
'Move it with force and make it move to a higher place.'

(6.67) *Juan* ***shang*** *zhu-lian* (LMC: Three Hundred Tang Poems)
roll **above** (verb complement) bead-curtains
'(Someone) rolled the curtains.'

(6.68) *dian* ***shang*** *la-zhu* (MOC: The Travel of Lao Can)
light **above** (verb complement) candle
'(Someone) lit a candle.'

(6.69) *ba da men suo* ***shang*** (MOC: The Travel of Lao Can)
Ba big door lock **above** (verb complement)
'Lock the big door.'

Another construction [SUB *shang* N] developed to a large unit [SUB V *shang* N] by combining with a motion verb. [SUB V *shang* N] represents a directional serial verb construction, which denotes the meaning of 'move and arrive at a high/higher location' as shown in example (6.70). According to Y. Liang (2007, p. 4), verbs indicating direction such as *shang* 'go up', *xia* 'go down', *ru* 'go in', *chu* 'go out', etc. can follow verbs to form directional serial verb constructions, which appeared around LAC. Therefore, it is believed that [SUB V *shang* N] first occurred around LAC. However, it is beyond the scope of the current study to show how general directional serial verb construction in Chinese develop over time. What we want to highlight is that the frequent appearing of serial verb construction in LAC do contribute to the occurring and development of [SUB V *shang* N]. In MOC and CC, through the polysemy link, the construction [SUB V *shang* N] further developed. For instance, as shown in examples (6.71) and (6.72), the subject in construction [(SUB) V *shang* N] can be represented by an inanimate

object, such as *quan-shui* ‘fountain’ and *gan-qing* ‘feeling’. It indicates that the meaning of [(SUB) V *shang* N] now becomes more abstract and it can describe ‘something attaches to another thing’ (see example 6.71) and ‘an abstract idea attaches to another abstract thing’ (see example 6.72). In addition, the V and *shang* in the construction [V *shang* OBJ] are found to be further integrated both in meaning and form. For instance, as shown in example (6.73), *dao shang* is more like a disyllabic compound word which is combined to modify the object and the individual meaning of *shang* is vaguer.

(6.70) *qing-ting fei* ***shang*** *yu-sao-tou* (LMC: Three Hundred Tang Poems)
dragonfly fly **above** (verb complement) emerald hairpin
‘The dragonfly flies onto the emerald hairpin.’

(6.71) *quan-shui fan* ***shang*** *shui mian* (MOC: The Travel of Lao Can)
spring-water turn **above** (verb complement) water surface
‘The fountain turns onto the surface of the water.’

(6.72) *gan-qing yong* ***shang*** *xin-tou* (CC)
feeling emerge **above** (verb complement) mind
‘The feeling comes to (his) mind.’

(6.73) *na shi xin dao-****shang*** *de dong you* (MOC: The Travel of Lao Can)
that is new pour-**above** ASSOC frozen oil
‘That is the frozen oil which has been newly poured.’

It should be noted that the two constructions [V *shang* OBJ] and [SUB V *shang* N] mentioned above are both directional serial verb constructions, but they were formed in different ways. The word *shang* in the two constructions performs different functions in which it was first a causative verb in [V *shang* OBJ] but a transitive verb in [SUB V *shang* N]. Therefore, compared to [V *shang* OBJ], the noun following the verb *shang* in [SUB V *shang* N] is represented by a location or a thing which is not directly affected by the action caused by *shang*. Therefore, compared to [V *shang* OBJ] which denotes ‘make something move to a high place or contact with another thing’, [V *shang* N] highlights ‘the particular way something arrives at a high place or attach to another thing’.

As shown in the above discussion, appearing in various constructions, which are [(SUB) V *shang* OBJ], [V *shang* N], and [Ba OBJ V *shang*], the spatial word *shang* is now sanctioned by the complement schema and follows a verb.

6.4. Summary

In the above discussions, we have shown how three constructions containing *shang* in EAC developed, they are [*shang* N], [SUB $V_{be\text{-}located}$ *shang*], [SUB *shang* V]. These constructions developed in various ways and were related to other constructions through different links. Firstly, it is found that as more kinds of noun occur in the [*shang* N] construction, more meanings are associated with the construction, and as the association between *shang* and N become stronger, the modifying function of *shang* may have lost in certain combinations.

Secondly, as shown in Figure 6.1 below, the construction [SUB $V_{be\text{-}located}$ *shang*] developed into different directions through blending (indicating by the plus sign) and being linked with other constructions. In CC, we normally see the following constructions that are derived from [SUB $V_{be\text{-}located}$ *shang*], which are [SUB $V_{be\text{-}located}$ N *shang* VP], [N *shang* V_{has} P], [SUB V_{action} PRE N *shang*], [SUB V_{exist} PRE N *shang* VP] and [Ba OBJ V PRE N *shang*]. The second usage of construction [*shang* VP], which describes the condition of being at a high place, is only seen in some fixed expressions. The development indicates that *shang* now directly follows a noun (which can express either a concrete or an abstract meaning) and it becomes a postposition. In addition, comparing to some older constructions, such as [SUB V_{action} PRE N *shang*] and [V_t OBJ PRE N *shang*], a verb phrase now follows *shang* in construction [SUB V PRE N *shang* VP] which indicates that there was a change in word order in which preposition can now be used in a preverbal position.

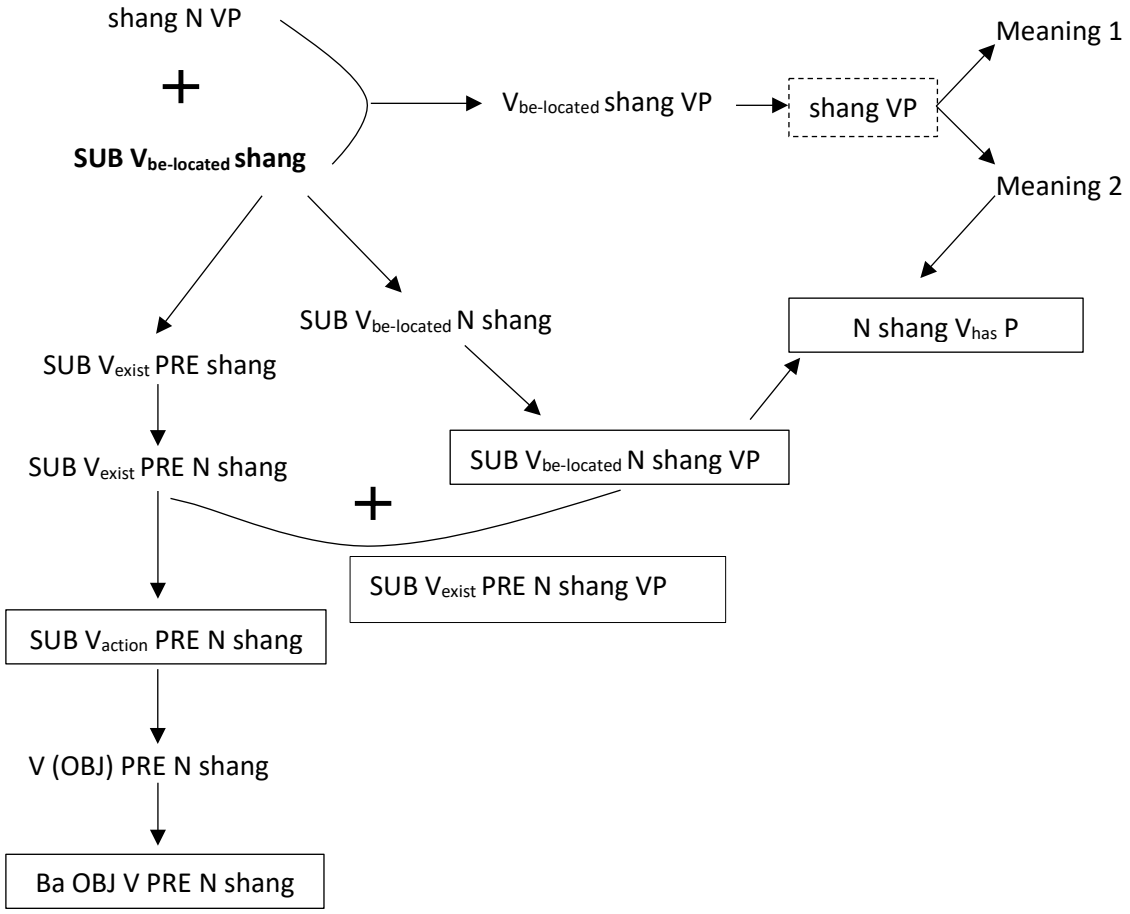

Figure 6.1 The development of [SUB $V_{be\text{-}located}$ *shang*] in a network

Thirdly, as shown in Figure 6.2, the construction [SUB *shang* V] in EAC also developed into multiple directions. After acquiring the verbal function from [SUB *shang* V], *shang* appeared in [SUB *shang*], [SUB *shang* N], and [V CON *shang* OBJ]. The construction [SUB *shang* N] was used with a verb to form [V *shang* N], which describes the particular way something arrives at a high/higher place. In addition, the conjunction between the first verb and *shang* in [V CON *shang* OBJ] can be omitted allowing the association between the two elements become stronger, leading to a new construction [V *shang* OBJ]. It denotes the situation of moving something and making it stay at a high place. When the object is highlighted, it can be moved to a preverbal position, which brings in another construction [*Ba* OBJ V *shang*]. In CC, the following constructions are often seen, which are [SUB *shang* N], [SUB V *shang* N], [V *shang* OBJ] and [*Ba* OBJ V *shang*]. Therefore, *shang* is now sanctioned by schemas of predicate and verb complement.

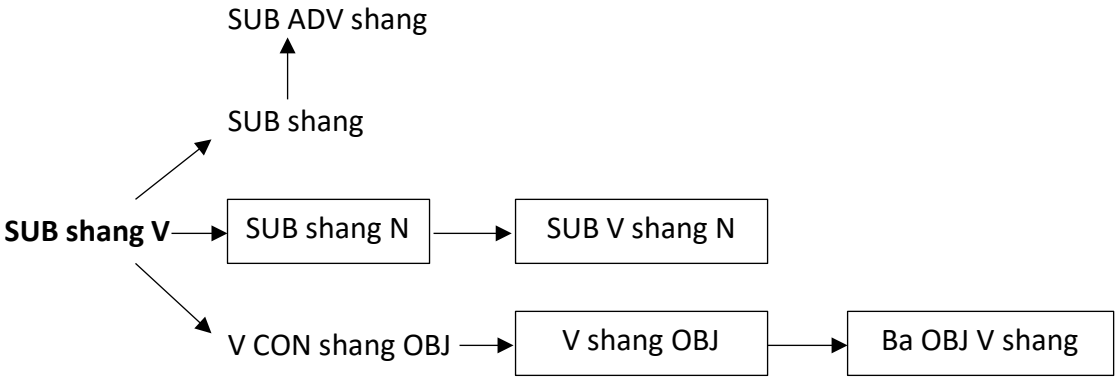

Figure 6.2 The development of [SUB *shang* V] in a network

Furthermore, it is evident that constructions containing *shang* do not appear randomly and they are related in a network. When an innovative meaning is expressed, the form of an existing construction may change relying on blending and linking with other constructions. Once the meaning and form of the construction change, a new node (i.e. a new construction is created). In addition, we show that the way how a particular construction containing *shang* develop is mainly decided by the kinds of word appear with it and how often the construction is used in multiple usage events. Firstly, when there are more kinds of words appear in the construction, more diverse meanings can be associated with the construction. Secondly, when constructions are less used, they may be replaced by other constructions. As various constructions containing *shang* develop in the network, *shang* is gradually sanctioned by schemas of compound, postposition, predicate and verb complement.

Last but not least, changes associated with construction containing *shang* may also be affected by general constructional change at a specific time. Firstly, since localizers such as *wai* 'out' or *nei* 'inside' can also appear with [SUB $V_{be\text{-}located}$ Localizer], the development of [SUB $V_{be\text{-}located}$ *shang*] reflects the change associated with the schema [SUB $V_{be\text{-}located}$ Localizer]. Secondly, it is acknowledged that the development of directional serial construction in LAC contributes to the frequent use of *shang* as a complement in the two constructions [V *shang* OBJ] and [V *shang* N].

Chapter 7. Discussions and Theoretical Implications

The aim of this study is to understand how multiple meanings of a locative word *shang* are formed diachonically and later contribute to its synchronic networks. Using corpora to trace the development based on instances of *shang* in different historical periods of Chinese language, we show that the particular set of developments for *shang* would not occur if there were not multiple motivations involved in the semantic change (or grammaticalization) of *shang*. These factors include conceptual metaphor and contextual elements of pragmatic inferences, constructional meanings, the frequency of use, the expanding of collocation type, and the development of various components in the constructions, etc. In addition, it has been shown that new meanings of *shang* do not randomly appear but occur in a systematic way and that changes occur both within the meaning of *shang* and in constructions containing *shang*. Furthermore, it can be seen that the constructions in which *shang* occurs are related and form a network. In general, showing that new usages of *shang* are related to its older usages and that semantic changes of *shang* happen in the process of language use, the findings of this study are consistent with the usage-based model of language (see Kemmer & Barlow, 2000; Langacker, 1987, 2000).

In the following sections, the results of the analysis are summarized and discussed based on six aspects: metaphoric extension and invited inferencing in semantic change, the relation between semantic change and polysemy, changes involving *shang* that form a network, general changes affecting the development of *shang*, the interface between contexts and diachronic development, and the semantic change and grammaticalization of Chinese spatial words.

7.1. Metaphoric Extension and Invited Inferencing in Semantic Change

As shown in our analysis on the meanings of *shang*, the two models of semantic change, which are metaphoric extension and invited inferencing, play important role in motivating the novel usages of a linguistic item. Each model can explain changes that the other cannot and there are also changes that can explained by both models. Therefore, an explanation based on metaphor or invited inferencing does not deny the force of the other model. Firstly, the two models reflect different perspectives when explaining the rise of innovative meanings (Traugott, 1989). The metaphoric process reveals speakers attempt to increase the information content of an abstract notion by mapping one semantic domain onto another, which is a cognitive process operated in speakers' minds. For instance, the 'good/best' sense of *shang* was motivated when speakers

access to the abstract concept of quality based on the physical idea of verticality. The process of coding inferences in communication reflects speakers' attempt to strategically negotiate and interact with others, which is a way to express speakers' attitudes or believes. For example, the 'go to' sense of *shang* first occurred as an inference when speakers believe that the ultimate goal of moving to a high location is to go to the place. It can be seen that innovations motivated by the two models arise to suit communicative needs. Secondly, metaphor and inferencing can happen side-by-side to produce a given change and the cooperation of the two processes can encourage a given extension (Sullivan, 2007). For example, the 'more' meaning of *shang* can be explained by both metaphor and invited inferencing. When adopt the metaphoric account, the 'more' meaning of *shang* can be attributed to the metaphor MORE IS UP based on which quantity is considered as the same as elevation. However, we also found ambiguous context in which *shang* 'a high location' can invite the inference of 'more' when describing the deepness of water. It has been pointed out by Sullivan (2007) that all the extensions in the metaphor/invited inferencing overlap appear to involve primary metaphors (Grady, 1997; Lakoff & Johnson, 1999). For example, MORE IS UP represents a primary metaphor which involves two co-occurring experiences of MORE and UP (e.g. when adding more water into a container, the level of the water goes up). Having two co-occurring situations is also the prerequisite for invited inferencing which happens in contexts containing one meaning that is literally referred to and the other one that is implied. For instance, in a context describing the height of water, the inference of more water might be implied. Therefore, the common experiential basis of primary metaphors and invited inferencing is important for us to understand the metaphor/invited inferencing overlap. Thirdly, metaphor and invited inferencing tend to have different effects at a particular stage of semantic change. It has been found that metaphor can take part in the meanings of a linguistic item in an early stage and speakers may not consciously realize the metaphorical usage in later periods once the linguistic form has acquired the metaphorically secondary sense. For example, the 'earlier time/past' meaning of *shang* first appeared in EAC and is still found in CC. If without explaining, speakers would not consciously realize that the usage of *shang* to refer to past time is metaphorical. Compared to metaphor, invited inferencing is more likely to facilitate the grammatical function of a linguistic item at a later period. For example, based on inferences, *shang* can mark the result of an action in MOC and expresses meanings 'the result of arriving at a destination' and 'the result of making contacts'. Finally, extensions through both metaphor and invited inferencing have to be shared by speakers in the language community. That is to say, an

innovation based on metaphor and invited inferencing may first arise as an individual behavior and it has to be accepted and spread to other speakers from time to time.

7.2. Relation between Semantic Change and Polysemy

In addition to showing how meanings associate with a linguistic item based on metaphors and invited inferencing in various usage events, this study also demonstrates the relation between semantic change and polysemy. According to Traugott and Dasher (2002, p. 11), 'semantic change cannot be studied without drawing on a theory of polysemy because of the nature of change'. There is no a simple replacement of one meaning by another in every change, however, what we normally see is the accretion of more and more meanings over time, which suggests that there is a close relation between semantic change and polysemy. Firstly, as shown in this study, the semantic relatedness between various senses of a word is the outcome of a long period of diachronic development. As shown in Figure 7.1, meanings of *shang* were related and they became conventional units in every period of the Chinese language after being frequently used in various contexts. In the process of semantic development, older and newer meanings of *shang* continue to coexist over several hundreds of years, although their relationship to each other regarding the frequency of use may change. For instance, the older meaning 'move to a high/higer place' of *shang* that appeared in LAC was still seen in MOC as in *shang cheng-qiang* 'move up to the city wall', however, the older usage that involves an obvious upward movement became less popular compared to some newer usages indicating a more subtle upward movement as in *shang che* 'get on the car'. Additionally, it is noted that certain usages of *shang* may disappear at some time if it is less used (e.g. the meaning 'toward a high/higher place' of *shang* is not common after LAC owing to the fact that this meaning was gradually replaced and associated with other words).

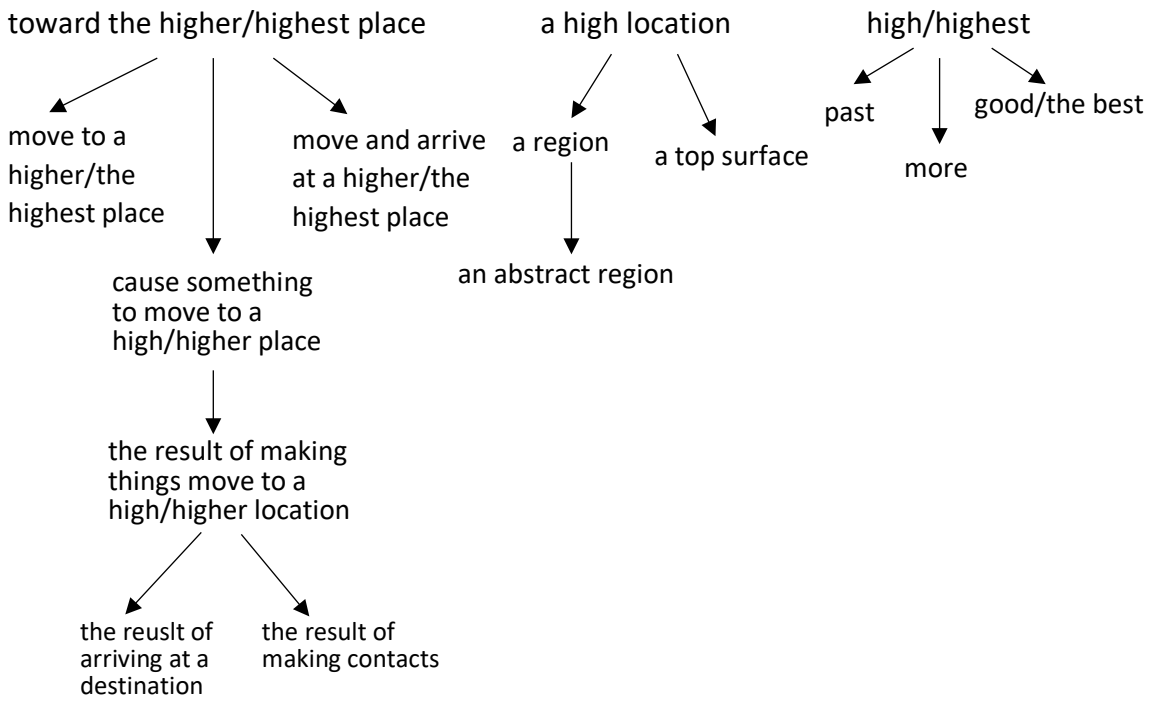

Figure 7.1 Semantic changes of *shang*

Secondly, this study also demonstrates that a newly formed unit (i.e. schema) can be used to sanction another more innovative meaning of a word. For instance, as shown in Figure 7.2, the meaning 'move to a high/higher place' that was associated with *shang* in LAC is found to sanction more innovative meanings of *shang* in later periods (i.e. *shang bai-wan shu* 'get to a higher number' and *shang ceng-ci* 'get to a higher mental level').

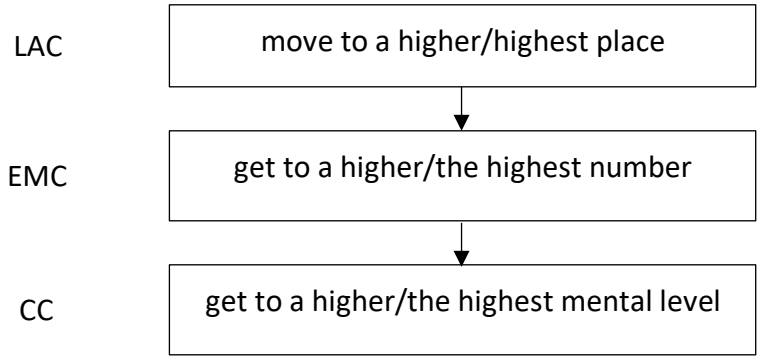

Figure 7.2 Meaning of *shang* sanctions more new meanings

Thirdly, it is found that as more types of word are used with a linguistic item in various contexts, more diverse meanings can be associated with the word. This is in particular obvious near a more recent time when the word appears in more kinds of genre. For instance, frequently being used with abstract nouns such as *shi-jie* 'world', *li-shi* 'history', and *jing-shen* 'mind' in

genres of general fiction and reportage, the spatial word *shang* in CC can indicate the schematic meaning ‘an abstract range’.

As shown in the above discussion, semantic change and polysemy interacts with each other: semantic change happens in the process of language use and it contributes to the various senses of a polysemous word in a specific period, and meanings of a polysemous word in a specific time can lead to more innovative usages in later periods.

7.3. Changes Involving *shang* Are Related and Form a Network

The usage-based approach agrees on the idea that linguistic structures are closely related to instances of language use and that linguistic units can be organized into a network. It is therefore hypothesized that changes in the network of *shang* are related and take place by virtue of the process of language use. It has been shown in Chapter 6 that *shang* in EAC appeared in in three main constructions, i.e. [*shang* N], [SUB $V_{be\text{-}located}$ *shang*], [SUB *shang* V]. The three constructions were related but they exhibit individual properties and developed in their own ways. As for construction [*shang* N], it appeared quite frequently in EAC, which leads to two conditions: firstly, more kinds of noun can appear with *shang* in [*shang* N] constructions (e.g. *shang yao* ‘the best dish’); and secondly, some [*shang* N] constructions acquired the unit status and became compound words (e.g. *shang fang* ‘the main/important room’).

Three kinds of construction (written in red) were developed from the construction [SUB $V_{be\text{-}located}$ *shang*] in EAC (see Figure 7.3 below which is also Figure 6.1 in Chapter 6). These constructions developed into new constructions (written in purple) in CC, except for the construction [SUB V_{action} PRE N *shang*] that is still found in CC. When comparing the usage of *shang* in EAC and CC, we can see that *shang* in EAC did not always follow a noun as in constructions [SUB $V_{be\text{-}located}$ *shang*] and [SUB V_{exist} PRE *shang*], however, *shang* has to follow a noun (usually an abstract one) in CC. This means that, as more nouns are used in the constructions, speakers tend to treat the noun and *shang* as a single unit, which allows *shang* to be sanctioned by the postposition schema.

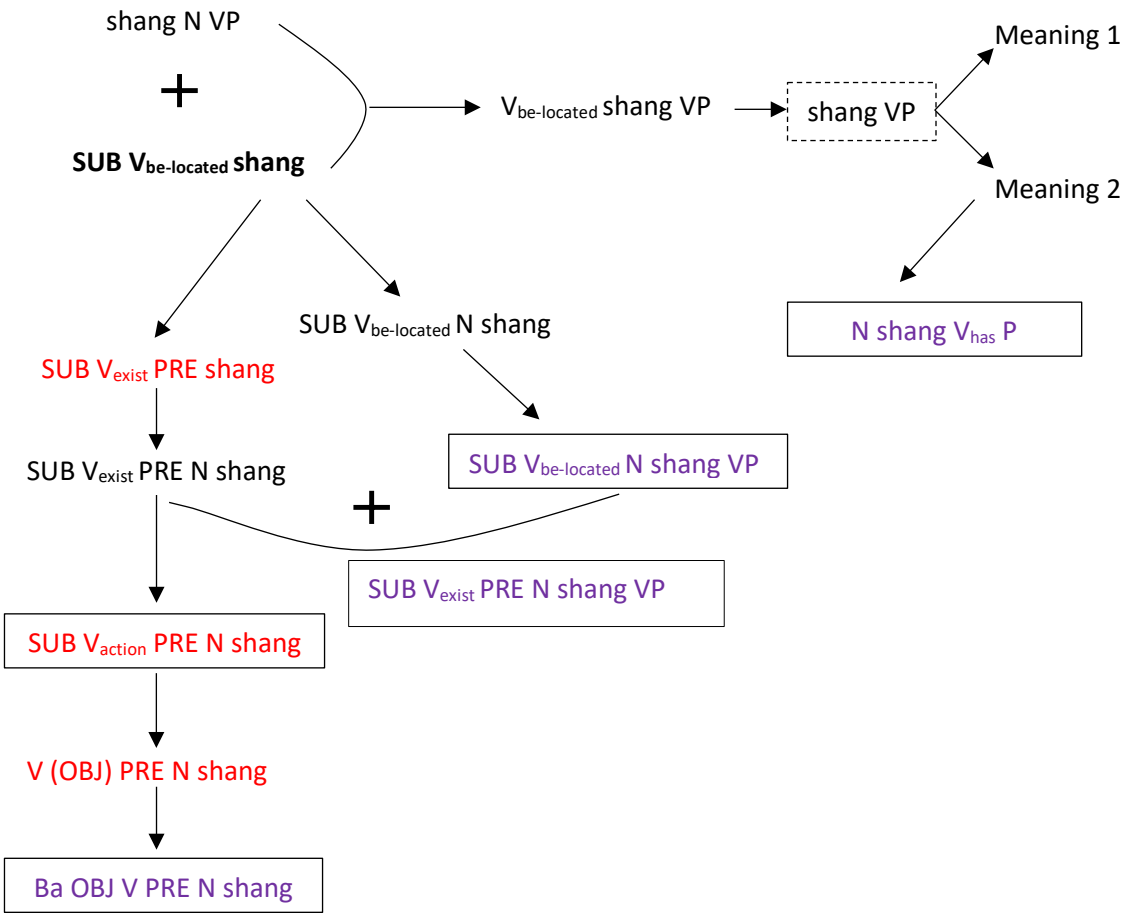

Figure 7.3 Changes are related in a network

In addition, the construction [SUB *shang* V] which means 'something moves to a higher place' was rarely seen in EAC and it was gradually replaced by other three constructions in LAC, which are [SUB *shang*], [SUB *shang* N] and [V CON *shang* OBJ] (see Table 7.1). After being frequently used in the three constructions, *shang* acquired the verbal function and was sanctioned by the predicate schema. As shown in Figure 7.4 (which is also Figure 6.2 in Chapter 6), the three constructions (written in red) further developed through various links, allowing the occurrence of new constructions [V *shang* N] and [V *shang* OBJ] in LMC. At this time, nouns that indicate a physical place or a concrete object always appear in these two constructions to express meanings such as 'something moves and arrives at a high/higher place' and 'move something and make it stay at a high/higher place'. In MOC, more kinds of verb and noun can be used in constructions [SUB V *shang* N] or [V *shang* OBJ], which allows [V *shang*] to become a unit and enables *shang* to be sanctioned by the schema of verb complement. When the object in the [V *shang* OBJ] construction is highlighted, a new construction [*Ba* OBJ

V *shang*] that contains the verb *ba* 'hold' appeared in MOC. In CC, the construction [V *shang* OBJ] is found to express more abstract ideas as in *ai shang ta* 'falling in love with him'. In CC, we normally see the following constructions, which are [SUB *shang* N], [SUB V *shang* N], [V *shang* OBJ], and [*Ba* OBJ V *shang*].

Constructions	**Meanings**	**Examples**
[SUB *shang*]	An object moves to a higher/the highest place	*duan qing zhe* ***shang*** 'short-light object **above** (verb)'
[SUB *shang* N]	Someone arrives at the highest place	***shang*** *wu cheng* '(the enemy) **above** (verb) our city-wall'
[V CON *shang* OBJ]	Make something move and stay at a higher/the highest place	*tui er* ***shang*** *zhi* 'push and **above** (causative verb) it'

Table 7.1 Three constructions replaced [SUB *shang* V]

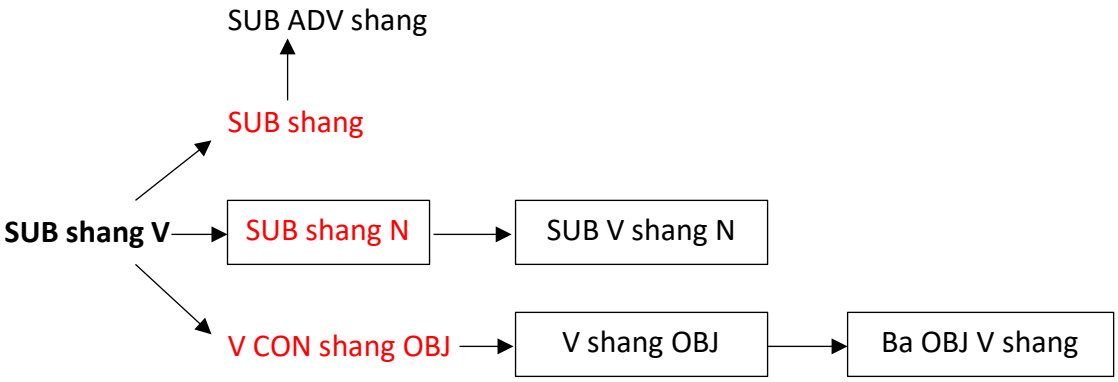

Figure 7.4 The development of three constructions

As shown in the above discussion, changes among constructions do not occur randomly. The frequency of use of a construction and the kind of words that often appear in a construction can both lead to the change in the construction. In addition, constructions can be linked in various ways by blending with or inheriting features from existing constructions and one older construction can develop into multiple directions to fulfil different communicative needs. As the construction containing *shang* develops in a network, *shang* gradually acquires more functions and is sanctioned by more types of schema.

7.4. General Changes Affecting the Development of *Shang*

We also found that general changes in a particular stage of Chinese language can affect the usage of *shang*, which again indicates that changes are related and form a network. These general changes include the development of localizers and place words, the development of directional serial verb construction and the trend to dissyllabic words. Firstly, one of the functions of *shang* is to be used as a localizer. As mentioned in Chappell and Peyraube (2008), in AC localizers such as *shang*, *xia* 'below, under', *nei* 'inside', *wai* 'outside', *qian* 'in front of', *hou* 'back', etc. are always monosyllabic and contrary to CC, they can be used alone to express place. In Pre-Medieval Chinese, common nouns such as *fang* 'building' are no longer used as place words and place words are formed by Common nouns + localizers, as in *chuan wai* which means 'outside the boat'. In addition, localizers tend to behave like functional words although they still denote a precise position. In Early Medieval Chinese, certain localizers including *shang*, *xia* 'below', *zhong* 'in the middle', *qian* 'in front of', *bian* 'on the side of' etc. can denote undifferentiated localization, which means that they no longer indicate a precise position but a rather vaguer position. Therefore, we see that in CC localizers in general follow nouns and can express vaguer meanings. As shown in this study, the development of localizer *shang* follows the general change discussed in Chappell and Peyraube (2008) in which *shang* can appear with more kinds of nouns and it gradually lost its concrete meanings. However, we also show that being used in various constructions, *shang* has its unique way of development which may not be the same as other localizers. For instance, when following nouns such as *che* 'car' or *chuan* 'boat', *shang* can denote the 'inner space of a car or a boat' in a specific context although another localizer *li* 'inside' may express the same meaning. Secondly, as shown in our study *shang* starts to be used as a verb complement in MEC. This reflects the development of directional serial verb construction in Chinese language. As pointed out by Y. Liang (2007), directional serial verb constructions appear around LAC and they are formed by combining verbs and directional verbs such as *shang* 'go up', *xia* 'go down', *ru* 'go in', *chu* 'go out', as in *pa shang* 'climb up'. After frequently appear together, the second verb in a serial verb construction may experience grammaticalization and no longer denotes a direction, which is a process seen in the development of *shang*. Thirdly, the tendency for monosyllabic words to become disyllabic words in Chinese has also encouraged the grammaticalization of *shang*. We have shown that the frequent combinations of *shang* and words in certain constructions such as [V *shang* OBJ] allows *shang* to have a stronger association with the neighboring words and

lose its concrete meaning (e.g. in some cases *shang* has lost independent structure and strongly relied on the first verb in [V *shang* OBJ]).

7.5. Relations between Contexts and Diachronic Development

The roles of 'context' have been emphasised in studies of grammaticalization (e.g. Bybee et al., 1994; Heine et al., 1991; Himmelmann, 2004; Traugott, 2003). In a much-cited quotation, Bybee et al. (1994, p. 297) described: 'everything that happens to the meaning of a gram (a short term for 'grammatical morpheme') happens because of the contexts in which it is used.' Since then, there has been much discussion regarding the roles of context on grammaticalization (e.g. Bybee, 2003; Haiman, 1994; Heine, 2003). However, since the general term 'context' concerns both linguistic and extra-linguistic environments, and it can also be used interchangeably with 'construction' when referring to a syntactic string or constituent, the types of context in grammaticalization need to be distinguished. As has been shown in our analysis, multiple contextual factors are responsible for the semantic development of *shang* and also for changes in constructions containing *shang*. The first type of context that affects the usage of *shang* is called the 'construction-internal contexts' by Traugott and Trousdale (2013, p. 207) which represent local contexts in which one or more constituents of a construction may contribute to a change. Firstly, inferences that often associate with *shang* in a construction can become parts of the meanings of *shang*. For instance, the verb complement *shang* in [V *shang* OBJ] can invite the inference of 'the result of making contacts' which has become a polysemous sense of *shang* through frequent contexts of use. Secondly, the development of various components in the constructions can cause the reanalysis of their forms and change the meaning of *shang* (e.g. there was a loss of internal constituent structure in certain [*shang* N] constructions which makes the meaning of *shang* become less specific as in *shang fang* 'the main/important room'. Thirdly, the expansion of collocation types for *shang* in various constructions can lead to the generalization of *shang*'s meaning and facilitate the process of grammaticalization. For example, as more types of verb occur in the [V *shang* OBJ] construction, such as verbs *ying* 'welcome', *suo* 'lock', *shang* has gradually became a grammatical marker indicating a resultant state. Furthermore, it has been shown that components in repeated used constructions, such as [N *shang*] and [V *shang*], are more likely to experience morphological reduction and be processed as single chunks or units. Nevertheless, constructions that are less used, such as [*shang* VP], can be replaced by other expressions. Therefore, although frequency is not the main focus of this study, we acknowledge that both

token and type frequencies play important roles in triggering changes in various constructions containing *shang*. This is in line with Bybee (2003, 2007, 2010b)'s idea that frequency is not just a result of grammaticalization, but an active force in instigating the changes in grammaticalization. In addition, we have also examined the second type of context, which is the network context (i.e. the link between constructions). According to Traugott and Trousdale (2013, p. 224 & 230), a network context includes' constructions in the network with similar meaning and form' or 'related nodes that enable analogical thinking'. As demonstrated in this study, constructions containing *shang* are related through various links including metaphorical link, polysemy link, instance link, and inheritance link. Moreover, we have shown that the usage of *shang* is also influenced by a wide discourse functional context, which is the 'more general and systemic changes affecting nodes and links in the language network at the time' (ibid, p. 197). To be more specific, the development of localizers and serial verb constructions in the history of Chinese language has encouraged the change of *shang*. In general, adopting the usage-based approach, this study reveals that linguistic items should be observed within the contexts in which they occur and changes could not happen without the facilitating role of contexts.

7.6. Semantic Change and Grammaticalization of Chinese Spatial Words

As mentioned in Chapter 3 (section 3.1), the isolating nature of Chinese language makes it a perfect candidate for the study of semantic change and grammaticalization. Due to the isolating nature (e.g. unmarked word structure), Chinese lexemes exhibit unique ways of diachronic development in their meanings and grammatical functions. Firstly, like English or some other languages, a typical evolutionary cline that is associated with the development of a Chinese lexeme is the 'accretion' of meaning over time (Xing, 2004, 2006; 2012, p. 4). An older meaning (A) of a Chinese word may co-exist with a newer meaning (B), and these two meanings can then be extended to form a third meaning (C). Therefore, it may be relatively rare to see a complete loss of an older meaning in Chinese lexemes. However, meanings or grammatical functions of a Chinese word are largely affected by where the word is used in a clause. Depending on various communicative needs, a single word like '*shang*' can appear in multiple positions and serve flexible functions in Chinese sentences. Therefore, when acquiring new meanings, Chinese lexemes tend to show more flexibility. In other words, the unmarked word structure allows Chinese lexemes to more easily fit into the sentential contexts where they occur. Secondly, as is well documented in Chinese linguistic literature (Dong, 2002, 2012;

Peyraube, 1988; Xing, 2012, p. 10), when undergoing grammaticalization, there is a tendency for Chinese lexical items to pair with another word to form disyllabic words and serial verb constructions (i.e. a process of lexicalization). The two features that are associated with the development of Chinese lexemes are both seen in the semantic change and grammaticalization of Chinese spatial words. For instance, as locative word *shang* appears in various positions in clauses, more and more meanings or grammatical functions associate with it in the development, and a newer meaning of *shang* may be formed based on more than one older meanings. In addition, it is found that *shang* usually combined with other morphemes to form disyllabic spatial words in MOC as shown in Table 7.2. Notice that most of these words have inherited *shang*'s early meaning 'a high/higher place', whereas some were derived from *shang*'s later developed polysemies such as 'more than'.

Character	**Pinyin**	**Gloss**	**English**
以上	yi-shang	at above	'more than'/'above'/ 'over'
上头	shang-tou	above head	'above'
上面	shang-mian	above surface	'above'/ 'top'
上去	shang-qu	above go	'go up'
上来	shang-lai	above come	'come up'
上前	shang-qian	above front	'step forward'

Table 7.2 Disyllabic words containing *shang*

In addition to showing the two features of development mentioned above, this study also reveals the lexical source and evolutionary path of spatial term *shang*. We believe the idea that the earliest meaning of *shang* was related to the representation of 'sky' in writing on the oracle bones of Pre-Archaic Chinese since it is consistent with the usage of *shang* we identified in EAC. However, what we doubt is the idea that *shang* only had one earliest meaning (i.e. 'sky') in Pre-AC as proposed by some researchers (Chappell & Peyraube, 2008, p. 18; Peyraube, 2003, p. 186; Y. Wang, 2008, p. 25). As shown in the example (7.1), *shang* was used in EAC to refer to 'the sky' or 'the high location where a respectable person or his spirit located', and the sky is considered as a reference point in this case. However, it is also found that *shang* can mean 'the ground' in EAC when we regard the ground as the reference point as shown in (7.2). It could be possible to argue that the basic meaning of *shang* in Pre-AC was 'a high location/place'; but depending on which environmental landmarks (i.e. the sky/heaven or the

ground/earth) we adopted when comprehending or communicating, *shang* could also refer to 'the sky' or 'the ground'.

(7.1) *Wen-wang zai* ***shang*** (EAC: The Classic of Poetry)
Wen-king be-located **above** (postposition)
'(The divinity of) Wen-king is at a high part of the sky.'

(7.2) *ru sheng zai* ***shang*** (EAC: The Classic of History)
you live PRE **above** (postposition)
'You live on a high part of the ground.'

Tracing the various meanings of *shang* based on instances from EAC to CC, the evolutionary path that *shang* follows has also been demonstrated. Similar to the findings from previous studies on the grammaticalization of locative terms(Heine, 1997; Heine et al., 1991; Svorou, 1993, 2003), it is found that on its way to grammaticalization locative term *shang* gradually lose its lexical features and perform more grammatical functions. As the meaning of *shang* changes in the development, the grammatical function of it also changes. Therefore, a continuum of change in two levels is revealed along the development of *shang*: the change from indicating specific locations to denoting more general meanings (e.g *shang* indicated 'the top surface' in MEC but it can refer to a general meaning of 'an abstract range' in CC), and from having less grammatical functions to showing more grammatical functions. The pattern shown in Figure 7.5 indicates the new grammatical functions that were associated with *shang* in various periods. In CC, *shang* usually functions as a postposition, transitive verb, verb complement and noun modifier (adjective).

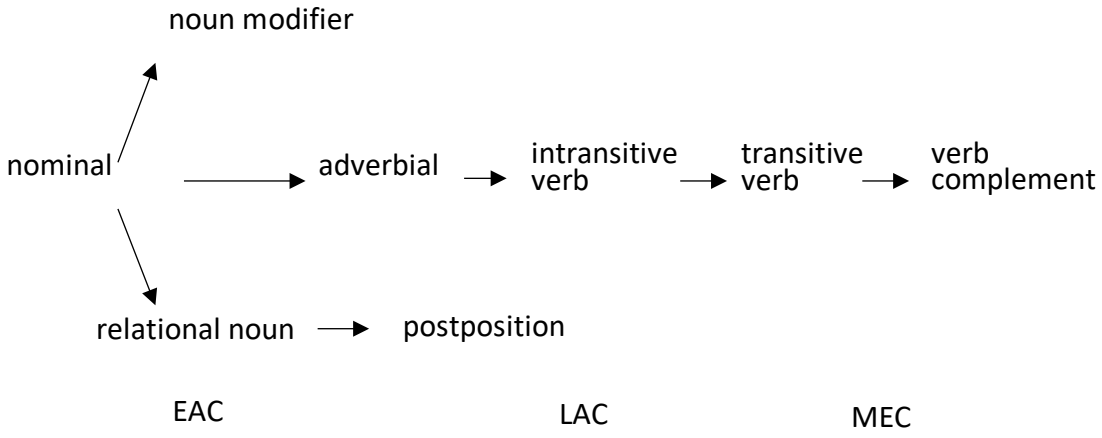

Figure 7.5 Grammatical functions associated with *shang* in various periods

It is noted that the process of change for *shang* is achieved by involving some intermediate stages in which both the earlier meaning (earlier grammaticaul function) and the latter meaning (or the latter grammatical function) exist at the same time. That is to say, an older grammatical function may be still seen and associates with *shang* in more recent time. For instance, *shang* was still used in MOC to modify a noun as in *shang fang* 'the main/important room' but the modifying function of *shang* was not often seen compared to its newer grammatical functions of postposition, verb or verb complement.

Chapter 8. Conclusion

This chapter first summarizes the findings based on the research questions and then points out the significance of the study, following which the limitations are discussed and further studies are indicated.

8.1. Summary

This study investigates the semantic change of a Chinese spatial term *shang* 'above' and shows how *shang* evolved throughout the history of written Chinese to result in the polysemy network nowadays. We extract 2749 instances of *shang* from historical corpora of Chinese language from periods of Archaic Chinese (AC, 12th c B.C. - A.D. 220), Medieval Chinese (MC, A. D. 220-1368 c.), Modern Chinese (MOC, 15th -mid 19th c.) and Contemporary Chinese (CC, mid-19th-20th c.). Extended meanings of *shang* in every period are analyzed based on conceptual metaphors and invited inferences, and the distinct senses associated with *shang* are testified with Principled Polysemy Model. In addition, we also look at the development of various constructions containing *shang* and see how these constructions are linked in a network. I will summarize the results by answering the research questions.

1. What can diachronic semantic change tell us about synchronic polysemy?
   a. What are the lexical source and evolutionary paths (from both semantics and grammatical aspects) of Chinese polysemous spatial term *shang*?

   Based on evidence from previous studies and meanings of *shang* in EAC, we propose that *shang* was first used as a nominal in Pre-AC to indicate meanings 'high/a high place' and 'sky' or 'ground'. In EAC, *shang* functioned as both nominal and adverbial to express the meanings 'a high/higher location', 'high/highest' and 'toward a high/highest location'. In LAC, *shang* can perform grammatical functions of postposition and verb denoting meanings including 'a top surface', 'a region', 'move to a high/higher place', and 'arrive at a high/higher place'. Approximately in LMC, *shang* acquired the grammatical function of verb complement and can express meanings 'the result of making things move to a high/higher location'. Although still performing the above mentioned grammatical functions (except that some of the usages are rare and are restricted in specific contexts), meanings of *shang* are extended and become more abstract in MOC and CC. For instance, as a postposition *shang* indicates the meaning of 'an abstract region' in CC.

b. How do various senses of *shang* develop in various diachronic stages to form multiple related meanings synchronically?

New meanings of *shang* appear based on older usages, and novel usages are motivated by metaphors and/or specific contexts of use. Older and newer meanings of *shang* normally coexist for a long period of time although some older usages may be replaced at a later stage if they are less used. It is rare to see a complete disappearance of a particular usage of *shang*. Older and newer meanings of *shang* are related through various metaphorical, metonymic and pragmatic links. In general, an accretion of meanings is seen in the development of *shang*, however, newer meanings of *shang* become more abstract in recent time.

2. How do conceptual metaphors and pragmatic inferences contribute to the semantic change and polysemy of Chinese spatial term (i.e. *shang*)? To be more specific, what roles do conceptual metaphors and pragmatic inferences play on the various meanings of *shang* in every historical period?

Conceptual metaphors and pragmatic inferences both motivate the innovative usages of a Chinese spatial word *shang*. As shown in our analysis, metaphors enable *shang* to have the distinct senses ‘a high ranking official’, ‘good/the best’, ‘more’, ‘earlier time/past’, ‘offer something to a high/higher ranking official’, ‘improve/become better’, ‘get to a larger amount’. These usages of *shang* occurred in EAC and MEC, which indicates that metaphors take effect in the meanings of a spatial word *shang* in an early stage. Extended meanings of *shang* formed by pragmatic inferences are ‘sky/heaven’, ‘a region’, ‘a top surface’, ‘go to’, ‘get onto’, ‘attach to’, ‘the result of arriving at a destination’, ‘the result of making contacts’ and ‘an abstract region’. It has been shown that compared to metaphors, meanings established based on inferences tend to indicate speakers subjective believes and grammatical meanings of *shang* are more likely to be motived by pragmatic inferences. Therefore, as the meanings of *shang* become more abstract in MOC and CC, pragmatic inferences play a more important role on the meanings of *shang* in its recent development.

3. Can we apply the constructional approach to the analysis of Chinese spatial terms? To be more specific, how do constructions containing *shang* develop and form a network; whether

the development of various constructions containing *shang* affects the semantic change of *shang*?

Yes. Traugott and Trousdale (2013)'s constructional approach can be applied to the analysis of Chinese spatial words. Various constructions that contain the spatial word *shang* are classified. We show that constructions containing *shang* are linked to each other by blending with or inheriting features from older constructions and that these constructions develop in a systematic way to fulfil multiple communicative needs. It is found that the development of certain constructions affect the usages of *shang*. Firstly, the development of localizers in [SUB $V_{be\text{-}located}$ localizers] allowed the occurrence of a new construction [SUB $V_{be\text{-}located}$ N_{place} localizers]. Therefore, localizer *shang* can follow a noun and indicate the high location of a place (represented by the noun). Secondly, the development of directional serial verb construction and the trend to dissyllabic words facilitated the grammaticalization of *shang* as a verb complement. Thirdly, a general trend associated with the development of various constructions containing *shang* is that as more kinds of words being used in the constructions, the meanings of *shang* become more abstract.

4. What roles do other contextual factors play in the semantics of Chinese spatial term (i.e. *shang*)? To be more specific, how do various contextual factors, including collocates, constructional meanings, frequency of use and genre types contribute to the usages of *shang*?

It has been shown that as more types of collocates appear with *shang*, meanings of *shang* become more abstract. However, the change of collocates *per se* may not lead to the new meanings of *shang*. It is the type of collocates that often appear with *shang* (such as the abstract noun frequently used before *shang*) creates the possibility for the semantic change of *shang* (*shang* indicating an abstract region as it often appears with abstract nouns). That is to say, type frequency play a role here in motivating the semantic change of *shang*. Other than type frequency, we have already shown that high token frequency of an invited inference allows the inference to spread through the language community and enables the establishment of a coded meaning. Therefore, although we do not focus on the role of frequency in this study, it is undeniable that frequency of use is an important factor facilitating the new meanings of a linguistic item. We also found that meanings of constructions containing *shang* tend to become less specific. As the meanings of constructions become more abstract, the meanings of *shang*

also become more abstract. In addition, although this study does not concern the role of genre types on semantic change, we found that as a postposition *shang* tends to perform different discourse functions in various types of genres in CC, which indicates that a particular usage of a spatial word may be restricted to specific genre types.

8.2. Significance

Most previous studies on the semantic change of Chinese lexical item simply list the various usages of the word, but seldom provide an in-depth observation of the motivations that lead to the development of a particular word. In addition, few studies answer the question of how various meanings (or grammatical functions) of a polysemous locative term associated with each other diachronically. This study not only displays the various factors, including conceptual metaphors, invited inferences, constructional changes, etc. that lead to the development of spatial word *shang* but also shows the semantic relatedness of various usages of *shang* from a diachronic perspective. The result of this study indicates that synchronic semantic relations between various usages of a Chinese spatial term are the outcome of diachronic development. Therefore, this study reveals how the current polysemous uses of a linguistic time are formed in a systematic way diachronically.

In addition, a constructional approach to language change has seldom been applied to the study of Chinese spatial words. By showing the way various constructions containing *shang* develop in multiple linguistic environments and how the development affects the meaning of *shang*, this study provides an overview of the roles of contextual factors on the semantic change (and grammaticalization) of Chinese locative word. It has been shown that new constructions containing *shang* do not occur randomly but they link to older constructions by blending with or inheriting features from them, which indicates that constructions are related and can form a network.

This study demonstrates the role of metaphors and invited inferences on the diachronic development of Chinese spatial term. Since this study is based on historical language data, it provides a more comprehensive description of the functions of both cognitive process and contextual factors on the semantic change (and grammaticalization) of Chinese spatial term. Moreover, we also show that distinct senses of *shang* could be the results of both conceptual metaphors and invited inference, which indicates that linguistic structures can be considered as both the reflections of a cognitive and a communicative system. Therefore, the finding of this

study is in line with Coussé and von Mengden (2014)'s idea that the cognitively oriented and communicatively-oriented perspectives complement each other and both contribute to a usage-based model of language.

Finally, this study also identifies the lexical source and evolutional path of the spatial word *shang* based on instances extracted from historical data. It is found that although sharing some similar developmental patterns with locative terms in other languages (i.e. having the intermediate stages where both old and new meanings/grammatical functions of a spatial term exist and showing a trend from indicating a more concrete meaning to denoting more abstract meanings), Chinese spatial word has its own way of development (i.e. the flexibility of fitting into a sentential context and the tendency towards disyllabic words). Therefore, our study also sheds light on the history of the Chinese language and also on the nature of semantic change and grammaticalization.

8.3. Limitations

The data source may bias the findings of this study. To limit the influence of data source on the results of the study, written texts in various types of genre are collected and consistency of genre type are maintained when collecting data from corpora in different historical periods. It is believed that any bias would not be extensive since more than 2700 instances of *shang* are analysed and these instances are sufficient to represent most usages of *shang* in every period.

Subjective judgment, which may affect the results, is inevitably involved. Subjectivity may be included in processes such as the selection of innovative usages of *shang* from the written texts; the classification of the meanings of *shang*; the identification of semantic relations between the various meanings of *shang*; and the judgement of the links between various constructions containing *shang*. It is hoped that the influence of subjectivity has been minimized through the consultation of various resources, the employment of definitions and standards in usage-based approaches, and also the consistency in judgment.

Deciding what level of frequency is sufficient for a new construction or a novel usage of *shang* to acquire the 'unit status' is problematic due to the fact that historical textual record is often minimal. Since the frequency of use is not the main concern of this study, we only associate 'sufficient frequency' with replication and conventionalization in the textual record.

8.4. Further Studies

More kind of data, such as more genres and spoken language, can be collected to display a more comprehensive picture of the usage of *shang*. The usage of *shang* in different kinds of genre or between written texts and spoken language can be compared to get a further understanding of the nature of spatial language in Chinese.

Provided that an annotated historical corpus of Chinese language is available and the corpus is large enough, computational and statistical methods can be used to investigate the semantic development of a Chinese spatial word like *shang*. In applying more quantitative methods to a large dataset, more convincing evidence regarding the role of frequency on the historical development Chinese spatial word can be provided.

The usage of spatial word *xia* 'below' can be investigated to demonstrate the symmetric and asymmetric features among the usages of *shang* and *xia*. It is also interesting to see whether *xia* shows a similar pattern of diachronic development as *shang* and how the development of *shang* could influence the meaning of *xia*, or vice versa.

References

Alleton, V. (1973). *Grammaire du chinois*. Paris: PUF.

Allwood, J. (2003). Meaning potentials and context: Some consequences for the analysis of variation in meaning. In R. D. H. Cuyckens, and J. Taylor (Ed.), *Cognitive Approaches to Lexical Semantics* (pp. 29-66). Berlin: Mouton de Gruyter.

Bloomfield, L. (1933). *Language*: University of Chicago Press.

Bowerman, M. (1996). Learning how to structure space for language: A crosslinguistic perspective. In M. A. P. P. Bloom, L. Nadel, & M. F. Garrett (Ed.), *Language and space* (pp. 385-436): Cambridge, MA: MIT press.

Bréal, M. (1964 [1900]). *Semantics: Studies in the Science of Meaning*. New York: Dover Publications.

Brems, L. (2007). The Grammaticalization of Small Size Nouns Reconsidering Frequency and Analogy. *Journal of English Linguistics, 35*(4), 293-324.

Brugman, C. (1983). *Story of "over" Claudia Marlea Brugman*. Bloomington, Ind.: Bloomington, Ind. : Indiana University Linguistics Club 1983.

Brugman, C., & Lakoff. (1988). Cognitive topology an lexical networks. In G. C. M. T. S. Smmall (Ed.), *Lexical Ambiguity Resolution* (pp. 477-507). San Mateo: CA: Morgan Kaufman.

Bybee, J. (2003). Mechanisms of Change in Grammaticization:The Role of Frequency. In B. D. Joseph & J. Janda (Eds.), *The Handbook of Historical Linguistic* (pp. 602-623): Oxford: Blackwell.

Bybee, J. (2007). *Frequency of Use and the Organization of Language*. Oxford University Press.

Bybee, J. (2010a). Diachronic Linguistics. In D. Geeraerts & H. Cuyckens (Eds.), *The Oxford Handbook of Cognitive Linguistics*. USA: Oxford University Press.

Bybee, J. (2010b). *Language, Usage and Cognition*. Cambridge, New York: Cambridge University Press.

Bybee, J. (2013). Usage-Based Theory and Exemplar Representations of Constructions. In T. Hoffman & G. Trousdale (Eds.), *The Oxford Handbook of Construction Grammar* (pp. 49-69). Oxford University Press.

Bybee, J. (2015). *Language Change*: Cambridge University Press.

Bybee, J., & Cacoullos, R. T. (2009). The role of prefabs in grammaticization: how the particular and the general interact. *Distribution and Historical Change*, 187-217.

Bybee, J., & Hopper, P. (2001). *Frequency and the Emergence of Linguistic Structure*. Amsterdam/Philadelphia: Joan Benjamins Publishing Company.

Bybee, J., & Pagliuca. (1985). Cross-linguistic comparison and the development of grammatical meaning. *Historical Semantics - Historical Word-Formation*, 59-84.

Bybee, J., Perkins, & Pagliuca. (1994). *The Evolution of Grammar: Tense, Aspect, and Modality in the Languages of the World*: University of Chicago Press.

Cai, y. (2008). *汉语方位词及其概念隐喻系统-基于“上/下”的个案考察 The Localizer in Chinese and its Conceptual System of Metaphors-Based on the Case Study of Shang/Xia.* (Doctoral), Beijing Language and Culture University. .

Cameron, L. (2008). Metaphor and talk. In W. Gibbs R (Ed.), *The Cambridge handbook of metaphor and thought* (pp. 197-211). New York: New York : Cambridge University Press.

Cartier, A. (1972). Les indicateurs de lieu en chinoic. *La Linguistique, 2*(8).

Chao, Y., R. (1968). *A Grammar of Spoken Chinese*. Berkeley: University of California Press.

Chappell, H., & Peyraube, A. (2008). Chinese localizers: Diachrony and some typological considerations. In D. Xu (Ed.), *Space in Languages of China: Cross-linguistic, Synchronic and Diachronic Perspectives* (pp. 15-37). Springer.

Chen, F. H. (2003). *古代汉语词典 (Ancient Chinese Dictionary)*. Beijing: Shang Wu Yin Shu Guan (The Comercial Press).

Cheng, X. (1992). Lun Heng Shuangyinci Yanjiu/ 《论衡》双音词研究 *Lianghan Hanyu Yanjiu/ 两汉汉语研究*: Shandong Education Press.

Chomsky, N. (1995). *The Minimalist Program*: MIT Press.

Chu, Z. (2010). *Hanyu kongjian duanyu yanjiu/ 汉语空间短语研究*. Beijing: Bejing University Press.

Clark, H. H. (1996). *Using Language*: Cambridge University Press.
Coussé, E., & von Mengden, F. (2014). Introduction: The role of change in usage-based conceptions of langauge. In E. Coussé & F. von Mengden (Eds.), *Usage-based Approachs to Language Change* (Vol. 69, pp. 1-19). Amsterdam/Philadelphia: John Benjamins Publishing Company.
Croft, W. (2000). *Explaining Language Change: An Evolutionary Approach*: Longman.
Croft, W. (2001). *Radical Construction Grammar: Syntactic Theory in Typological Perspective*: Oxford University Press.
Croft, W. (2013). Radical Construction Grammar. In H. S. a. Trousdale (Ed.), *The Oxford Handbook of Construction Grammar* (pp. 211-232).
Croft, W., & Cruse, D. A. (2003). *Cognitive linguistics*. New York: New York : Cambridge University Press 2003.
Cuyckens, H., Sandra, D., & Rice, S. (1997). Towards an empirical lexical semantics. In B. S. M. Tasch (Ed.), *Human Contact through Language and Linguistics* (pp. 35-54). Berlin: Peter Lang.
Cuyckens, H., & Zawada, B. (2001). *Polysemy in cognitive linguistics : selected papers from the International Cognitive Linguistics Conference, Amsterdam, 1997*. Amsterdam ; Philadelphia: Amsterdam ; Philadelphia : John Benjamins Pub. Co. c2001.
Ding, S. (1961). *现代汉语语法讲话 （xiandai hanyu yufa jiang hu)*. 北京 Beijing: 商务印书馆 The Commercial Press.
Dong, X. (2002). *Ci Hui hua: Hanyu Shuangyin Ci de Yanshen he Fazhan [Lexicalization: The Development of Chinese Disyllabic Words]*. Chengdu: Sichuang Minzu Chubanshe.
Dong, X. (2012). Lexicalization in the history of the Chinese language. In X. J. Zhiqun (Ed.), *Newest trends in the study of grammticalization and lexicalization in Chinese*: Walter de Gruyter.
Evans, V. (2013). *Language and time : a cognitive linguistics approach*: Cambridge : Cambridge University Press. 2013.
Evans, V., & Green, M. (2006). *Cognitive Linguistics: An Introduction*: L. Erlbaum.
Fang, Y. (1996). Donghan Yuliao Yu Hanyushi Yanjiu Zhouyi/ 东汉语料与汉语史研究诌议. *Chinese Language*(2).
Fauconnier, G. (1997). *Mappings in thought and language*. Cambridge, U.K. ; New York, NY, USA: Cambridge, U.K. ; New York, NY, USA : Cambridge University Press 1997.
Fillmore, C. (1975). An Alternative to Checklist Theories of Meaning. *Proceedings of the First Annual Meeting of the Berkeley Linguistics Society*, 123-131
Fillmore, C. (1982). Frame semantics *Linguistics in the Morning Calm, Linguistic Society of Korea* (pp. 111-137). Hanshin Publishing Company: Seoul.
Geeraerts, D. (1983). Prototype Theory and Diachronic Semantics: A Case Study. *Indogermanische Forschungen: Zeitschrift fur Indogermanistik und Allgemeine Sprachwissenschaft, 88*, 1-32.
Geeraerts, D. (1997). *Diachronic Prototype Semantics: A Contribution to Historical Lexicology*: Clarendon Press.
Gibbs, R. W. (1999). Taking Metaphor Out of Our Heads and Putting It Into the Cultural World. In R. W. Gibbs & G. Steen (Eds.), *Metaphor in Cognitive Linguistics* (pp. 145-166). Selected Papers from the Fifth International Cognitive Linguistics Conference, Amsterdam, July 1997: Philadelphia & Amsterdam: John Benjamins.
Gisborne, N. (2011). Constructions, Word Grammar, and Grammaticalization. *Cognitive Linguistics, 22*.
Givón, T. (1979). *On understanding grammar*: Academic Press.
Givón, T. (1990). *Syntax: a functional-typological introduction*: J. Benjamins Pub. Co.
Goldberg, A. E. (1995). *Constructions: A Construction Grammar Approach to Argument Structure*: University of Chicago Press.
Goldberg, A. E. (2003). Constructions: a new thoretical approach to language. *Trends in Cogntiive Sciences, 7*(5), 219-224.
Goldberg, A. E. (2006). *Constructions at Work: The Nature of Generalization in Language*: Oxford University Press.

Goldberg, A. E. (2013). Constructionist approaches. In H. a. Trousdale (Ed.), *The Oxford handbook of construction grammar* (pp. 15-31).
Gou, R. (2004). The Cognitive Basis of Chinese Local Words "Shang" "Xia" and Teaching Chinese Language as a Second Language. *Applied Linguistics, 4*.
Grady, J. (1997). *Foundations of Meaning: Primary Metaphors and Primary Scenes : a Dissertation Submitted in Partial Satisfaction of the Requirements for the Degree of Doctor of Philosophy in Linguistics in the Graduate Division of the University of California, Berkeley*: University Microfilms.
Green, G. M. (1989). *Pragmatics and Natural Language Understanding*: Erlbaum.
Greenberg, J. H. (1995). The diachronic typological approach to language. In M. Shibatani & T. Bynon (Eds.), *Approaches to Language Typology* (pp. 145-166). Oxford: Clarendon Press.
Grice, P. (1975). Logic and Conversation. In P. C. a. J. Morgan (Ed.), *Syntax and Semantics, Vol. 3, Speech Acts,* (pp. 41-58). New York: Academic Press.
Gries, S. T. (2015). Polysemy. In E. Dabrowska & D. Divjak (Eds.), *Handbook of Cognitive Linguistics* (Vol. 39, pp. 472-490).
Guo, J. (2007). The Prayer of Xia Shang Ruo in the Jia Gu Wen and the Concept of Intercommunication between the Heaven and Earth. *Zhou Yi*(81), 7-13.
Guo, X. (1994). *Xianqian Hanyu Goucifa De Fazhan/ 先秦汉语构词法的发展*: Yue Lu Shu She/ 岳麓书社.
Haiman, J. (1980). Dictionaries and encyclopedias. *Lingua, 50*(4), 329-357. doi:http://dx.doi.org/10.1016/0024-3841(80)90089-3
Haiman, J. (1994). Ritualization and the development of language. In W. Pagliuca (Ed.), *Perspectives on grammaticalization* (pp. 3-28). Amesterdam/Philadelphia: John Benjamins.
Hannas, W. C. (1997). *Asia's Orthographic Dilemma*: University of Hawai'i Press.
Harder, P. (2009). Meaning as input: The instructional perspective. In V. Evans & S. Pourcel (Eds.), *New Directions in Cognitive Linguistics* (pp. 15-26). Amsterdam: Johns Benjamins.
Harder, P. (2012). Emergent and usage-based models of grammar. In H.-J. Schmid (Ed.), *Cognitive Pragmatics* (pp. 507-532). Berlin/Boston: Mouton de Gruyter.
Heine, B. (1997). *Cognitive Foundations of Grammar*: Oxford University Press, USA.
Heine, B. (2003). Grammaticalization. *The handbook of historical linguistics*, 573-601.
Heine, B., Claudi, U., & Hünnemeyer, F. (1991). *Grammaticalization: A Conceptual Framework*: University of Chicago Press.
Hilpert, M. (2011). Diachronic collostructional analysis: how to use it and how to deal with confounding factors. In K. A. J. A. Robinson (Ed.), *Current Methods in Historical Semantics* (pp. 130-160): De Gruyter Mouton.
Himmelmann, N. P. (2004). Lexicalization and grammaticization: Opposite or orthogonal. *What makes grammaticalization*, 21-42.
Hoffmann, S. (2004). Are low-frequency complex prepositions grammaticalized. *Corpus approaches to grammaticalization in English*, 171-210.
Hoffmann, S. (2005). *Grammaticalization and English Complex Prepositions: A Corpus-based Study*: Routledge.
Hopper, P. (1991). On some principles of grammaticization. *Approaches to grammaticalization, 1*, 17-35.
Hopper, P., & Thompson, S. (1980). Transitivity in Grammar and Discourse. *Language*(56), 251-299.
Hopper, P., & Traugott, E. C. (1993). *Grammaticalization*: Cambridge University Press.
Hu, X., Williamson, & Mclaughlin. (2005). Sheffield Corpus of Chinese for Diachronic Linguistic Study. *Literary and Linguistic Computing, 20*(3), 281-293.
Hu, X. H. (2010). *动词后“上”与“下”、“来”与“去”的语义演变及其不对称性 (The semantic evolution and asymmetries of tendency verbs shang, xia, lai and qu in Chinese langauge).* (博士 (dorctorate)), 浙江大学 (Zhejiang University).

Huang, B., & Liao, X. (1991). *现代汉语Xiandai han yu*. 北京 Beijing: 高等教育出版社 Higer Education Press.
Hutchins, E. (1995). *Cognition in the wild*. Cambridge, Mass.: Cambridge, Mass. : MIT Press c1995.
Johnson, M. (1987). *The body in the mind : the bodily basis of meaning, imagination, and reason / Mark Johnson*. Chicago: Chicago : University of Chicago Press 1987.
Jucker, A. H., Taavitsainen, I., & Tuominen, J. (2014). *Diachronic corpus pragmatics*: John Benjamins Publishing Company.
Kane, D. (2006). *The Chinese language : its history and current usage*: Tuttle Publishing.
Kemmer, S., & Barlow, M. (2000). Introduction:A Usage-Based Conception of Language. In S. K. Michael Barlow (Ed.), *Usage Based Models of Language* (pp. vii-xxvii). California: CSLI Publications.
Kövecses, Z. n. (2000). *Metaphor and emotion : language, culture, and body in human feeling*. Cambridge, U.K. ; New York : Paris: Cambridge, U.K. ; New York : Cambridge University Press ; Paris : Editions de la Maison des sciences de l'homme 2000.
Kövecses, Z. n. (2005). *Metaphor in culture : universality and variation*. New York: New York : Cambridge University Press 2005.
Kreitzer, A. (1997). Multiple levels of schematization: A study in the conceptualization of space *Cognitive Linguistics (includes Cognitive Linguistic Bibliography)* (Vol. 8, pp. 291).
Küngas, A. (2014). Analyzing polysemy in Estonian Täpselt 'exactly, precisely' – a word with many faces. In A. H. J. a. J. T. Irma Taavitsainen (Ed.), *Diachronic Corpus Pragmatics* (pp. 107-132): John Benjamins.
Lakoff. (1982). *Categories and Cognitive Models*: Cognitive Science Program, Institute of Cognitive Studies, University of California at Berkeley.
Lakoff. (1987). *Women, fire, and dangerous things : what categories reveal about the mind / George Lakoff*. Chicago: Chicago : University of Chicago Press c1987.
Lakoff. (1993). The contemporary theory of metaphor. In A. Ortony (Ed.), *Metaphor and Thought* (pp. 2--202): Cambridge University Press.
Lakoff, & Johnson, M. (1980). *Metaphors We Live By*: University of Chicago Press.
Lakoff, & Johnson, M. (1999). *Philosophy in the flesh : the embodied mind and its challenge to Western thought / George Lakoff and Mark Johnson*. New York: New York : Basic Books c1999.
Lan, C. (1999). Cong renzhi jiaodu kan hanyu de kongjian yinyu/A cognitive approach to spatial metaphors in Chinese. *Foreign language teaching and research, 4*, 7-15.
Lan, C. (2000). *A Cognitive Approach to Spatial Metaphors in English and Chinese*: Hong Kong Polytechnic University.
Lan, C. (2002). A cognitive approach to Up/Down metaphors in English and Shang/Xia metaphors in Chinese. In B. a. S. G. Altenberg (Ed.), *Lexis in Contrast Corpus-based approaches* (pp. 151–174). Philadelphia,PA, USA: John Benjamins Publishing Company.
Langacker, R. W. (1976). Semantic representations and the linguistic relativity hypothesis. *Foundations of Language*, 307-357.
Langacker, R. W. (1987). *Foundations of cognitive grammar* Stanford, Calif.: Stanford, Calif. : Stanford University Press 1987-.
Langacker, R. W. (1988). A Usage-based Model. In B. Rudzke-Ostyn (Ed.), *Topics in Cognitive Linguistics* (Vol. 50, pp. 127-161). Amsterdam/Philadelphia: J. Benjamins.
Langacker, R. W. (2000). A Dynamic Usage-based Model. In M. Barlow & S. Kemmer (Eds.), *Usage-based Models of Language* (pp. 1-63): Stanford, CA: CSLI Publications.
Langacker, R. W. (2008). *Cognitive Grammar: A Basic Introduction*. New York: Oxford University Press.
Langacker, R. W. (2014). Culture and Cognition, Lexicon and Grammar. In D.T. Masataka Yamaguchi & B. Blunt (Eds.), *Approaches to Language, Culture, and Cognition: The Intersection of Cognitive Linguistics and Linguistic Anthropology*: Springer.
Langacker, R. W. (2015). Construal. In E. Dąbrowska & D. Divjak (Eds.), *The Handbook of Cognitive Linguistics* (pp. 120-143). Berlin ; Boston De Gruyter Mouton.

Leech, G. (1991). The state of the art in corpus linguistics. In J. Svartvik, K. Aijmer, & B. Altenberg (Eds.), *English corpus linguistics : studies in honour of Jan Svartvik* (pp. 8-29). London;New York: London ; New York : Longman 1991.
Lehmann, C. (1985). *Grammaticalization: Synchronic Variation and Diachronic Change* (Vol. 20).
Levinson, S. C. (1983). *Pragmatics*: Cambridge University Press.
Levinson, S. C. (1995). Three levels of meaning *Grammar and meaning: Essays in honour of Sir John Lyons* (pp. 90-115): Cambridge University Press.
Levinson, S. C. (2000). *Presumptive meanings: The theory of generalized conversational implicature*: MIT Press.
Lewis, D. (1969). *Convention: A Philosophical Study*: Harvard University Press.
Li, A. (1990). *Order and Constituency in Mandarin Chinese*: Springer.
Li, B. H. (2008). *诗经解读 The Interpretation of Classic of Poetry*. 中国人民大学出版社 China People University Press.
Li, C. (1992). Chusuoci fazhan lishi de chubu kaocha. In Z. a. Hu, Yang, Naisi & Jiang, Shangyu (Ed.), *Jindai hanyu yanjiu* (pp. 26-63). Bejing: Shangwu yinshuguan.
Li, C. N., & Thompson, S. A. (1981). *Mandarin Chinese: A Functional Reference Grammar*: University of California Press.
Li, J. (1924). 新著国语文法 Xinzhu guoyu wenfa: 商务印书馆 Commercial Press.
Li, J. X., & Liu, S. R. (1995). *Zhongguo yufa jiaocai*. Beijing: Wushi nian chubanshe.
Liang, T. (2010). *孟子解读 Interpretation of Mencius*: 中国人民大学出版社 China People University Press.
Liang, Y. (2007). *汉语趋向动词的语法化 (The Grammaticalization of Chinese Verb Complement)*. 上海 Shanghai: 学林出版社 Xue Lin Press.
Lindner, S. J. (1983). *A Lexico-semantic Analysis of English Verb Particle Constructions*: Univ.
Liu, D. (2003). *Yuxu leixingxue yu jieci lilun [Word-order typology and theories on prepositions]*. Beijing: Commercial Press.
Liu, F. H. (1998). A CLITIC ANALYSIS OF LOCATIVE PARTICLES *Journal of Chinese Linguistics, 26*(1), 48-70.
Liu, S. (1985). *试论趋向范畴 (Shi lun quxiang fanchou)*. 北京 Beijing: 商务印书馆 The Commercial Press.
Liu, Y. (1998). *趋向补语通释 （Quxiang buyu tongshi)* (Vol. 322): 北京语言文化大学出版社 (Beijing Langauge Culture University Press).
Lu, J. (2013). *现代汉语语法研究教程 Xian Dai Hanyu Yufa Yanjiu Jiaocheng*. 北京 Beijing: 北京大学出版社 Beijing University Press.
Lü, S. (1947). *Zhongguo wenfa yaolüe*. Shanghai: Shangwu yinshuguan.
Lü, S. (1999). *现代汉语八百词 （Xian Dai Han Yu Ba Bai Ci）*. 北京 （Beijing）: 商务印书馆 （The Commercial Press).
Lu, Z. (1957). *汉语构词法 (Hanyu gouci fa)*. 北京 Beijing: 科学出版社 The Science Press.
Ma, J. (1898). Ma shi wen tong. Bejing: Shangwu yinshuguan (Reprint 1983).
Ma, Z. (1980). Xinqin Fuyinci Chu Tan /先秦复音词初探. *Bejing University Journal*(5).
Mair, C. (2004). Corpus linguistics and grammaticalisation theory. *Corpus approaches to grammaticalization in English, 13*, 121.
Meillet, A. ((1958 [1915/16])). *Le Renouvellement des conjonctions*. Paris: Chmpion.
Moore, C. (2006). The use of videlicet in Early Modern slander depositions: A case of genre-specific grammaticalization. *Journal of Historical Pragmatics, 7*(2), 245.
Murphy, M. L. (2010). Lexical Meaning: Cambridge University Press
Neels, J. (2016). *Towards a Refinement of Frequency-Effect Accounts of Grammaticalization*. Paper presented at the 6th UK Cognitive Linguistics Conference, Bangor UK.
Nevalainen, T. (2004). Three perspectives on grammaticalization. *Corpus approaches to grammaticalization in English, 13*, 1.
Norman, J. (1988). *Chinese*. Cambridge/New York/Melbourne: Cambridge University Press.

Norvig, P., & Lakoff. (1987). Taking: a study in lexical network theory *Proceedings of the 13th Berkeley Linguistics Society Annual Meeting* (pp. 195-206).
Pan, H. (2005). *动后“上”的语法化过程和“V 上”结构的句法语义问题研究 (The semantics and grammaticalization of 'V shang').* (硕士 (Master)), 上海师范大学 (Shanghai Normal University).
Patten, A. L. (2010). Grammaticalization and the it-cleft construction *Gradience, gradualness and grammaticalization* (pp. 221-243).
Patten, A. L. (2012). *The English it-Cleft: A Constructional Account and a Diachronic Investigation*: De Gruyter.
Peng, R. (2012). Critical frequency as an independent variable in grammaticalization. *Studies in Language, 36*(2), 345-381.
Peyraube, A. (1980). *Les constructions locatives en chinois moderne*. Paris: Langages croises.
Peyraube, A. (1988). Syntactic change in Chinese: On grammaticalization. *Bulletin of the Institute of History and Philology, LIX, Part III*, 617-652.
Peyraube, A. (1996). Recent Issues in Chinese Historical Syntax. In C. T. J. Huang & Y.-h. A. Li (Eds.), *New Horizons in Chinese Linguistics* (pp. 161-213). Dordrecht: Springer Netherlands.
Peyraube, A. (2003). On the History of Place Words and Localizers in Chinese: a Cognitive Approach. In A. Y.-H. L. A. Simpson (Ed.), *Functional Structure(s), Form and Interpretation: Perspectives from East Asian Languages* (pp. 180-198). London: Routledge-Curzon, 2003.
Peyraube, A., & Li, M. (2012). The semantic historical development of modal verbs of volition in Chinese. In J. Z. Xing (Ed.), *Newest Trends in the Study of Grammaticalization and Lexicalization in Chinese* (Vol. 236, pp. 149-167). Belin/Boston: De Gruter Mouton.
Pustejovsky, J. (1998). *The generative lexicon*. Cambridge, Mass.: Cambridge, Mass. : MIT Press c1998.
Qi, L. (2014). *现代汉语现实空间的认知研究/Cognitive research on the space in comtemporary Chinese*. Beijing: 商务出版社/The Commercial Press.
Qiu, B. (2007). *古今汉语方位词对比研究 [Studies in Orientation Words of Classical and Modern Chinese].* (博士 [Doctorate]), 复旦大学 [Fu dan University].
Quinn, N. (1991). The cultural basis of metaphor. In J. W. Fernandez (Ed.), *Beyond Metaphor: The Theory of Tropes in Anthropology* (pp. 56-93): Stanford University Press.
Radden, G. (2015). The Metaphor TIME AS SPACE across Languages. *Zeitschrift für Interkulturellen Fremdsprachenunterricht, 8*(2).
Rice, S. (1996). Prepositional prototypes *The construal of space in language and thought* (Vol. 8, pp. 135-165): Walter de Gruyter.
Rohrer, T. (2012). Embodiment and Experientialism. In D. Geeraerts & H. Cuyckens (Eds.), *Oxford Handbooks of Cognitive Linguistics* (pp. 25-47): Oxford University Press.
Rosch, E. (1975). Cognitive representations of semantic categories. *Journal of Experimental Psychology: General, 104*(3), 192-233. doi:10.1037/0096-3445.104.3.192
Rudzka-Ostyn, B. (1988). *Topics in Cognitive Linguistics*: John Benjamins Publishing Company.
Ruhl, C. (1989). *On Monosemy: A Study in Linguistic Semantics*: State University of New York Press.
Saeed, J. I. (2009). *Semantics* (3rd ed.. ed.). Malden, Mass.: Malden, Mass. : Wiley-Blackwell 2009.
Sag, I. A., Boas, H. C., & Kay, P. (2012). Introducing sign-based construction grammar. *Boas and Sag (2012)*, 1-30.
Sandra, D. (1998). What linguists can and can tell you about the human mind: A reply to Croft. *Cognitive Linguistics, 9*(4), 361-378. doi:10.1515/cogl.1998.9.4.361
Sandra, D., & Rice, S. (1995). Network analyses of prepositional meaning: Mirroring whose mind—the linguist's or the language user's? *Cognitive Linguistics (includes Cognitive Linguistic Bibliography)* (Vol. 6, pp. 89).
Schmid, H.-J. (2014). Lexico-grammatical patterns, pragmatic associations and discourse frequency. *Constructions–collocations–patterns*, 239-293.
Shen, j. (1985). 英汉空间概念的表达形式（Space expressions in Chinese and English）. *《外国语文教学》（Foreign Language Teaching）*(第 4 期), 33-40 页.

Shen, j. (1999). *不对称和标记论 [Asymmetry and Theory of Markedness]*: 江西教育出版社[Jiangxi Education Press].
Shi, D. (2010). 介词‘在’的历史演变 The Development of Preposition 'Zai'. *枣庄学院学报 Journal of Zaozhuang University, 27*(1), 98-102.
Shi, Y. (2002). *The establishment of Modern Chinese grammar: The formation of the resultative construction and its effects* (Vol. 59): John Benjamins Publishing.
Sinha, C. (1999). Grounding, Mapping and Acts of Meaning. In T. Janssen & G. Redeker (Eds.), *Cognitive Linguistics: Foundations, Scope and Methodology* (pp. 223-255). Berlin & New York: Mouton de Gruyter.
Sinha, C. (2002). The Cost of Renovating the Property: A Reply to Marina Rakova. *Cognitive Linguistics, 13*(3), 271-276. doi:10.1515/cogl.2002.018
Spencer, A. (1991). *Morphological Theory: An Introduction to Word Structure in Generative Grammar*: Wiley.
Sperber, D., & Wilson, D. (1986). *Relevance: Communication and Cognition*: Blackwell.
Stathi, K. (2009). The Origin of Semantic Change in Discourse Tradition: A Case Study *Current Trends in Diachronic Semantics and Pragmatics* (pp. 291-302): Brill.
Sullivan, K. (2007). Metaphoric extension and invited inferencing in semantic change. *Cultura, Lenguaje y Representación, 5*, 255-271.
Sun, C. (2008). Two Conditions and Grammaticalization of the Chinese Locative. In D. Xu (Ed.), *Space in Languages of China: Cross-linguistic, Synchronic and Diachronic Perspectives* (pp. 199-227). Dordrecht: Springer Netherlands.
Sun, Z. (2013). *墨子解读 Interpretation of Mozi*: 中国人民大学出版社 China People University Press.
Svorou, S. (1993). The Grammar of Space. Amsterdam: J. Benjamins.
Svorou, S. (2003). Semantic constraints in the grammaticalization of locative constructions. In Wischer & Diwwald (Eds.), *New Reflections on Grammaticalization*. Amesterdam: Benjamins.
Sweetser, E. (1987). Metaphorical Models of Thought and Speech: A Comparison of Historical Directions and Metaphorical Mappings in the Two Domains. *Proceedings of the Thirteenth Annual Meeting of the Berkeley Linguistics Society*, 446-459.
Sweetser, E. (1988). Grammaticalization and Semantic Bleaching. *Proceedings of the Fourteenth Annual Meeting of the Berkeley Linguistics Society*, 389 405.doi:http://dx.doi.org/10.3765/bls.v14i0.1774http://dx.doi.org/10.3765/bls.v14i0.1774
Sweetser, E. (1990). *From etymology to pragmatics : metaphorical and cultural aspects of semantic structure*. Cambridge [England] ; New York: Cambridge England ; New York : Cambridge University Press 1990.
Talmy, L. (1972). *Semantic Structures in English and Atsugewi*: University of California, Berkeley.
Talmy, L. (1975). *Semantics and syntax of motion*.
Talmy, L. (1978). *The relation of grammar to cognition: a synopsis*. Paper presented at the Proceedings of the 1978 workshop on Theoretical issues in natural language processing, Urbana-Champaign, Illinois.
Talmy, L. (1983). *How language structures space. Spatial orientation: Theory, research, and application, ed. by Herbert L. Pick and Linda P. Acredolo, 225–82*: New York: Plenum Press.
Talmy, L. (2000a). *Toward a cognitive semantics: Concept Structuring Systems (Volume I)*. Cambridge, Mass.: Cambridge, Mass. : MIT Press c.
Talmy, L. (2000b). *Toward a cognitive semantics: Typology and Process in Concepts Structuring (Volume II)*: Cambridge, Mass. : MIT Press c.
Tang, S. (1996). Gu Hanyu Zhuyu Shenglue De Teshu Xianxiang (Special phenomena of the omission of subject in ancient Chinese) *Yuwen Zhishi (Konowledge of Chinese)*.
Tong, S. (2006). 也说方位词“上”的语义认知基础 (The Cognitive Basis of "Shang" as a Noun of Locality) *语言文字应用 (Applied Linguistics)*(1).

Traugott, E. C. (1982). From propositional to textual and expressive meanings; Some semantic-pragmatic aspects of grammaticalization. In W. P. L. a. Y. Malkiel (Ed.), *Perspectives on Historical Linguistics* (pp. 245-271). Amsterdam: Benjamins.

Traugott, E. C. (1986). From Polysemy to Internal Semantic Reconstruction. *Proceedings of the Twelfth Annual Meeting of the Berkeley Linguistics Society*, 539-550. doi:http://dx.doi.org/10.3765/bls.v12i0.1853

Traugott, E. C. (1988). *Pragmatic strengthening and grammaticalization.* Paper presented at the Annual Meeting of the Berkeley Linguistics Society.

Traugott, E. C. (1989). On the Rise of Epistemic Meaning in English: an Example of Subjectification in Semantic Change. *Language, 65*, 31-55.

Traugott, E. C. (1990). From less to more situated in language: the unidirectionality of semantic change. In V. A. L. Sylvia M. Adamson, Nigel Vincent and Susan Wright (Ed.), *Papers from the 5th International Conference on English Historical Linguistics* (Vol. Current Issues in Linguistic Theory pp. 497-517): John Benjamins.

Traugott, E. C. (1995). Subjectification in grammaticalisation. In D. S. S. Wright (Ed.), *Subjectivity and subjectivisation* (pp. 31-54). Cambridge/NY/Australia: Cambridge University Press.

Traugott, E. C. (2003). Constructions in grammaticalization. *The handbook of historical linguistics*, 624-647.

Traugott, E. C. (2004). 24 Historical Pragmatics. *The handbook of pragmatics*, 538.

Traugott, E. C. (2012). Pragmatics and language change. *The Cambridge handbook of pragmatics*, 549-565.

Traugott, E. C., & Dasher, R. B. (2002). *Regularity in semantic change*. New York : Cambridge University Press.

Traugott, E. C., & König, E. (1991). Semantics-Pragmatics of Grammaticalization Revisited. In E. C. H. Traugott, B (Ed.), *Approaches to Grammaticalization:Theoretical and methodological issues* (Vol. I, pp. 189-218). Amsterdam/Philadelphia: John Benjamins Publishing Conpany.

Traugott, E. C., & Trousdale, G. (2013). *Constructionalization and Constructional Changes*: OUP Oxford.

Turner, M. (1991). *Reading minds : the study of English in the age of cognitive science*. Princeton, N.J.: Princeton, N.J. : Princeton University Press c1991.

Tyler, A., & Evans, V. (2001). Reconsidering Prepositional Polysemy Networks: The Case of Over. *Language, 77*(4), 724-765.

Tyler, A., & Evans, V. (2003). *The semantics of English prepositions : spatial scenes, embodied meaning, and cognition / Andrea Tyler and Vyvyan Evans*: Cambridge : Cambridge University Press 2003.

Ullmann, S. (1964). *Semantics: An Introduction to the Science of Meaning*. Oxford: Basil Blackwell.

Wang, & Zhu, D. (2016). 方位词‘上/下’与绝对参照系‘天/地’. *島根大学外国語教育センタージャーナル*(11), 57-64.

Wang, h. (2004). 上古汉语介词的发展与演变 Development of Preposition in Classical Chinese. *上海师范大学学报 Journal of Shanghai Normal University, 33*(5), 119-125.

Wang, Y. (2008). The discovery,inheritance and research of oracle inscriptions in Shang Dynasty. *Yellow River Civllization and Substanable Development, 1*(1).

Wei, L. (1996). 也谈动趋势的产生 (Discussion on the Appearing of Verb Complements). *古汉语研究 (Old Chinese Studies), 4*, 43-44.

Wen, P. (2002). The Birthplace of the Oracle-bone Characters. *China Week*(11), 21-25.

Wilson, R. A. (1994). Wide computationalism. *Mind, 103*(411), 351-372. doi:10.1093/mind/103.411.351

Wu, F. (2008). Origin and evolution of the locative term hou 'back' in Chinese. In D. Xu (Ed.), *Space in Languages of China: Cross-Linguistic Synchronic and Diachronic Perspectives* (Vol. 229-247): Springer.

Wu, F. (2015). 汉语语义演变研究的回顾与前瞻/Studies on semantic changes in Chinese: retrospection and prospection. *古汉语研究/Research in Ancient Chinese Language*(4).

Wu, N. (2014). *现代汉语心理空间的认知研究/Cognitive research on the mental space in comtemporary Chinese*. 商务印书馆/ The Commercial Press.

Wu, X. (2007). 动词“上”、“下”的不对称及其认知解释 (Dong ci shang xia de bu dui cheng ji qi jie shi）. *中山大学学报 [Sun Yatsen University Forum], 27*(11), 172-174.

Xiao, L. (1996). Shang Xia Kao Bian (The Analysis on Shang and Xia) *Yu Xing Wu Jiao Shou Bai Nian Dan Chen Ji Nian Wen Ji* (pp. 17-20). Ji Lin, China: Ji Lin University Press.

Xiao, P. (2009). 论汉语趋向动词“上”和“下”的语法化和语义不对称性 On Grammaticalization of Chinese Directional Verbs shang (上）and xia (下）and Their Semantic Asymmetry. *暨南大学华文学院学报（华文教学与研究）Journal of College of Chinese Language and Culture of Ji nan University*((TCSOL Studies)(1).).

Xie, G. (1997). *Composition of Common Chinese Characters: An Illustrated Account*. Beijing: Beijing University Press

Xin, X., & Lu, W. (2015). "V 上“的语义类型及其认知分析 (A cognitive analysis of the semantic patterns of 'V up'). *外语教学 Foreign Language Education, 36*(1), 43-46.

Xing, J. Z. (2004). Grammaticalization of verbs in Mandarin Chinese. *Journal of Chinese Linguistics, 31*(1), 101-144.

Xing, J. Z. (2006). Mechanism of semantic change in Chinese. *Studies in Language, 30*(3), 461-483.

Xing, J. Z. (2012). Introduction. In J. Z. Xing (Ed.), *Newest Trends in the Study of Grammaticalization and Lexicalization in Chinese*: Walter de Gruyter

Xu, D. (2006). *Typological Change in Chinese Syntax:* : Oxford University Press.

Xu, H. (2010). *现代汉语 “动+上/下”语义句法的认知研究 (A cognitive analysis on the semantics and syntaxt of 'V+shang/xia'in mordern Chinese).* (硕士 (Master）), 曲阜师范大学 (Qufu Normal University).

Xu, S. (1963). *说文解字序 Preface to An Explannatory Dictionary of Chinese Characters* (宋. 徐铉杨 Ed.): 中华书局.

Yang, B., & He, L. (2012). *Gu Dai Han Yu Yu Fa Ji Qi Fa Zhan (Ancient Chinese Grammar and Develoment)*. Beijing Yu Wen Chu Ban She (Chinese Langauge Publisher).

Yang, Z., & Dan, X. (2010). “上”、“下”动词性组合搭配的认知优选机制 [An Optimality-based Mechanism for Governing V-phrases with shang/xia (上/下)]. *语言科学 [Language Science], 9*(4), 364-371.

Yang, Z., Peng, X., & Zhou, D. (2011). “上”、“下”动词性组合语义构成多样性考察 [Diversity of Semantic Composition in Verbal Constructions in the Form of "Shang/Xia +Noun"]. *山西农业大学学报 [Journal Shanxi Argic. Univ.], 10*(2), 197-200.

Yong, H., & Peng, J. (2008). *Chinese Lexicography : A History from 1046 BC to AD 1911: A History from 1046 BC to AD 1911*: OUP Oxford.

Yu, N. (1998). *The contemporary theory of metaphor : a perspective from Chinese*. Amsterdam ; Philadelphia: Amsterdam ; Philadelphia : J. Benjamins Pub. c1998.

Yu, N. (2008). The relationship between metaphor,body and culture. In R. M. Frank, R. Dirven, T. Ziemke, & E. Bernárdez (Eds.), *Sociocultural Situatedness* (pp. 387-407): Walter de Gruyter.

Yu, N. (2012). The metaphorical orientation of time in Chinese. *Journal of Pragmatics, 44*(10), 1335-1354. doi:10.1016/j.pragma.2012.06.002

Zhang, H. (2002). "上/下"动词性组合的认知考察 Shang/Xia Dongci Xing Zuhe De Renzhi Kaocha. *语言研究 Language Studies.*

Zhang, H. (2004). *上下语义演化的认知考察 [To explore the semantic evolution of 'shang/xia' from cognitive angle].* (硕士 [Master of Arts]), 华中科技大学 [Huazhong University of Science & Technology].

Zhang, S. (1990). *Shuo Wen Jie Zi Dao Du 说文解字导读*. Cheng Du 成都: Ba Shu Shu She 巴蜀出版社.

Zhao, Y. (1979). 汉语口语语法 (Chinese Spoken Grammar). 北京 Beijing: 商务印书馆 The Commercial Press.

Zhou, T. q. (2003). '上'与 '下'不对称的认知研究 [A cognitive approach to the asymetry of shang and xia]. *语言科学 [Language Science], 2*(1), 39-50.

Zhu, M. (1958). 先秦两汉时期的动补结构 The Resultative Construction in the Period of Pre-Qin and Two Hans *语言学论丛 Language Studies Symposium* (Vol. 2, pp. 17-30). 上海 Shanghai: 新知出版社 Xin Zhi Publisher.

Zhu, Q. (1990). *Fuodian Yu Zhonggu Hanyu Cihui Yanjiu/ 佛典与中古汉语词汇研究*: Wenjin Press.

Ziemke, T., Zlatev, J., & Frank, R. M. (2007). *Body, language, and mind*. Berlin ; New York: Berlin ; New York : Mouton de Gruyter c2007-c2008.

Zlatev, J. (1997). *Situated embodiment: Studies in the emergence of spatial meaning*. Stockholm: Gotab Press.

Zlatev, J. (2003). Polysemy or generality? Mu. In H. Cuyckens., R. Dirven, & J. R. Taylor (Eds.), *Cognitive Approaches to Lexical Semantics* (Vol. 23, pp. 447-494). Berlin: Mouton de Gruyter.