

# The Interface Between Semantic Change and Polysemy: A Case Study on *shang* 'above' in Chinese

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## Abstract

This study investigates the diachronic developments of 2749 instances of *shang* in historical texts from Chinese corpora. We use Tyler and Evans (2003)'s Principled Polysemy Model to test the various senses associated with *shang*. It has been shown that there are close relations between the semantic change and polysemy of Chinese spatial word *shang* in which new meanings of *shang* occurred based on existing meanings and both old and newer meanings can coexist for a long period of time. Our research also displays how spatial concepts are coded linguistically by Chinese speakers based on various mechanisms including conceptual metaphor, invited inference, constructional change, causative morphology and word-class shift. By displaying the way *shang* 'above' evolved throughout the history of written Chinese to result in the current polysemy network, this study contributes to studies on semantic change in Chinese and reveals why we use spatial words as the way we do.

**Key words:** semantic change, polysemy, metaphor, invited inference, spatial word.

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## 1. INTRODUCTION

Ever since Brugman (1983)'s influential work on meanings of English preposition *over*, several studies have focused on the semantic relations between various usages of a spatial particle (e.g. Brugman & Lakoff, 1988; Lakoff, 1987; Lindner, 1983; Tyler & Evans, 2001, 2003). These studies have argued that a prototypical sense is associated with 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). 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). Their Principled Polysemy Model (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 words. Nevertheless, Tyler and Evans have only focused on contemporary usages of English prepositions which have downplayed

the role of diachronic developments on synchronic polysemy. In addition, Tyler and Evans's analysis have been based almost exclusively on English spatial particles, which lack a cross-linguistic perspective on its application to other languages like Chinese. Applying Tyler and Evans's PPM, this study investigated how a spatial word *shang* 'above' in Chinese developed in various historical stages to lead to its current polysemy network. It has been found that there are one primary and 19 distinct sense that were associated with *shang* from different periods based on various mechanisms, including conceptual metaphors, invited inference, general constructional change, and word class shift.

## 2. Previous studies on meanings of *shang*

As one of the most studies Chinese spatial words, *shang* 'above' has received great attention. Many studies have pointed out that there are close semantic relations among various senses for *shang* and most senses are extensions of *shang*'s primary meaning or other meanings (e.g. Q. Zhang 1995, Lu 2001, H. Zhang 2002; 2004, Hou 2004, Ge 2004, Tong 2006, Xiao 2009, Qi 2014, Xin & Lu 2015). However, these studies have presented distinctive semantic networks for *shang* due to three main reasons. Firstly, there is a lack of standard of deciding which sense can be considered as a primary sense (or extended sense) for

*shang*. For instance, Zhang (2002;2004) and Hou (2004) believed that the primary sense for *shang* should be its earliest meaning (i.e. 'high location') while Tong (2006) argued that a primary sense for *shang* should be the most frequently occurred meaning (i.e. 'top surface'). Secondly, researchers tend to focus on usages of *shang* that perform individual grammatical functions so that the grammatical relations of *shang* have not been explored. For example, Hou (2004), Ge (2004), Tong (2006) and Qi (2014) explored usages of *shang* appearing after nouns as relational nouns or postpositions (e.g. *zhou-zi shang* 'on the desk'). Q. Zhang (1995) and Lu (2001) discussed usages of *shang* functioning as verbs (e.g. *shang shan* 'climb up the mountain'). Xiao (2009) and Xin & Lu (2015) demonstrated instances of *shang* being used as verb complements (e.g. *tiao shang ma* 'jump on the horse'). Thirdly, some previous studies on the semantic relatedness of *shang* did not distinguish the historical periods in which instances of *shang* were observed (e.g. Lu 2001, H. Zhang 2002; 2004, Xin & Lu 2015).

As much works have been done in the fields of semantic change and grammaticalization, more studies have focused on the semantic developments or grammaticalization of *shang*. For instance, Chappell & Peyraube (2008, p. 25) pointed out that when using after nouns as a postposition, *shang* has experienced grammaticalization with its meanings becoming vaguer. For instance, when comparing usages of *shang* in examples (1) and (2) below, it can be seen that *shang* still described the meaning of a position in Archaic Chinese, but it then behaved more like a functional word in Pre-Medieval Chinese. In another study, Huang & Hsieh (2008) illustrated the grammaticalized processes of *shang* being used as verb complement in which *shang* was first used to describe 'upward movement' and then develop meanings of 'joint', 'the fulfilment of aim' and finally 'the starting of a new status' as shown in examples (3) to (6).

(1) *Wang zuo yu tang shang* (Chappell & Peyraube, p. 25)

King sit at hall aloft

'The king was sitting aloft in the hall.'

(2) *Sui zhang-da, you bao zhe xi shang*. (Chappell & Peyraube, p. 26)

even-so grew big still hold at knee on

'(And) even when (he) was fully grown, (he) still used to hold (him) on his lap.'

(3) *Women deng shang shan ding*. (Huang & Hsieh, p. 54)

We climb up mountain top

'We climbed up the top of the mountain.'

(4) *Ta he yiyi hui-dao le fang-jian, guan shang le men*. (Huang & Hsieh, p. 56)

He and Yiyi go to AUX room, close up AUX door

'Yiyi and he went back to their room and closed the door.'

(5) *Ta er-zi shi qian-nian kao shang da-xue de*. (Huang & Hsieh, p. 56)

He son is previous year pass up college CRS.

His son passed the college entrance exam in the previous year.

(6) *Ta ai shang le yi wei nv yan-yuan*. (Huang & Hsieh, p. 56)

He love up AUX one CL lady actor.

'He fell in love with an actress.'

Although previous studies have established solid foundations in terms of the polysemous features of the spatial word *shang*, there are a few problems that require further clarification. Firstly, researchers have not reached a consensus regarding the criteria of deciding a primary and extended senses for *shang* which requires a more reliable method to test the various senses associated with *shang*. Secondly, since most studies have focused on the semantic change or grammaticalization of *shang* performing an unique grammatical function, it is unsure if usages of *shang* performing three main grammatical functions (i.e. postposition, verb and verb complement) have followed similar developmental paths. Thirdly, since most studies on meanings of *shang* have concentrated on listing instances of *shang* and applying theories from cognitive linguistic to explain the semantic relations among various usages of *shang*, it is still unclear regarding the motivations that lead to the semantic changes of *shang*. Accordingly, we need a more thorough investigation in terms of how a new meaning of *shang* occurred and became parts of it in different historical periods of Chinese language.

### 3. RESEARCH DESIGN

This study extracted 2749 instances of *shang* from Archaic Chinese (AC), Medieval Chinese (MEC), Modern Chinese (MOC) and Contemporary Chinese (CC). Representative texts and written works from three Chinese corpora are carefully selected. 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). Three factors were considered when selecting historical texts in CLL and SCC 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. Table 1.1 below shows the features of texts in classic books that are selected from CLL and SCC corpora. These historical texts comprise the data sources of Archaic Chinese (AC), Medieval Chinese (MEC), and Modern Chinese (MOC) in this study.

**Table-1.1: Texts collected from CCL and SCC in AC, MEC and MOC**

Chronological Framework <sup>1</sup>	Corpus	The Book Title of Texts	Time of Production	Types of Genre
Early Archaic Chinese (EAC) (10 <sup>th</sup> -6 <sup>th</sup> c. B.C.)	CCL	Classic of Poetry	11 <sup>th</sup> -7 <sup>th</sup> c B.C.	Poetry and song
	SCC	The Classic of History (CH)	6th c B.C.	History
	SCC	The Classic of the Way and Virtue (CWV)	6th- Early 5th c B.C.	Philosophical text
	SCC	The Art of War (AW)	515-512 B.C.	Warfare
Late Archaic Chinese (LAC) (5 <sup>th</sup> -2 <sup>nd</sup> 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 (PMEC) (1st c. B.C.- 1st c. A. D.)	CCL	Huainanzi	Before 139 BC	Philosophical text
Early Medieval Chinese (EMEC) (2nd – 6th c.)	CCL	A New Account of the Tales of the World (NATW)	420-479	'Minor talk' or fiction
Late-Medieval Chinese (LMEC) (7 <sup>th</sup> -mid 13 <sup>th</sup> c.)	CCL	Three Hundred Tang Poems (THTP)	618 - 907	An anthology of poems
	CCL	Dream Torrent Essays (DTE)	1086-1093	Natural science
Pre-Modern Chinese (PMOC) (mid-13th- 14th c.)	CCL	Romance of the Three Kingdoms	14th century	Historical novel
Modern Chinese (MOC) (15th -mid 19th c.)	CCL	The Travels of Lao Can (TLC)	1903	Fiction

<sup>1</sup> We adopt Peyraube (1996)'s chronological framework when collecting our data.

To maintain the consistency of genre types comparing with those texts selected in AC, MEC, and MOC from corpora SCC and CLL, written works in Contemporary Chinese (CC) that contains the following types of genre from the UCLA2 are chose (see Table 1.2).

**Table-1.2: Texts types collected from UCLA2 in CC**

Contemporary Chinese (CC) (mid-19 <sup>th</sup> -20 <sup>th</sup> c.)	General fiction
	Science fiction
	Reportage
	Academic writing
	Romance stories

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*. To limit the number of instances, every third instance of *shang* that occurs in certain texts (e.g. *Mozi*) and in written works of CC are collected. All extracted 2749 usages of *shang* were analysed with Tyler and Evans (2003)'s PPM based on which senses of *shang* were distinguished. The primary sense of *shang* is provided based on the five linguistic evidence suggested by Tyler and Evans (2003, p. 47) and 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) (see section 4). In addition, the mechanisms of change that lead to the various new meanings of *shang* were identified including metaphoric changes (Sweetser 1990, Heine *et al.* 1991), inferencing-based change (Bybee 1994, Traugott & Dasher 2002), general constructional change (Traugott and Trousdale 2013) and word-class shift (Yuan & Jiang 2017, Cheng 2015).

#### 4. Various senses for *shang* and mechanisms of semantic change

##### 4.1 The primary sense for *shang*

The linguistic evidence raised by Tyler and Evans (2003) in deciding the primary sense for a spatial particle 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). We will explain these criteria with instances of *shang*. Firstly, as argued by Tyler and Evans (2003, p. 47), one likely candidate for the primary sense is the historically earliest sense, which involves a spatial configuration holding between a trajector (TR) and a 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. As found in our data, *shang* in EAC often expressed the meaning of 'high location' as shown in example (7), which indicates that 'high location' may be the best representation for the earliest usage of *shang*.

(7) *wu yue gao gao zai shang* (EAC: Classic of Poetry)

No say high high at above

'Don't say that (the sky) is located at a very high location.'

Secondly, 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". That is to say, if a specific TR and LM relation involved in most distinct senses found in a network, then the usage that contains this configuration could be considered as a primary sense. It has been found in our data that most meanings associated with *shang* in AC involves a TR being located at a high location. Thus, the primary sense for *shang* may involve a TR being located at a high location (the LM can sometimes be left unelaborated). As to the third criterion, we found that *shang* in AC always 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 fourth criterion 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 (8), as a contrast set *shang* and *xia* describe 'high location' and 'low location', which indicates that 'high location' could represent the primary sense for *shang*.

(8) *qiang da chu xia, rou ruo chu shang* (EAC: CWV)

Strong big be-locate below, soft weak be-locate above  
'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 to the last criterion, grammatical predications are understood as the sentential context a particular particle is used and they reflect close relations between a primary sense and a distinct sense that was derived from it (Tyler & Evans, 2003, p. 49). This idea is in consistent with Langacker (1987)'s discussion of a "sanctioning" sense leading to additional sense through extension. For example, *shang* in MEC had the distinct sense 'top surface' as shown in example (9). With the general knowledge of gravity and our understanding of 'grains' and 'stone', we know that 'grains' cannot hover above 'stones'. Therefore, 'grains' (i.e. TR) in example (9) are located on and

have contacts with the highest part of the ‘stone’ (i.e. LM). Since the highest part or the top surface of the LM is highlighted, the original configuration (i.e. a TR being located at a high location of a 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. By observing the distinct sense ‘top surface’ and the sentential context in which the sense occurs, we notice that the two senses ‘high location’ and ‘top surface’ are closely related and the latter is extended from the first sense. Based on the above evidence, it is therefore believed that the primary sense for *shang* should be ‘high location’.

(9) *shi shang bu sheng wu gu* (PMEC: Huainanzi)  
stone **above** not grow five grain  
‘There are not grains that grow on the top surface of the stone.’

#### 4.2 The development of three main grammatical functions of *shang*

It has been found that *shang* normally performs three grammatical functions in CC, which are relational noun, verb and verb complement as shown in examples (10) to (12). The first grammatical function was already seen in AC while the other two occurred later in LAC and MEC. Let us look at how *shang* acquired the three grammatical functions.

##### *shang* as a relational noun in CC

(10) *Wo zuo zai tian-di shang ting ge*  
I sit at farmland above listen song  
‘I sat on the farmland and listened to songs.’

##### *shang* as a verb in CC

(11) *shang shou-shu tai*  
above operation table  
‘Got on the operation table.’

##### *shang* as a verb complement in CC

(12) *xiao sun-zi dai shang liang-mao*  
little grandson wear above cool-hat  
‘(Her) litter grandson has put on a summer hat.’

#### 4.2.1 *shang* functions a relational noun

Firstly, in EAC, when expressing the primary meaning ‘high location’, relational noun *shang* can follow the locative verb *zai* ‘be-located’. The LM of *shang* which restricts the boundary of the location can be left unmentioned if it refers to a unique entity. For instance, the LM ‘sky’ in example (13) was not explicitly mentioned as speakers may know the uniqueness of the ‘sky’. In LAC, as more kinds of LM were described, specific LMs were often explicitly mentioned. For instance, in example (14), the LM ‘Wen area’ was elaborated.

##### *shang* indicating ‘high location’

(13) *Wen-wang zai shang* (EAC: The Classic of Poetry)

Wen-king be-located above  
‘(The divinity of) Wen-king is at the high part (of the sky).’

(14) *wu zai Wen shang* (LAC: Analects)  
I be-located Wen above  
‘I was located at the high part of Wen-area.’

#### 4.2.2 *shang* functions a verb

In LAC, *shang* was used as a verb indicating the directional meaning ‘move to a high/higher location’ as shown in example (15). The usage of *shang* from denoting a nominal meaning ‘high location’ to a verbal meaning ‘move to a high/higher location’ represents a word-class shift in which a word could be used as a different class. Verbs derived from nouns are termed denominal verbs (DNVs). Nouns that surface as verbs are commonly seen in AC (Yuan & Jiang 2017, Cheng 2015). In the process of identifying Chinese DNVs, Cheng (2015:295) found that the source nouns from which DNVs derived usually describe palpable entities and the DNVs are concrete as well in that they portray processes denoted by the corresponding source nouns in a non-metaphorical sense. Based on Clark & Clark (1979)’s study on English denominal verbs, Yuan & Jiang (2017) and Cheng (2015) have classified various types of DNVs in AC depending on the roles that the origin nouns play in the semantic structures of the DNVs. For instance, *shang* in example (15) is a direction DNV in which the origin noun indicates the direction of the verb *shang* ‘move to a high/higher location’. Another verbal meaning of *shang* in LAC represents a causative usage in which *shang* was used to indicate the meaning of ‘cause something to move to a high/higher location’ (see example 16). 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), and this process is considered as a morphological causative (Spencer, 1991, p. 24).

##### *shang* indicating verbal meanings

(15) *shang wu cheng* (LAC: Mozi)  
**above** PRO city-wall  
‘(The enemy) climbed our city wall.’

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

#### 4.2.3 *shang* functions a verb complement

When expressing the ‘cause-result’ relation in LAC, the verb *shang* could follow another verb and appeared in the [V<sub>1</sub> CONJ V<sub>2</sub> OBJ] construction. As shown in example (18), *shang* followed the verb *tui* ‘push’ and the two verbs shared the same object (which was represented by a pronoun *zhi* ‘it’). The construction

can therefore be broken down into [V<sub>1</sub> OBJ CONJ V<sub>2</sub> OBJ]. According to Y. Shi (2002, p. 53), the situation of each of the verbs that bear an ‘antio-patient’ relation to the object was common in 700-200 B.C. (approximately between EAC to LAC). It has been pointed out that ‘only two (maximally four) transitive verbs can share (precede and object’ (ibid, p. 44). Over time, the conjunction *er* ‘and’ in the construction [V<sub>1</sub> CONJ V<sub>2</sub> OBJ] declined steadily which could only be found in some fixed expressions today (Y. Shi 2002, p. 54; M. Zhu 1958, p. 22). The disappearance of the conjunction *er* ‘and’ allowed V<sub>1</sub> and V<sub>2</sub> to occur next to each other as in [V<sub>1</sub> V<sub>2</sub> OBJ], which created the possibility for V<sub>2</sub> 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 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<sub>1</sub> and V<sub>2</sub> in [V<sub>1</sub> V<sub>2</sub> OBJ] more often occur together, they can be integrated syntactically allowing the second verb to experience grammaticalization. For instance, as shown in examples (19) and (20), the actions represented by the first verbs *fei* ‘fly’ and *juan* ‘roll’ are linked to the actions represented by *shang* through the ‘cause-result’ relation. It can be seen that the events represented by *fei* ‘fly’, *juan* ‘roll’ and *shang* are highly integrated in terms of semantics, in which *shang* can reflect the direction caused by the first actions: 1) the upward direction of flying; 2) the upward direction of moving the curtains. Accordingly, after frequently using with verbs denoting movements in the [V *shang* OBJ] construction, *shang* has experienced grammaticalization and acquired the grammatical function of verb complement indicating ‘the upward direction of a movement’.

#### **Shang indicating a result**

(18) *tui er shang zhi* (LAC: Mozi)

push CONJ **above** PRO  
‘push (them) and make (them) move to a higher social position.’

(19) *qing-ting fei shang yu-sao-tou* (LMC: Three Hundred Tang Poems)

dragonfly fly **above** emerald hairpin  
‘The dragonfly flies onto the emerald hairpin.’

(20) *juan shang zhu-lian* (LMC: Three Hundred Tang Poems)

roll above bead-curtains  
‘(Someone) rolled the curtains.’

#### **4.3 Extended senses and mechanisms of semantic change for shang**

Tyler and Evans (2003, pp. 42-43) have proposed two criteria for determining if a particular usage of a spatial particle should be considered 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.

Based on Tyler and Evans’s two criteria, we have found 19 distinct senses that occurred and associated with *shang* from AC to CC. Table 3. Below demonstrates the mechanisms that lead to the various extended meanings of *shang* in different historical periods and shows the original meanings based on which new meanings of *shang* developed.

**Table-3: The mechanisms that lead to the extended meanings of *shang* in different periods**

Occurring time	Mechanism	Original/older meaning	Extended/new meaning
AC	Metaphor: HIGH STATUS IS UP	High location	High ranking official/governor
AC	Metaphor: GOOD IS UP	High location	Good/the best
AC	Metaphor and inferencing	High location	More
AC	Metaphor: EARLIER TIME IS SHANG	High location	Earlier time/past
AC	Inferencing	High location	Sky/heaven
LAC	word-class shift	High location	Move to a high/higher location
LAC	morphological causative	High location	Make something move to a high location
MEC	Metaphor and inferencing	Make something move to a high location	Offer something to a high ranking official
MEC	Metaphor: GOOD IS UP	Move to a high location	Improve/become better
MEC	Metaphor and inferencing	Move to a high location	Get to a larger amount
MEC	Inferencing	High location	Top surface
MEC	Inferencing	High location	Region
MOC	Inferencing	Move to a high location	Go to
MOC	Inferencing	Move to a high location	Jointing
MOC	General constructional change	Move to a high location	The direction of moving to a high location
MOC	Inferencing	The direction of moving to a high location	The condition of jointing
MOC	Inferencing	The direction of moving to a high location	The fulfilment of a goal
CC	Inferencing	The fulfilment of a goal	The time to start a new movement or a condition
CC	Ontological metaphors	Region	An abstract region

#### 4.3.1 Extended meanings of *shang* motivated by metaphors

Let us first look at some distinct senses that were associated with *shang* exclusively through metaphor. The metaphors that are related to the novel usages of *shang* are HIGH STATUS IS UP (Lakoff & Johnson, 1980, p. 16), GOOD IS UP (Lakoff & Johnson, 1980, p. 16), MORE IS UP (Lakoff & Johnson, 1980, pp. 15-16), EARLIER TIME IS SHANG and ontological metaphors (Lakoff & Johnson, 1980, p. 26).

The distinct sense ‘high ranking official/governor’ associated with *shang* in AC is the linguistic instantiation of the conceptual metaphor HIGH STATUS IS UP. Examples of *shang* in AC meaning ‘a high ranking official/governor’ are shown below in sentences (21) and (22). In these examples, *shang* ‘high location’ is metaphorically referred to ‘high ranking official’. The mapping HIGH RANKING OFFICIAL IS HIGH LOCATION captures the fact that height is associated with power, which maps to the high social status of an official. The mapping allows speakers to retrieve the target-domain meaning ‘high ranking official’ from the source-domain meaning ‘high location’.

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

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

Two distinct senses for *shang* were developed based on the metaphor GOOD IS UP. These two senses are ‘good/the best’ and ‘improve/become better’. Instances of *shang* referring to ‘good/the best’ are shown in examples (12) and (13). In these examples, *shang* ‘high location’ is metaphorically referred to ‘good/the best’. The mapping GOOD IS UP shows that there is a correlation between elevation and good quality, which allows the source domain UP to map onto the target domain GOOD. The mapping GOOD IS UP allows speakers to retrieve the target-domain meaning ‘good/best’ from the source-domain meaning ‘high location’.

(23) *Shang shan ruo shui* (EAC: CWV)  
**Above** kindness like water  
‘The best kindness is like water.’

(24) *Gu shang bing fa mou* (EAC: AW)

So **above** weapons attack plan

‘So the best way of using weapons is to destroy the enemy’s plan.’

Due to verbification, the word *shang* acquired the verbal function ‘move to a high/higher location’ in LAC (as discussed in section 4.2.2). In MEC, there are instances of *shang* meaning ‘improve’ as shown in examples (25) and (26). The extended meaning ‘improve’ occurred also because the metaphor GOOD IS UP. Due to this metaphor, the abstract process of ‘become better or improve’ is conceptualized as the same as the physical process of ‘move to a high/higher location’. Therefore, when speakers retrieved the target-domain meaning ‘become better or improve’ from the source-domain meaning ‘move to a high/higher location’, *shang* acquired the metaphorical meaning ‘become better or improve’.

(25) *ri hua shang er qian-shan* (PMEC: Huainanzi)

day change **above** CONJ become-good

‘Change and improve everyday so that one’s errors can be corrected.’

(26) *feng qi ri shang* (EMEC: NATW)

demeanour mettle day **above**

‘(His) demeanour and mettle improve every day.’

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. 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. As shown in examples (27) and (28), the spatial word *shang* ‘a high location’ is metaphorically referred to ‘an earlier time/past’. The correlation between elevation and past time allows the source domain A HIGH LOCATION to map onto the target domain AN EARLIER TIME or PAST. The mapping allows speaker to retrieve the target-domain meaning ‘an earlier time/past’ from the source-domain meaning ‘a high location’.

(27) *wo zu di sui chen yu shang* (EAC: CH)

our ancestor settle achieve old be-located **above**

‘Our ancestor establishes the old (law) at first (in time)’

(28) *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.’

There is one new/distinct sense associated with *shang* through metaphor 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 an older meaning of *shang* (i.e. ‘a region’) and it occurs as *shang* ‘a region’ often follows nouns that describe activities, events and psychological states in CC. Ontological metaphors are involved here in which events, activities, emotions, ideas, etc., are conceptualized as entities and substances (Lakoff & Johnson, 1980, p. 26). 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 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 (29) and (30). Because 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*.

(29) *Zhu-rong-ji zai zuo-tan-hui shang jiang-hua* (CC: Reportage)

Zhu-rong-ji be-located meeting **above** talk

‘Zhu-rong-ji (the former premier of China) gave a speech in the meeting.’

(30) *wen-ti shou-xian biao-xian zai xin-li shang* (CC: Academic Writing)

problem first show be-located mind **above**

‘The problems first appear in (people’s) minds.’

#### 4.3.2 Extended meanings of *shang* motivated by invited inferencing

There was one distinct sense for *shang* in AC that can be explained by invited inferencing. It has been shown that *shang* and *xia* ‘below’ were used together as a unit in AC (see examples 31 and 32). The expression *shang xia* in example (31) 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 ‘high location’ sense or the

inferential ‘heaven/sky’ sense as shown in example (31). The ‘heaven/sky’ sense of *shang* later became generalized and lexicalized, as evidenced by the example (32) found in LAC. The utterance in (32) 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.

(31) *guang bei si biao, ge yu shang-xia* (EAC: CH)  
light cover four surface, arrive PRE **above-below**  
‘(A monarch’s) brilliance enlightens above and below areas in (heaven and earth)’.

(32) *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.’

Examples (33) to (36) indicate the semantic change of *shang* from meaning ‘high location’ to ‘top surface’ in MEC in which the second meaning was developed from the first meaning based on inferencing. Normally, the top surface of an object is outstanding conceptually and can be considered as the highest part of the object. The word *shang* ‘high location’ invited the inference of ‘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 (see Talmy, 1983; Talmy, 2000a) when describing the spatial relations between the TR and the LM of *shang*. For instance, when interpreting sentences such as (33) and (34), the interlocutors have the knowledge that most entities cannot float in midair, unless they own 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 (33) and (34) 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 ‘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 (33) and (34) allowed the inference ‘top surface’ to spread throughout the language community, resulting in a generalized invited inference (GIIN) (Traugott & Dasher 2002), which can finally become a coded sense of *shang*. Examples (35) and

(36) represent unambiguous contexts in which *shang* meaning ‘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 these examples. It can be seen that the primary meaning ‘high location’ where the inferential meaning ‘top surface’ was derived has become a trace in examples (35) and (36). 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*.

(33) *Tai shang zhi shang you qi-shi tan* (PMEC: Huainanzi)

Tai Mountain GEN **above** has seventy altar  
‘There are seventy altars on the high part (top surface) of Tai Mountain.’

(34) *shi shang bu sheng wu gu* (PMEC: Huainanzi)  
stone **above** not grow five grain

‘There are not grains that grow on the high part (top surface) of the stone.’

(35) *sui zhang da, you bao zhuo xi shang* (EMEC:NATW)

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

(36) *bei bei shang jian ti zuo* (EMEC: NATW)

stele back **above** see theme works  
‘There are theme works on the (top surface of) the stele back.’

Examples (37) to (38) demonstrate the inference-based semantic extension for *shang* from meaning ‘high location’ to ‘region’. The word *shang* ‘a high location’ invited the inference of ‘region’ when it was used with words such as *tian* ‘sky’ and *shui* ‘river’ in sentences (37) and (38). 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. According to Talmy (2000b), 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). Since the LMs of *shang* involve regions, the TR-LM configurations of *shang* in examples (37) and (38) have been distorted, in which

the TRs are conceptualized as being located in the regions of the LMs. Therefore, an invited inference ‘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 (38) 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 ‘high location’ or the inferential meaning ‘region’. Over time, the repeated use of *shang* in contexts like (37) and (38) allowed the inferential pattern to spread throughout the language community, which leads to a GIIN. The GIIN ‘a region’ then eventually become lexicalized as a polysemous sense of *shang*. It can be seen that the generalized inference of ‘region’ became a distinct sense of *shang* in EMEC. As shown in example (39), *shang* was used with a word indicating an unspecified location to describe the regions of *Huai*. The primary meaning ‘high location’ which the extended meaning ‘region’ was derived from is hardly identified in example (39). 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*.

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

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

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

In LAC and MEC, *shang* had the meaning ‘move to a high/higher location’ as shown in example (40) 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 (41). Over time, the frequent use of *shang* in contexts such as (41) allowed the inference to spread throughout the language community, which leads to a GIIN and finally a coded meaning of *shang* in MOC. As evidenced by examples (42) and (43), *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 (42) and (43) when comparing the usage of *shang* in examples (40) and (41). 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 (44). 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 (44).

(40) *yu nv shang an-ling cheng-luo* (EMEC: NATW)  
with daughter **above** An-ling city wall  
‘I climbed the An-ling city wall with my daughter.’

(41) *chong shang jun-zi tang* (LMEC: THTP)  
again **above** Jun-zi hall  
‘(Someone) climbed (went to) the Junzi hall again’

(42) *shang na-li qu le* (MOC: TLC)  
**above** where go PERF  
‘Where did you go?’

(43) *shang jie zhi-ban xing-li* (MOC: TLC)  
**above** street buy luggage  
‘(Somebody) went to the street and brought something for travelling.’

(44) *wo shang yao-fang mai yao* (CC)  
I **above** pharmacy buy medication  
‘I went to the pharmacy and brought some medication.’

The verb *shang* ‘move to a high or higher location’ in MEC also invited the inference of ‘jointing’ when it was used with words indicating objects. This inference occurred because speakers have the general knowledge that the final stage of moving to a high part of an object is to become part of the object. 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 (45). It has been found that through frequent contexts of use, the inference ‘jointing’ has become a GIIN and then a coded meaning of *shang* in MOC. As shown in examples (46) and (47), *shang* is used with the words ‘stage’ and ‘handcuff’ to mean ‘get on to the stage’ and ‘put on the handcuff’. Instead of emphasizing the motion of moving up, *shang* in examples (46) and (47) highlights the aspect of attaching to the stage or the handcuff. Therefore, the distinct sense ‘jointing’ involves a unique spatial configuration of a TR jointing the LM. In addition, the surrounding contexts where *shang* was used in examples (46) and (47) do not provide information regarding the ‘jointing’ meaning,

which means that the extended sense of *shang* has become parts of the meanings of *shang*. In example (48), *shang* describes an aspect of ‘psychologically jointing’ or ‘be addicted to’, indicating that the meaning of *shang* becomes more abstract and can reflect speakers’ inner world.

(45) *yang jing shang da chuang* (EMEC: NATW)  
Yang directly above big bed  
‘Yang directly climbed or got onto the big bed.’

(46) *shang chang* (MOC: TLC)  
Above stage  
‘Got onto the stage.’

(47) *shang shou-kao* (MOC: TLC)  
**above** handcuff  
‘Put handcuffs (on somebody).’

(48) *shang yin* (MOC: TLC)  
**above** addiction  
‘Be addicted to something.’

When *shang* was used as a verb complement in MEC, it first indicated ‘the direction of moving to a high location’ as shown in example (49). Being used with words denoting location, the verb complement *shang* invited the inference ‘the condition of jointing’ since speakers know that the result of moving to a high location may lead to the consequence of becoming part of the location. As shown in example (50), it is ambiguous in terms of whether *shang* indicated the meaning ‘the direction of moving to the boat’ or the inferential meaning ‘the condition of becoming part of the boat’. Over time, the repeated use of *shang* in contexts such as (50) allowed the inferential pattern ‘the condition of jointing’ 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 (51) and (52), being used with verbs *dai* ‘bring’ and *zuo* ‘sit’, *shang* expressed the meaning of ‘the condition of becoming part of the hall’. Unlike example (50) in which the verb *tiao* ‘jump’ represented a movement toward a high location, *dai* ‘bring’ and *zuo* ‘sit’ in examples (51) and (52) did not indicate upward movements which shows that the meaning of *shang* may be grammaticalized. In addition, it can be seen that the extended meaning of *shang* ‘the condition of jointing’ could not be inferred from the contexts in which *shang* is used since a number of verbs indicating movements, such as *zou* ‘walk’, *pao* ‘run’ and *zhuai* ‘drag’ can occur with *shang* to describe the condition of jointing. That is to say, there seems no restrictions on the motion verbs that could be used with *shang* when describing the condition of becoming part of a location. Therefore, the distinct sense ‘the condition of jointing’ has become a coded meaning of *shang* in MOC.

(49) *pa shang cheng-lou* (EMEC: NATW)  
climb above city-wall  
‘(Someone) climbed up the city-wall.’

(50) *sui tiao shang chuan* (EMEC: NATW)  
then jump **above** boat  
‘(Someone) then jumped (up) onto the boat.’

(51) *jiang san ren dai shang tang* (MOC: TLC)  
lead three people bring **above** hall  
‘(Someone) brought the three people to the hall.’

(52) *fu xing zuo shang tang* (MOC: TLC)  
Fu-xing sit **above** hall  
‘Fu xing (a person’s name) sat on the hall.’

The verb complement *shang* also invited the inference of ‘the fulfilment of a goal’. This inference occurred because speakers have the general knowledge that the result of moving to a high location can lead to the result of accomplishing a purpose. As shown in example (53), the context is ambiguous as to which of the interpretations of *shang* (i.e. ‘the direction of moving up the curtains’ or ‘the fulfilment of making the curtains roll up’) was intended by the speaker. The frequent uses of *shang* in contexts such as (53) 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 (54) indicated the meaning ‘the fulfilment of handing over something to somebody’ and *shang* in example (55) described ‘the fulfilment of locking the door’. Unlike example (53) in which the verb *juan* ‘roll’ still involved a sense of ‘moving towards a high location’, *jiao* ‘hand in’ and *suo* ‘lock’ in examples (54) and (55) did not represent upward movements which proves that the meaning of *shang* may change and become grammaticalized. In addition, the extended meaning of *shang* ‘the fulfilment of a purpose’ could not be inferred from the context where *shang* appears. Even without mentioning the surrounding context, speakers would have a sense that *shang* in *suo shang* in example (55) indicated the accomplishment of making something locked. Therefore, the distinct sense ‘the fulfilment of aim’ has become a coded meaning of *shang* in MOC.

(53) *juan shang zhu-lian* (LMEC:THTP)  
roll **above** bead-curtains  
‘(Someone) rolled (up) the curtains.’

(54) *Xuliang jiao shang yi qian yin-zi* (MOC : TCL)  
Xuliang hand above one CL silver  
‘Xuliang hands in one silver.’

(55) *qing ni ba da men suo shang* (MOC : TCL)  
Please you BA big door lock **above**  
‘Please lock the big door.’

Another distinct sense that occurred due to inferencing is ‘the time to start a new movement or a condition’. The meaning of *shang* as a verb complement to indicate ‘the fulfilment of a purpose’ invited the inference of ‘starting a new movement or a condition.’ This is because speakers know that we normally have to change our current status in order to achieve a goal. As shown in example (56), it is ambiguous in terms of whether *shang* indicated the meaning ‘the fulfilment of lighting a candle’ or the inferential meaning ‘the time to start lighting a candle’. The frequent uses of *shang* in contexts such as (56) enabled the inference to spread throughout the language community, resulting in a GIIN and finally a coded meaning of *shang* in CC. For example, *shang* in example (57) indicated the meaning ‘the time to wearing autumn clothing’ and *shang* in example (58) described ‘the time to falling in love with a person’. In fact, even without mentioning the surrounding context, native speakers nowadays would have a sense that the expression *ai shang* ‘love above’ in example (58) indicates a condition of falling in love. It is thus believed that the distinct sense ‘the time to start a new movement or condition’ has become parts of meaning of *shang* in CC.

(56) *dian shang la-zhu* (MOC: TLC)  
light **above** candle  
(Someone) lit a candle.’

(57) *ren-men zongyu you chuan shang le qiu-zhuang* (CC)  
people finally again wear **above** AUX autumn-clothes  
‘People finally wear the autumn clothes.’

(58) *Keke ai shang le Liangzi* (CC)  
Keke love above AUX Liangzi  
‘Keke fall in love with Liangzi.’

#### 4.3.3 Extended meanings of *shang* motivated by both metaphor and invited inferencing

Extended meanings of *shang* are also found to be related to both metaphor and invited inferencing. Meanings of *shang* that were motivated by both metaphor and inference including ‘more’, ‘offer something to a high ranking official’ and ‘get to a larger amount’.

It has been found that the spatial word *shang* indicated the meaning of ‘more’ in AC as shown in examples (59) and (60). If adopt a metaphoric account, we can say that *shang* acquired the target-domain meaning ‘more’ from the source-domain meaning ‘high location’ through the mapping MORE IS UP (Lakoff & Johnson, 1980, pp. 15-16). However, we found that there are ambiguous contexts in which *shang* can either mean ‘more’ or ‘high location’. For instance, as shown in example (61), when describing the deepness of water, *shang* ‘high location’ implies that there are more

water. It is unsure as to which of these two interpretations, ‘high location’ (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*.

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

(60) *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).’

(61) *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).’

Because the development of causative verbs in LAC (Shi, 2002, p. 46), *shang* acquired the causative meaning ‘make something move to a high location’ (as discussed in section 4.4.2). In MEC, *shang* had the distinct sense ‘offer something to a high ranking official’ as shown in examples (62) and (63). If adopt a metaphoric account, we may say that this usage of *shang* occurred because the conceptual metaphor HIGH STATUS IS UP due to which 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 ranking official’ from the source-domain meaning ‘make something move to a high 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, suggesting that these objects given to the superiors can be physically moved to a high/higher place. Therefore, the sense ‘offer something to a high ranking official’ could be an 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 (62), the wine in example (63) and the seal and silk ribbon in example (64) may be physically moved up to the high authority, indicating that it is ambiguous in terms of which meaning of *shang* was denoted in such contexts. Therefore, the sense ‘offer something to a high ranking official’ may also occur as an inference. Therefore, both metaphor and invited inference can take part in the meaning of ‘offer something to a high ranking official’.

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

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

(64) *shang yin-shou* (LMEC: DTE)  
**above** seal silk ribbon  
'Offering seal and its silk ribbon (to a high/higher authority).'

As discussed in section 4.2.2, the word *shang* had the verbal meaning 'move to a high/higher location' in LAC. When adopting a metaphoric account, it can be seen that the abstract process of 'get to a larger amount' can be conceptualized as the same as the physical process of 'move to a high/higher location' due to the metaphor MORE IS UP. Thus, when speakers retrieved the target-domain meaning 'get to a larger amount' from the source-domain meaning 'move to a high/higher location', *shang* acquired the metaphorical meaning 'get to a larger amount' in MEC as shown in example (65). 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 latter sense may also arise from an inference. Let us think about the rising water in a container. It is normal to see that once the water moves to 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.

(65) *zhi shang bai-wan shu* (EMEC: NATW)  
straight **above** million number  
'The number goes up to a million.'

## 5. CONCLUSION

The results of current study are in consistent with Tyler and Evan (2003)'s findings on English prepositions indicating that there is a prototypical sense of *shang* (i.e. 'high location') based on which other distinct senses are developed. Expanding prior studies, this study demonstrates that the semantic relatedness between various senses of a spatial word is the outcome of a long period of diachronic development. Diagram 1 below shows the semantic developments of *shang* in which innovative meanings of *shang* occurred based on existing meanings and newer meanings of *shang* appeared due to various mechanisms. In the process of semantic development, older and newer meanings of *shang* continue to coexist over several hundreds of

years. In addition, this study has also demonstrated how Chinese spatial words developed diachronically: firstly, when acquiring new meanings, Chinese spatial words like *shang* tend to show more flexibility; secondly, on its way to grammaticalization locative terms such as *shang* gradually lose its lexical features and perform more grammatical functions.

### Diagram 1. The semantic developments of *shang*

**Relational noun:** high location>top surface>region> an abstract region

**Verb:** Move to a high location>joint or attach to something>go to

**Verb complement:** the direction of moving to a high location> the condition of joining or attaching to something> the fulfilment of a purpose> the time to start a new movement or a condition.

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## REFERENCES

- Brugman, C. (1983). Story of "over". Bloomington, Ind: Indiana University Linguistics Club
- Brugman, C., & Lakoff. (1988). Cognitive topology an lexical networks. In G.W.Cottrell, S. Small, & M. K. Tannenhaus(Eds.), *Lexical Ambiguity Resolution* (pp. 477-507). San Mateo, CA: Morgan Kaufman.
- Bybee, J., Perkins, & Pagliuca. (1994). *The evolution of grammar: Tense, aspect, and modality in the languages of the world*. University of Chicago Press.
- Cheng J. (2015). On syntactic intervention in Chinese denominal verbs-A diachronic perspective. *Diachronica*. 32:3: 290-330.
- Clark, Eve, V., & Herbert, H. Clark. (1979). When nouns surface as verbs. *Language* 51. 767-811.
- 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 University Press.
- Ge. (2004). Fangweici "shang" "xia" de yiyi ji qi yanbian. (The meaning and semantic change of locative "shang" "xia"). Shanghai shifan daxue (Shanghai Normal University) Master dissertation.
- Givón, T. (1990). *Syntax: a functional-typological introduction*: J. Benjamins Pub. Co.
- Heine, B., Claudi, U., & Hünemeyer, F. (1991). *Grammaticalization: A Conceptual Framework*: University of Chicago Press.
- Hou. (2004). Fangweici "shang" "xia"de yuyi renzhi jichu yu duiwai hanyu jiaoxue (The Cognitive Basis of Chinese Local Words "Shang""Xia"and Teaching

- Chinese Language as a Second Language). *Applied Linguistics*. No.4:69-75
- Huang, S., & Hsieh, C. (2008). Grammaticalization of Directional Complements in Mandarin Chinese. *Language and Linguistics*. 9.1: 49-68.
  - Kreitzer, A. (1997). Multiple levels of schematization: A study in the conceptualization of space *Cognitive Linguistics* (Vol. 8, pp. 291).
  - Lakoff. (1987). *Women, fire, and dangerous things : What categories reveal about the mind*. Chicago : University of Chicago Press.
  - 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.
  - Langacker, R. W. (1987). *Foundations of cognitive grammar*. Stanford, Calif. : Stanford University Press.
  - Langacker, R. W. (2015). Construal. In E. Dąbrowska & D. Divjak (Eds.), *The Handbook of Cognitive Linguistics* (pp. 120-143). Berlin: Boston De Gruyter Mouton.
  - Lindner, S. J. (1983). *A Lexico-semantic Analysis of English Verb Particle Constructions*.
  - Lu. H. (2001). You “dao” yi dongci “shang/xia” goucheng de dongbin zuhe (On verb-object constructions of shang and xia with the meaning of “going to”). *Yuyan jiaoxue yu yanjiu* (Language teaching and research). 3:18-22.
  - 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.
  - Qi, L. (2014). *Xiandai hanyu xianshi kongjian de renzhi yanjiu* (Cognitive research on the space in contemporary Chinese. Shangwu chubanshe (Beijing: The Commercial Press.
  - Radden, G. (2015). The Metaphor TIME AS SPACE across Languages. *Zeitschrift für Interkulturellen Fremdsprachenunterricht*, 8(2).
  - Sandra, D., & Rice, S. (1995). Network analyses of prepositional meaning: Mirroring whose mind—the linguist’s or the language user’s? *Cognitive Linguistics* (Vol. 6, pp. 89).
  - Shi, Y. (2002). *The establishment of Modern Chinese grammar: The formation of the resultative construction and its effects* (Vol. 59). John Benjamins Publishing.
  - Sullivan, K. (2007). Metaphoric extension and invited inferencing in semantic change. *Cultura, Lenguaje y Representación*, 5, 255-271.
  - Sweetser, E. (1990). *From etymology to pragmatics: metaphorical and cultural aspects of semantic structure*. Cambridge [England]; New York: Cambridge University Press.
  - 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: MIT Press c.
  - Talmy, L. (2000b). *Toward a cognitive semantics: Typology and Process in Concepts Structuring (Volume II)*: Cambridge, Mass. : MIT Press c.
  - Tong, S. (2006). *Ye shuo fangweici “shang”de yuyi renzhi jichu* (The Cognitive Basis of "Shang" as a Noun of Locality) *Yuyan wenzi yingyong* (Applied Linguistics)(1).
  - 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.
  - Traugott, E. C., & Dasher, R. B. (2002). *Regularity in semantic change*. New York : Cambridge University Press.
  - 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*. Cambridge University Press.
  - Xiao, P. (2009). *lun hanyu quxiang dongci “shang” he “xia”de yufahua he yuyi bu duichengxing* (On Grammaticalization of Chinese Directional Verbs shang and xia and Their Semantic Asymmetry). *Huawen jiaoxue yu yanjiu* ( Journal of College of Chinese Language and Culture of Ji Nan University(TCSOL Studies)(1).
  - Xin, X., & Lu, W. (2015). “V”shang de yuyi leixing ji qi renzhi fenxi (A cognitive analysis of the semantic patterns of ‘V up’). *Waiyu jiaoxue*. *Foreign Language Education*, 36(1), 43-46.
  - Yu, N. (1998). *The contemporary theory of metaphor : a perspective from Chinese*. Amsterdam ; Philadelphia: J. Benjamins Pub.
  - Yu, N. (2012). The metaphorical orientation of time in Chinese. *Journal of Pragmatics*, 44(10).
  - Yuan, J., & Jiang S. (2018). Denominal verbs in OLD Chinese. *Lingua*. 201:119-132.
  - Zhang, H. (2002). “shang/xia” dongcixing zuhe de renzhi kaocha (A cognitive survey on verbal phase of “shang/xia”). *Yuyan yanjiu* (Language Studies.)
  - Zhang, H. (2004). *shang xia yuyi yanhua de renzhi kaocha* (To explore the semantic evolution of 'shang/xia' from cognitive angle). *Shuoshi* (Master of Arts), Huazhong keji daxue (Huazhong University of Science & Technology).
  - Zhang. Q. (1995). *Yundongyi dongci “shang” “xia” yongfa kaobian* (The usage of motion verb “shang” and “xia”). *Yuyan yanjiu* (Language Studies), 1; 37-43.
  - Zhu, M. (1958). *Xianqin liangdai shiqi de dongbu jiegou* (The Resultative Construction in the Period of Pre-Qin and Two Hans). *Yuyan xue luncong* (Language Studies Symposium (Vol. 2, pp. 17-30). Shanghai: Xin Zhi Publisher.