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The Role of Construal on the Diachronic Development of Locative Term: The Case of *Shang* 'Above' in Chinese

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Abstract

An expression's meaning depends on both the objective situations being described and the specific ways that the situations or 'scenes' are construed (Langacker, 1987). Construal is our ability to conceptualize and describe the same situation in alternate ways (Langacker, 2015, p. 120). However, each construal factor, classified by Langacker (2015) as *prominence, dynamicity, selection, perspective* and *imagination*, has complex properties and these factors often interact in particular usage events. Based on instances extracted from historical corpora of Chinese language, this study applies the various construal operations to the diachronic development of a locative word *shang* 'above' in Chinese. We demonstrate that although there are overlaps, each construal element performs a unique role on the development of *shang* in its meanings and grammatical functions. It is evident that the particular set of developments for *shang* would not occur if there were just one construal factor. Our study sheds light on the history of Chinese language, the nature of semantic change and grammaticalization, and also on the relations between spatial language and cognition.

Keywords: construal, diachronic development, locative term, cognition, Chinese.

1 INTRODUCTION

The concept of construal, which concerns how individuals perceive, comprehend and understand the world around them, was first discussed in the field of social psychology (Ross, 1987; Ross, Greene, and House, 1977). Borrowing the term from psychology, cognitive linguists, most especially Langacker (1987) and Talmy (1978, 1988b), have proposed several classification types for construal phenomena that limit the number of basic types in order to demonstrate that the various construal operations are manifestations of fundamental cognitive abilities and that several aspects of construal may be involved in the meanings of a single linguistic expression. Combining Talmy's and Langacker's classification types for construal phenomena and applying them to the analysis of a locative word *shang* 'above' in Chinese, this study aims to demonstrate the roles of construal aspects on the diachronic development of *shang* in both its meanings and grammatical functions.

It is found that along the development of *shang*, each construal factor figures in the meaning of *shang* by performing a unique function. Firstly, the construal operation of selection, which is a fundamental element in understanding the meaning of *shang*, is responsible for choosing the relevant domain and active zone for a scene of *SHANG* [1] Secondly, once being chosen in an early period, the same perspective in viewing scenes of *SHANG* is easily found in meanings of *shang* in later periods. Thirdly, the direction of change for the grammatical functions (and meanings) of *shang* indicates that construal factors of sequential scanning, force dynamics and abstraction take effect on the meaning of *shang* later than other cognitive processes (such as summary scanning and certain profiled relationships) [2]. Therefore, no matter which classifications is adopted when analysing meanings of an expression or a morpheme, certain construal element may be often seen in a specific period. Most importantly, we show that although certain construal factors were closely related to the meaning of *shang*,

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[1] A scene represents the situation being conceptualized. Capital letter is used to indicate the concept.

[2] It is acknowledged that the sequence of construal operations can be attributed to the different linguistic environments associated with shang. Since we focus on the relations between construal operation and sematic change, it is beyond the scope of this article to discuss the roles of various contextual factors.

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189

many aspects of construal often interact and work together along the development of *shang*.

In the following discussion, we first illustrate the background of this study, following which the research design is provided in section 3. In sections 4, using authentic examples extracted from historical corpora of Chinese language, we show the important role of construal factors on the usage of *shang* in different periods and discuss the joint contributions of various construal factors to the meanings and grammatical functions of *shang*. Finally, we conclude in section 5 and discuss some implications of this study.

2   BACKGROUND OF THE STUDY

The semantic change of locative terms has been discussed in several studies of cognitive linguistics, historical semantics and grammaticalization (e.g., Heine, 1997; Heine, Claudi, and Hünnemeyer, 1991; Svorou, 1993, 2003). It has been found that in the process of meaning change, the morphosyntactic structure of locative terms also changes. The phenomenon shows a continuum of change at two levels: the change from less abstract to more abstract meanings; and from less grammatical to more grammatical morphosyntactic functions. For instance, a locative term such as back in English (also in many other languages), is an example showing the continuum of change from a lexical noun (indicating a body part), to relational phase, to adverb and preposition, and perhaps even to a case affix (Heine et al., 1991, p. 160). This can also be applied to the development of the locative term *shang* 'above' in Chinese. As has been demonstrated by Chappell and Peyraube (2008), when used after a noun in Pre-Medieval Chinese, *shang* is found to no longer indicate a precise position but a vague locational meaning. The findings of these studies have shown that both the meanings and the grammatical functions of a locative term develop in a systematic way. However, little attention has been paid to the regularities and motivations for the semantic change (or grammaticalization) of Chinese locative terms (Wu, 2008, 2015), which makes it difficult to determine the way various usages of a Chinese locative term develop diachronically. In addition, as argued by Winters (2010, pp. 15-16), although cognitive explorations often consider change in terms of extensions at varying distances from the prototype (e.g., Geeraerts, 1983; Kemmer, 1992; Winters, 1987) or as the connection that links different entities (e.g., Dirven, 1985; Sweetser, 1982), little light has been shed on "what change really consists of". According to Winters (2010, p. 16), the re-origination of semantic sets and their internal structures are more appropriate to be viewed as the results of change rather than the cause. In other words, it is essential to find out the cognitive motivation of change.

Building on the comprehensive classifications of construal operations (Langacker, 1987; Talmy,

1978), researchers have further explored the characteristics and relations of various construal factors (e.g., Croft, 2004: Chapter 3; Langacker, 2015; Talmy, 2000). In the version found in Talmy (2000), construal factors are considered as belonging to the schematic system, which includes configurational structure, perspective, and distribution of attention. And the concept force dynamics, also constituting the schematic system, is discussed in a separate chapter. Langacker (1987)'s classification of focal adjustments consists of selection, perspective and abstraction. According to Croft (2004, p. 44), Talmy's and Langacker's classifications have some common features: for instance, both have categories of perspective, and Langacker's selection and abstraction focal adjustments are equivalent to Talmy's attentional imaging system. However, these two types of classification are not exhaustive. For example, Lakoff and Johnson (1980)'s theory of metaphor is an illustration of construal operation, which is not mentioned explicitly by either Langacker or Talmy. Some other construal operations, such as mental scanning, used by Langacker himself are not included in his classification of focal adjustments. Langacker (2015) re-examines the many aspects of construal and proposes five categories: perspective, selection, prominence, dynamicity, and imagination. In Langacker (2015), metonymy is treated as a kind of selection, the concepts metaphor, blending and abstraction are discussed under the rubric of imagination, and summary scanning and sequential scanning are viewed as belonging to the group of dynamicity. Although Langacker (2015) has provided a more comprehensive classification of construal operations, the question is how to apply these construal factors to the analysis of real language data.

In this study, we demonstrate the roles of various construal operations on the diachronic development of a locative term *shang* in its meanings and grammatical functions. The construal operations of metaphor and metonymy are both considered as instances of selection. By doing this, the overlapping feature between metonymy and metaphor (see Goossens, 1995; Radden, 2002) and their individual functions can be more transparently demonstrated. We also elaborate the role of force dynamics since this construal factor offers a better understanding of the relation of 'cause-result' (see Talmy, 1988a) by firstly showing the nature of conceptual entities that exert forces and secondly indicating the way a resultant meaning is formed.

We acknowledge that each construal factor contains complex elements and there are not clear boundaries between them in real practice. In addition, although theoretically the list of construal factors should be as comprehensive as possible, it is unrealistic to explore all the construal factors in a single study. The role of blending is not discussed in this study owing to the fact that blending operates at a fairly high level of

organisation (Fauconnier & Turner, 2002), and that the operation of blending is harder to detect compared to other cognitive processes (e.g., metaphor and profile determinant). The construal operation of image schemas is not a category used in this study mainly due to the fundamental role it plays in relating bodily experience and conceptualization. Firstly, representing schematic patterns arising from a variety of recurrent embodied experiences (or domains) (Johnson, 1987; Lakoff, 1987; Lakoff and Turner, 1989), such as container, up-down, contact, counterforce, path, the broad idea of image schemas is fully instantiated in the discussion of other cognitive operations (e.g. metaphor, force dynamics, a profiled relationship). Alternatively, since an image-schema can be depicted unconstrained by language, the meaning elements of an image schema are often represented with a diagram in cognitive linguistics (e.g., Langacker's trajector and landmark diagrams), which makes it unnecessary to refer explicitly to image schemas in the following discussion. Therefore, to suit the needs of the current study, we apply the following classification of construal operations (given in Table 1) to the analysis of the locative word *shang*.

Table-1: Construal operations

Prominence
Onstage prominence
Profile
A THING
A RELATIONSHIP (involves the trajector and the landmark)
Scope of a predication (involves the immediate scope)
Profile determinant
Dynamicity
Summary scanning and sequential scanning
Force dynamics
Selection
Metaphor
Metonymy
A two-stage selecting process
Perspective
Viewing arrangement
Vantage point
Orientation
Imagination
Abstraction

3 RESEARCH DESIGN

3.1 Data source

The authentic Chinese language data in diachronic corpora provides us with the best way of tracing the diverse meanings of a word. However, there is not one single corpus that contains texts or written works of Chinese language produced in periods from archaic to a more recent time in the twenty-first 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 advantage of the CLL corpus is that it contains the largest amount of historical Chinese language data currently available online. However, the text types or types of genre were not distinguished in CLL corpus, and the contemporary texts included in CLL corpus were mainly produced around the time of mid-1990s. The SCC corpus provides "an extensive digital resource for historical Chinese texts covering different text types and genres and arranged in different time periods" (Hu, Williamson, and MaLaughlin, 2005, p. 281). SCC corpus is used in this study to provide historical texts that are not found in the CCL corpus and remove data in CLL corpus that do not exactly represent works written in a specific period. The samples in the UCLA2 corpus are all collected from written contemporary Chinese available from the internet, during the periods of 2000-2012, which covers a variety of genres. We collect our data of Contemporary Chinese from the UCLA2 corpus.

3.2 DATA COLLECTION

We adopt the chronological framework proposed by Peyraube (1996) when collecting our data,

which includes Early Archaic Chinese (EAC, 10th-6th c. B.C.), Late Archaic Chinese (LAC, 5th-2nd c. B.C.), Pre-Medieval Chinese (Pre-MC, 1st c. B.C.- 1st c. A.D.), Early Medieval Chinese (EMC, 2nd-6th c.), Late Medieval Chinese (LMC, 7th-mid-13th c.), Pre-Modern Chinese (Pre-MOC, mid-13th-14th c.), Modern Chinese (MOC, 15th-mid-19th c.) and Contemporary Chinese (CC, mid-19th-20th c.)

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. Table 2 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.

Table-2: Features of texts

Chronological Framework	Corpus	The Book Title of Texts	Time of Production	Types of Genre
Early Archaic Chinese (10th-6th c. B.C.)	CCL	Classic of Poetry	11th-7th 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 (5th- 2nd 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 (NATW)	420–479	"Minor talk" or fiction
Late-Medieval Chinese (7th-mid 13th 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 (RTK)	14th century	Historical novel
Modern Chinese (15th -mid 19th c.)	CCL	The Travels of Lao Can (TLC)	1903	Fiction

As shown in Table 3 below, to maintain the consistency of genre types when compared with those selected texts in AC, MC, and MOC from corpora of SCC and CLL, written works in the following types of genre from UCLA2 corpus are selected as the sources of CC in this study.

Table-3: Data sources of CC

Contemporary Chinese (mid-19th-20th c.)	General fiction (GF)
	Science fiction (SF)
	Reportage
	Academic writing (AW)
	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*. 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. Moreover, every third instance of *shang* appearing in written works of different genres in CC are 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 4. demonstrates the token frequencies of *shang* collected from the selected texts and written works in the three corpora in different periods of Chinese language.

Table-4: Token frequencies of *shang*

	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

3.3 Data processing

All grammatical functions and meanings of instances *shang* in the clauses are first analysed and classified. Four kinds of resource and reference are relied on when making the classifications including: firstly, materials that provide interpretations of selected historical works (e.g., B. H. Li, 2008; Liang, 2010; Sun, 2013); secondly, Chinese language dictionaries (Chen, 2003; Lü, 1999); thirdly, grammar books (C. N. Li and Thompson, 1981; Liu, 1998; Lu, 2013; Yang and He, 2012) and fourthly, previous studies on *shang* (e.g., Peyraube, 2003; Tong, 2006; Xiao, 2009; Zhang, 2002). By consulting these references, we aim to restrict the subjectivity of classification to a minimal level.

Furthermore, 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. The cognitive motivations associated with the more innovative usages of *shang* in different periods are provided based on our classification of construal operations shown in Table 1.

4 Roles of construal factors on the development of *shang*

New usages of *shang* that occur in different periods are not motivated by a single construal factor alone but rather by multiple factors working together at the same time. Although the interactions of various cognitive processes might be overlooked due to the more important role that one cognitive factor plays on the development of *shang* in a certain period, there is evidence that the particular set of developments for *shang* results from several construal factors.

4.1 The role of selection

The concept 'selection' can be considered as the cornerstone on which other concepts are established. It is clear that the selection of a domain is a compulsory step that runs through other cognitive processes no matter which elements in a scene designated by *SHANG* are profiled, which perspective is taken in conceptualizing the scene, or whether time plays a role in accessing the scene. The construal element of imagination (or abstraction in particular) also heavily relies on selection since it is selection that decides which abstract domain is activated.

Here a two-stage selection process is proposed and applied to the analysis of *shang*. This model only applies to orientational metaphors like MORE IS UP which contains two domains that correlate experientially in a domain matrix [3]. Following Langacker (1987, p. 177; 2015, p. 126), we regard metonymy and metaphor both as kinds of selection in which metaphor occurs when the same selection happens frequently while metonymy contains a further step of selection, which is the selection of an active zone based on the context of use. The term 'active zone' is adopted from Langacker (1987, p. 271), which is defined as "facts of an entity capable of interacting directly with a given domain or relation". In a two-stage selection process, when designating the same domain matrix (containing source and target domains), a target domain is first activated due to its correlation with a source domain; in the next stage, an active zone of the target domain can be furthered selected when a specific aspect of the domain is highlighted.

As shown in example (1), in EAC the target domain GOOD is selected from the domain matrix HUMAN BEINGS (or THINGS) since it is correlated with the source domain HIGH LOCATION (or UP) when good characteristics of people (or things) are described. When the selection occurs frequently, the domains GOOD and HIGH LOCATION correspond which allows *shang* to acquire the meaning 'good/best'. For instance, it is found that in LMC and PMOC, the domain GOOD is associated with *shang* and becomes a significant part of it, as demonstrated in examples (2) and (3).

(1) *shang* shan ruo shui (EAC: The Classic of the Tao and its Virtue)
　　Above kindness like water
　　"The best kindness is like water."
(2) wei ya zhang wei *shang* pin (LMC: Dream Torrent Essays)
　　only sprout long is above grade
　　"Only a long tea sprout is in the best grade."
(3) ci wei *shang* ce (PMOC: RTK)

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[3] Similar notions are Langacker (1987)'s 'Cognitive Model' and Fillmore (1985)'s frame.

This is above strategy
"This is the best strategy."

A further step of selection may be involved after the correspondence between the source and target domain is established. For instance, in EAC, the physical domain high location is associated with *shang* as shown in example (4). In the same period, the domain high social position is selected based on its similarity with the source domain HIGH LOCATION when the same domain matrix human being is described as shown in example (5). After the correspondence between the source domain high location and target domain high social position is fully established in LAC, a further step of selection occurs, that is the selection of an active zone people at the high social position from the target domain high social position as shown in example (6). The two-stage selection process is demonstrated in Figure-1. In which the bold circle represents the selection. The two-stage selection process reflects the relations between domains and demonstrates how a salient aspect in a target domain might be further selected depending on the context of use.

(4) Wen-wang zai *shang* (EAC: The Classic of Poetry)
    Wen-king be-located above
    "(The divinity of) Wen-king is in the sky/ the highest location in space."
(5) Ju *shang* ke ming (EAC: The Classic of History)
    Be-located above can perspicacious
    "(The controller) at the highest social position can be perspicacious."
(6) *shang* ju yi (LAC: Mozi)
    Above recommend righteousness
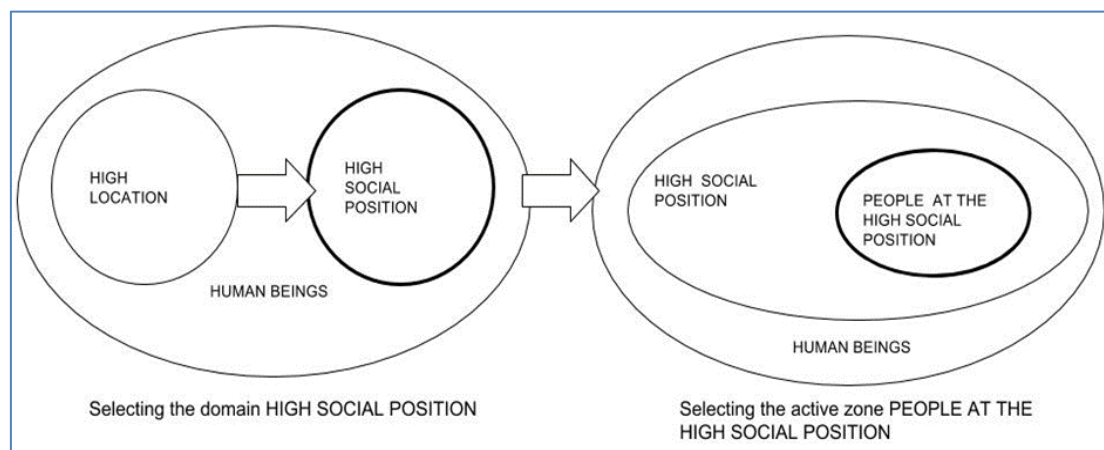
"The governor recommends good conduct."

Fig-1: Two-stage selection process

4.2 The role of prominence

Prominence offers a more detailed understanding than selection in terms of the way a scene or two combined scenes are processed: firstly, onstage prominence shows the properties of profiled elements (i.e., whether it is a THING or a RELATION) and the interaction between various profiled factors (e.g., a trajector IN a landmark); [4] secondly, a profile determinant reflects which component structure is profiled after two (or more) scenes are combined.

The profiled element can either be a THING or a RELATIONSHIP (both are abstractly defined). A THING is characterized as "a region or a set of interconnected entities in some domain" (Langacker, 1987, p. 189 & 214). A RELATIONSHIP pertains to "interconnections between two entities or participants that are inherent in the conception" (Langacker, 2015, p. 130). Therefore, an additional kind of prominence is involved when a RELATIONSHIP is profiled. The primary focal participant in the profiled relation is called trajector (TR), which is usually considered "salient as the one being assessed in regard to location, properties or activity" (ibid p. 130). The secondary focal participant in the profiled relation is called landmark (LM), which has "a salient role in assessing the trajector". In addition, the category RELATION involves subcategories of STATIVE RELATION, COMPLEX RELATION and TEMPORAL RELATION or PROCESS (Langacker, 1987, p. 249). A STATIVE RELATION describes a state and can be reduced "to a single consistent configuration" (ibid, p. 220). Complex atemporal relations have a relational profile, but their component states are scanned in summary rather than sequential fashion (Langacker, 1987, pp. 248-249).

As shown in Table 5, various profiled arrangements in the scenes designated by *SHANG* first appeared in different historical periods, leading to the multiple grammatical (and discourse) functions of

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[4] Onstage prominence refers to the content of a scene being conceived; and the central element being conceived is called the profile (Langacker, 1987, p. 118).

shang that exists across multiple periods. In EAC, THINGS that are at the highest place were often profiled (see example 7); another type of profiling arrangement, which profiled a THING that is at the highest part of a LM (see example 8), is also found (although there are fewer instances); there is also an uncommon profiling on a COMPLEX ATEMPORAL RELATION, which had all component states of 'moving to the highest place' being profiled in parallel (see example 9). The LMs of *SHANG* were not explicitly illustrated in this stage; however they were essential parts of the scenes designated by *SHANG*.

LAC can be considered as a transition period in which there are more kinds of profiling arrangement. Firstly, more types of RELATION were profiled, firstly a STATIVE RELATION (see example 10), later a TEMPORAL PROCESS (see examples 11 and 12). Secondly, the LM of *SHANG* was explicitly mentioned (see example 12) when describing the TEMPORAL PROCESS of 'moving to the highest part of a LM'. It is

also noted that there was a coincidence of structure between the component TRs and LMs of *SHANG* as the regions occupied by the moving TRs comprise the LMs (see example 11 in which the intransitive verb *shang* indicating something that moves to the highest place).

In MEC, either a THING or a RELATION was profiled and the LMs were explicitly mentioned (see examples 13 and 14). MOC witnesses the popularity of profiling the resultant states of a THING arriving at the highest place (see example 15) or at the highest part of a LM (see example 16). The change of profiling arrangements in MEC and MOC motivates the development of *shang*, allowing *shang* to serve three main grammatical functions in CC which are adposition, transitive verb and verb complement. Table 5 below shows the TRs and LMs of *SHANG* that often appeared in different periods and the corresponding grammatical (and discourse functions) of *shang*. It is noted that the LMs of *SHANG* are normally unprofiled when *shang* function as an adjective and an adverb.

Table-5: Various profiled arrangements in the scenes of *SHANG*

First Appeared	Examples	TR	LM (A THING)	Grammatical (and discourse) functions
EAC	(7)	A THING that is at the highest place in space	unprofiled	Adjective
	(8)	A THING that is at the highest part of a LM	unprofiled when the LM is implied in context	Relational noun
	(9)	A COMPLEXT ATEMPORAL RELATION of moving to the highest place	unprofiled	Adverb
LAC	(10)	A STATIVE RELATION of being at the highest part of a LM	unprofiled	Indicating a condition
	(11)	A THING moves to the highest place	TR and LM are identical	Intransitive verb
	(12)	A THING moves to the highest part of a LM	profiled	Transitive verb
MEC	(13)	A THING that is at the highest part of a LM	profiled	adposition
	(14)	A STATIVE RELATION of being at the highest part of a LM	profiled	adposition
MOC	(15)	A THING finally arrives at the highest place	TR and LM are identical	Verb complement
	(16)	A THING finally arrives at the highest part of a LM	profiled	Verb complement

(7) yu wei *shang* di (EAC: The Classic of History)
I scare **above** lord
"I scared the lord at the highest location."

(8/4) Wen-wang zai *shang* (EAC: The Classic of Poetry)
Wen-king be-located above
"(The divinity of) Wen-king is in the sky/ the highest location in space."

(9) liang fu *shang* xiang (EAC: The Classic of Poetry)

two horses above rise
"Two horses (on the ground) raised (their heads) towards the highest location."

(10) fu yin, *shang* shi gao rang (LAC: Mencius)
PRO earthworm, above eat dry soil
"That earthworm, (when) on (the ground), eats dry soil."

(11) duan qing zhe *shang* (LAC: Mozi)
short light PRO above

"The object that is short and light moves to the highest place."

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

(13) qian-zai *shang* si ren (EMC: NATW)
　　thousand years above dead people
　"People that died over a thousand years ago."

(14) you ren dao *shang* jian zhe (EMC: NATW)
　　has person road above see PRO
　"Some people met him in the street."

(15) ta zhua leyi ding da bao-zi dai *shang* (MOC: TLC)
　　He catch AUX one CL big hat wear above
　"He catches a big hat and put (it) on (him)."

(16) gan-jin dai *shang* tang qu (MOC: LTC)
　　Hurriedly bring above hall to
　"Hurriedly bring (him) up to the hall."

Another kind of onstage prominence that affects the usages of *shang* is the profile determinant (Langacker, 1987, p. 289). Speakers often need to integrate two or more scenes (or conceivable situations) when conveying meanings (Langacker, 1987, p. 278). Therefore, when forming a more elaborate expression, distinct component structures are combined to create a coherent composite structure. However, "it is only by having certain substructures in common that two component expressions can be integrated to form a coherent composite expression" (ibid, p. 278). In other words, there are correspondences between substructures of the components when forming composite structures of expressions. More precisely, specifications of component structures are superimposed and merged to form a composite structure (ibid, p. 280). Langacker has further explained that "for the most part, a composite structure simply inherits the profile of one of its components. The component structure whose profile is inherited is termed profile determinant of the construction".

As shown in examples (17), (18/7) and (19), the instances of *shang* have THINGS, such as the LORD, SKY, KINDNESS as their TRs but do not have LMs mentioned explicitly. The examples also show that the structures between *SHANG* and its TRs correspond, which means that there are common elements that are shared by the predicate *SHANG* and its TRs: LORD, SKY and KINDNESS. *SHANG* profiles a THING that is at the highest location in a physical or an abstract region. LORD, SKY and KINDNESS have complex matrixes that include such regions. For instance, LORD and SKY are consciously realized as being in the highest region in space while KINDNESS is conceptualized as being in the highest region of

personality. Therefore, the integration of predicate *SHANG* and its TRs depends on a correspondence between the TR of *SHANG* and the profile of LORD, SKY and KINDNESS.

(17) *shang* tian fu-you xia min (EAC: The Classic of History)
　　above sky believe-bless below people
　"The sky at the highest location believes in and blesses the people at the lowest place."

(18/7) yu wei *shang* di (EAC: The Classic of History)
　　I scare above lord
　"I scared the lord at the highest location."

(19/1) *shang* shan ruo shui (EAC: The Classic of the Tao and its Virtue)
　　above kindness like water
　"The best kindness is like water."

The common substructures in the physical space that are shared by *SHANG* and LORD, *SHANG* and SKY are more straightforward. Firstly, they all occupy the highest points in space. Secondly, the sizes of LORD and SKY are conceptualized as equalling the maximum area designated by the unmentioned LM of *SHANG*. It is likely that expressions *shang* di 'above lord' and *shang* tian 'above sky' were first used to designate the highest locations of the lord and the sky. However, through frequent combinations, *shang* di and *shang* tian are formed as coherent composite expressions (i.e., compounds) and have unit status. It can be seen that the compounds *shang* di and *shang* tian inherit the profiles of LORD and SKY after merging the specifications of the corresponding components. In other words, LORD and SKY are the profile determinant of the constructions. Therefore, in the later period of EAC, *shang* di is used to designate 'the lord' rather than 'the highest location of the lord' and *shang* tian to name 'the sky' rather than 'the highest location of the sky'.

4.3 The role of dynamicity

Language and conception are involved in various activities and they unfold through time in specific ways. Two kinds of time need to be differentiated depending on whether they are the subject or the object of conception (Langacker, 2015, p. 131). On the one hand, language users conceptualise a scene through time, which involves a processing time (T): time as the medium of conception; on the other hand, if time is conceptualised as part of the content of a scene, we have what is called a conceived time (t): time as an object of conception (ibid, p. 131).

Pertaining to the different roles of time in a conceived event, two types of mental access (or scanning) is distinguished: summary scanning and sequential scanning. The former involves the conceptual components being processed "roughly in

parallel" with all facets of the scene being "simultaneously available" and constituting "a coherent gestalt" (Langacker, 1987, p. 248). It means that once a temporal phrase of a configuration is activated at a given point in T, it remains active as subsequent phases are processed, leading to the superimposing of a successive configuration onto those already active ones, and then finally all configurations are activated simultaneously (Langacker, 2015, p. 133). The complex configuration or the final state available through summary scanning "is solely a product of conception in T" (ibid p. 133), therefore the role of conceived time (t) is overridden. THINGS, STATIVE RELATIONS and COMPLEX ATEMPORAL RELATIONS are generally processed in the manner of summary scanning. Sequential scanning involves component states of a conceptual content being processed or accessed in serial through a temporal evolution (Langacker, 1987, p. 248). There is a correspondence between T and t in sequential scanning as the event's "characterization requires that its phases be accessed (through T) in the sequence of their manifestation (through t)" (Langacker, 2015, p. 133). In other words, the sequential scanning of the event though T activates the conception through t in a corresponding manner. Therefore, a general term TIME is used to indicate the temporal phrase involved in a sequential scanning.

In the development of *shang*, summary scanning is involved earlier than sequential scanning. It can be seen in EAC that the role of conceived time on the predication of *SHANG* was effectively absent and the component states in scenes designated by *SHANG* were often processed in parallel with all aspects being simultaneously available; therefore, *shang* was often used as an adjective or a relational noun in EAC. As shown in Figure 2, the atemporal process of the component elements (TR and LMs) are scanned in summary mode, which leads to the final state of the TR locating in the LMs of *SHANG* [5]. Therefore, *shang* was used as an adjective indicating the TR (a THING) being at the highest place of the unmentioned LM (see example 17-19). When interconnections between the TR and LM in the final state are further processed by summary scanning, they are collectively profiled as a THING, resulting in the nominal property of *SHANG* that is manifested as a relational noun (see Figure 3 and example 8). In other words, the relational noun *shang*

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[5] Following the tradition of cognitive grammar, we normally diagram a nominal predication or a THING by a circle, a relation between two ENTITIES by a line, and conceived time by an arrow. There are two unprofiled LMs associated with SHANG: one is characterized by the vertical height (LM$_1$) and the other is represented by the region in the sky (LM$_2$). The profiled TR and unprofiled LMs of SHANG are connected by a basic conceptual relation [A IN B] (see Langacker, 1987, p. 225).

'the highest part' construes the corresponding states (sub-TRs locating in the highest parts of sub-LMs) as an entity and imposes on it the collective profile of a THING, thus overriding---at this higher level of organization---the relational character that this compositional entity has internally.
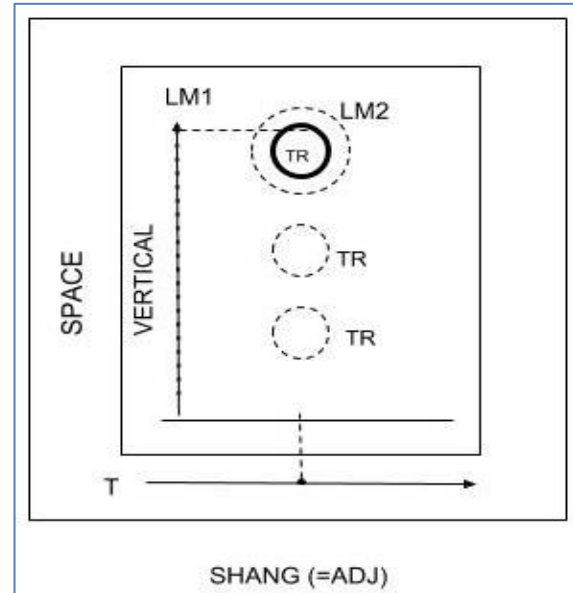

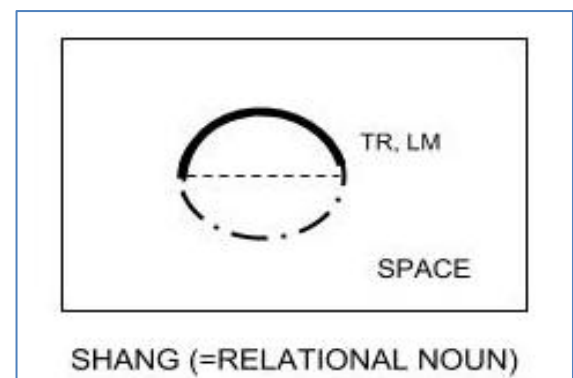**Fig-2:** *Shang* **used as an adjective (adapted from Langacker 1987:144 & 2015:133)**

Fig-3: *Shang* **used as a relational noun (adapted from Langacker 1987:184)**

In LAC, verbal usages were associated with *shang* due to the sequential scanning on the temporal process 'moving to the highest place' in which changes of component states are involved through processing time. Two types of verbal process demonstrated by *SHANG* are seen. Firstly, as shown in Figure 4, there is a coincidence of structure between the component TRs and LMs of *SHANG* in which the regions occupied by the moving TRs comprise the LMs. Therefore, the TRs and LMs of the verbal process 'moving to the highest place' are construed as identical (see example 11). Figure 5 shows another scene of *SHANG* in which the TR and LM of *SHANG* were distinct. In this verbal process, the LMs of *SHANG* being found at the same locations in each state are normally construed as having

salient vertical height; and the TRs (smaller than the LMs in sizes) that originally stay at places in alignment with the LM on the ground, are construed as moving to the LMs and finally ending up at the higher parts inside the LMs (see example 12). These two types of verbal process are both scanned in sequential fashion with each state being activated in order through time.
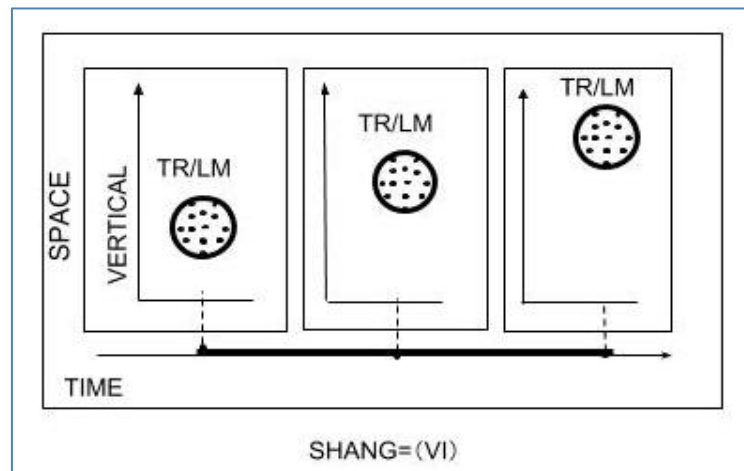

Fig-4: *Shang* **used as a intransitive verb (adapted from Langacker 1987:261& 268)**
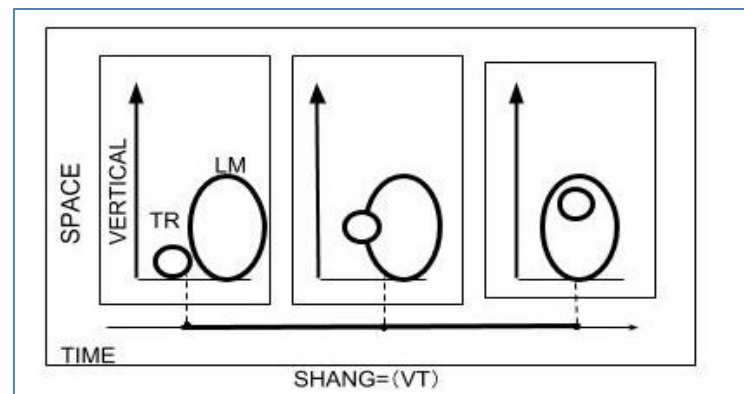

Figure 5: *Shang* **used as a transitive verb (adapted from Langacker 1987:245 & 261)**

In addition to being related to time, a verbal process is also associated with another conceptual entity 'force'. As shown in examples (20) and (21), the verbs tui 'push' and ji 'stimulate' are used with *shang*, and a conjunction er 'and' occurs between the verbs and *shang*. In these examples, *shang* is a causative verb, indicating the meaning of 'making something arrive at the highest place'. In fact, these examples demonstrate a phenomenon called force dynamics, which shows "how entities interact with respect to force" (Talmy, 2000, p. 400). As described by Talmy, force dynamics firstly overcomes the drawbacks of the traditional linguistic notion of 'causative' and secondly manifests its roles across a range of language levels (ibid, p. 400).

(20) shi-gu tui er *shang* zhi (LAC: Mozi)
   therefore push CONJ above PRO
   "therefore, push them and make them move to the highest social position."

(21) ji er *shang* zhi (PMC: Hanfeizi)
   stimulate CONJ above PRO

"Stimulate (the water) and make the (water) move to the highest place."

As shown in Figure 6, two entities that exert forces (i.e., TR and LM) appear in the scene profiled by TUI 'PUSH', and these two entities show various properties at each state [6]. For instance, it can be seen that at the initial state, the TR of TUI has the intrinsic force tendency toward rest but the LM exerts a stronger strength which enables the TR to move in the next stage; the force produced by the LM becomes gradually weaker as the TR moves further due to the occurring of a stronger opposing force (e.g., friction). When the two

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6 Following Talmy (2000, p. 414), a TR's tendency toward rest is represented by a dot and a tendency toward action an arrowhead; a plus is placed in the entity that has stronger strength and a minus demonstrates the weaker entity. In accordance with Langacker (1987, p. 245), only a few states are shown explicitly including the initial, intermediate and the final state.

opposing forces reach a balance state, we have the final

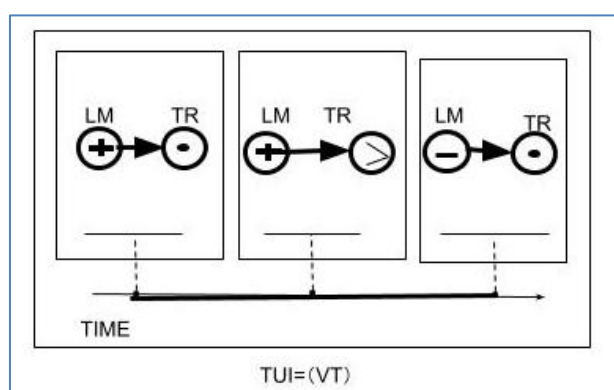state of the TR of TUI stops moving.

Fig-6: The scene of TUI

Our diagram of TUI in Figure 6. only shows the TR moving forward. In fact, the TR could move in other directions after receiving the force from the LM. In other words, the direction of the TR of TUI is unspecified. The scene of *SHANG* we discussed above (see Figure 4) is therefore needed and merged into the scene of TUI (see Figure 7 below). After the merger, the TR of TUI corresponds with the TR of *SHANG*, which enables the intransitive verb *shang* to become a transitive verb expressing the causative meaning of 'making something move to the highest place'. In addition, when combining the two scenes of TUI and *SHANG*, a summary scanning is adopted in which all component states of 'push something and make it move to the highest location' are profiled in parallel. Therefore, they are simultaneously available and constitute a coherent gestalt. It can thus be seen that he overall profile is represented by the final state of the TR being pushed and located at the highest place as shown on the top of Figure 7.

From EMC, the conjunction er 'and' that links the action verb and *shang* was not seen and the object

of the serial verb construction can be omitted as shown in example (22). In MOC, more kinds of verb (such as guan 'close' and zhui 'chase') were used with *shang*, allowing *shang* to acquire the grammatical function of verb complement and express the result of a state as shown in example (23). In CC, the verb complement *shang* tends to lose its original meaning of 'making something arrive at the highest place' and it indicates 'the result of attaching to the highest place' as seen in example (24).

(22) qieyi mian-bei meng *shang* (EMC: NATW)
     secretly use cotton-quilt cover above
  "(He) secretly used (a) cottoned quit to cover (himself)."

(23) guan *shang* nei men (PMOC: RTK)
     close above inside door
  "(Someone) closes the inside door."

(24) wo bei *shang* shu-bao (CC: GF)
     I carry above schoolbag
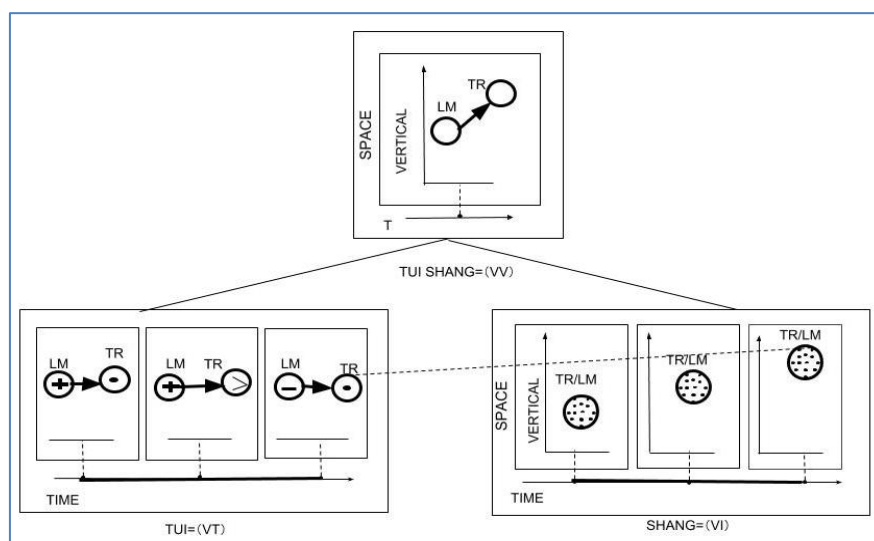 "I carried my schoolbag."

Fig-7: Two scenes of TUI and *SHANG* merge (adapted from Langacker 1987:144&245 and Talmy 2000:414)

4.4   The role of perspective

The chosen perspective in accessing a scene of *SHANG* always interacts with other cognitive processes (e.g., prominence, selection) and together contribute to the meanings of *shang*. The perspectival elements are viewing arrangement and the subcategories it contains: vantage point and orientation (Langacker, 1987, pp. 122-129; 2015, pp. 121-125). The canonical form of a viewing arrangement adopted from Langacker (2015, p. 123) is demonstrated in Figure 8. As seen in the diagram, the interlocutors view the objective scene from the same vantage point offstage. A vantage point

is defined as the location from which a situation is conceived or viewed (Langacker, 1987, p. 123); and the term 'offstage' means that the interlocutors themselves are not the objects of conception. In addition, from a specific vantage point, different orientations are possibly seen, which normally involves "the actual orientation of a scene" and "the canonical orientation" in linguistic structures (ibid, p. 123). The first one relates to the orientation of objects in the visual field at the time of speaking, while the latter pertains to "the normal horizontal/vertical dimensional grid" that we identify with regard to physical things around us (ibid).
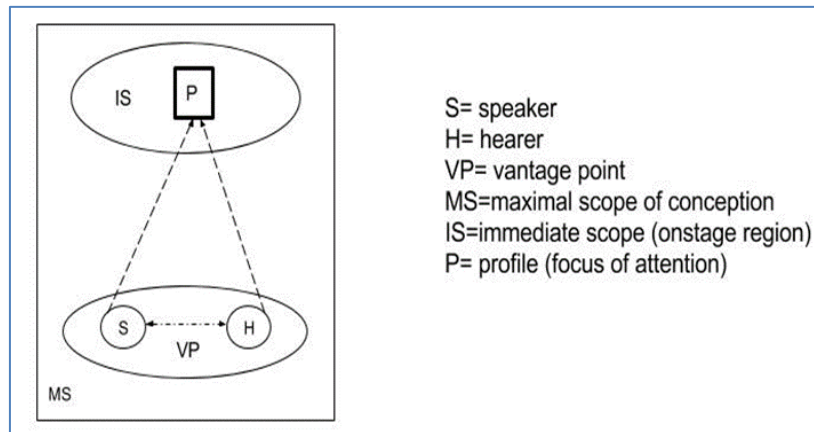
Fig-8: Canonical viewing arrangement (adopted from Langacker 2015:123)

The two meanings of *shang* 'at the front' and 'at the remote time' in examples (25) and (26) are acquired when viewers are located at locations in alignment with the TRs and face towards the TRs as demonstrated in Figure 9 (b). Compared to Figure 9 (a), which indicates a viewer being located on the ground and facing towards the TR, the viewer in Figure 9 (b) is located at a location in parallel with the TR. The different vantage arrangements are reflected in the usages of *shang* in examples (25) and (26). Example (25) has the viewer (the subject 'I' in this case) viewing the TR of *SHANG* from the lowest location on the ground, while example (26) has the viewer (the speaker

in this case) viewing the TR of *SHANG* from a location in parallel with the TR. The meaning 'at the front' is therefore associated with *shang* since the TR of *SHANG* in example (26) is considered as being at a location in front of the viewer. When the domain TIME (due to the domain selection discussed in section 4.1) is selected, *shang* acquires the meaning 'at the remote time' as shown in example (27). This meaning of *shang* is motivated by the fact that the viewer (i.e., usually the speaker) views the TR, represented by the THING of time, from a position in alignment with it, and regards the time the person faces as a past event while the time at the moment of speech as a current event.
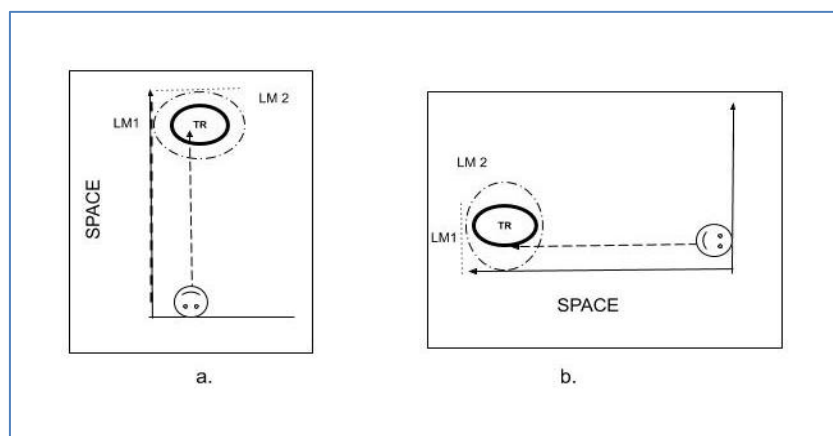
Fig-9: Two viewing arrangements associated with *SHANG* (adapted from Langacker 2015:122)

(25/18) yu wei *shang* di (EAC: The Classic of History)
  I scare above lord,
   "I scared the lord at the highest location."
(26) ze jue *shang* jiang-jun (EAC: The Art of War)
   hence stumble above general
  "The general at the front (of the army) must suffer defeat."
(27) gai *shang* shi chang you bu zang qi qin zhe (LAC: Mencius)
   probably above times once has not bury PRO relative PRO
  "Maybe there once had people at the remote times that did not bury their relatives."

   It is clear that the chosen perspectives take effect on the scenes of *SHANG* in early days (i.e., EAC and LAC). However, two effects of this perspective need to be distinguished. On the one hand, once a perspective is chosen to view the scene of *SHANG*, it consistently figures in the meaning of *shang* without being affected by other cognitive factors in the development (e.g., selection, prominence). Therefore, the role of perspective seems to be less salient on the development of *shang* than other cognitive processes (such as prominence) in periods after LAC. On the other hand, a different perspective in viewing the same scene of *SHANG* can totally change the meaning of *shang*, which makes the role of perspective become essential in this aspect.

4.5 The role of abstraction

   Abstraction belongs to the general category of imagination (Langacker, 2015, p. 137). It is acknowledged that abstraction can refer to a diversity of different phenomena (Langacker, 1987, p. 132). The construal factor 'selection' that has been discussed in section 4.1 can also be regarded as a kind of abstraction since certain domains or properties are omitted from consideration when making the selection. However, we concentrate on the abstractness of a schema with respect to its instantiations, which is different from selection since "a schema may cover all the domains and properties of its instantiations, and schematicity is possible in any kind of domain" (ibid, p. 132). Schematicity relates to "level of specificity" and a schema is abstract (or schematic) in relation to the instantiations that it abstracts away from (ibid, p. 132). Therefore, the term abstraction here means "the loss of information inherent in the formation of any kind of mental representation" (Langacker, 2015, p. 137), which is used to describe a concept or semantic structure that is "impoverished" compared to the rich detail of the experience it relies on. For instance, if I say that a person is at a place, this characterization is schematic in respect to the more precise specification that the person is at the hall, since the latter narrows the values to a more specific place. The latter expression is in turn schematic for at the highest part of the hall, and so on.

In addition, an abstract configuration lacks specifications either in its own properties or when being involved in a specific context (Langacker, 2015, p. 137). For instance, the term locative word is quite limited from both perspectives. On the one hand, its property abstracts away from the unique features that differentiate various kinds of locative words (e.g., a relational noun, a preposition or a locative verb). On the other hand, the term locative word represents a type rather than an instance of that type. The concept TYPE symbolized by the term locative word abstracts away from the outside environments which enable instances of this type to be distinguished and recognized (e.g., this locative word vs. that locative word). In Cognitive Grammar, a type is described as being instantiated by "a distinguishing location in a certain domain" (ibid, p. 137), for instance, the domain of TIME in the case of verbs and the domain of SPACE for normal nouns (Langacker, 1987). By abstracting away from common features of its instances, a type is established. Therefore, both types and instances are imaginative since the first one is formed based on the observation of common experience while the latter one represents different ways of departure from the experience (ibid, p. 137).

   We identify two effects of abstraction on the development of *shang* in both its meanings and grammatical functions. Firstly, in the development, more abstract words are used with *shang*, making the meanings of *shang* become less specific and more intangible. Therefore, it can be seen that in CC *shang* is usually used to indicate abstract meanings such as 'the last', 'being part of', 'going on-line', 'the result of moving up' and 'the result of attaching to' as shown in examples (28) to (32).

(28) *shang* shi-ji (CC: Reportage)
  above century
  "Last century"
(29) hen-duo wen-ti shou-xian biao-xian zai xin-li *shang* (CC: AW)
  many problem first show PRE mind above
  "Many problems first appear in (people's) minds."
(30) san-tian qian *shang* xian shi peng-dao Xu-kai (CC: GF)
  three days ago above line moment meet Xu-kai
  "(I) met Xu-kai three days ago when going on-line."
(31) qun-zi wu-fa la *shang* (CC)
  dress cannot pull above
  "The dress cannot be zipped up."
(32/24) wo bei *shang* shu-bao (CC: GF)
   I carry above schoolbag
   "I carried my schoolbag."

   Secondly, the distinct types that abstract away from instances of *shang* lead to its various grammatical functions. In previous sections (especially in section 4.2), we have shown that, being motivated by different construal factors, there are different usages of *shang*. In

the development, detailed information of each usage is omitted, and common features of the instances are extracted, which enables the occurring of various grammatical types of *shang*: an adjective, a relational noun, an adverb, an adposition, an intransitive verb, a transitive verb and a verb complement.

It is clear that the construal factor of abstraction usually takes place in the development of *shang* later than other cognitive processes. We explain why this might be the case below. It is acknowledged that abstraction is a fundamental concept that works all the time in processing language. The particular notion of abstraction discussed here is exclusively related to language change which involves two aspects: one relates to the selection of an abstract (or target) domain; and the other concerns the abstractness of a schema with respect to its instantiations. It has been shown that the sole selection of one abstract domain without activating the source domain that it is correlated with happens after the correspondence between the two domains is fully established. In addition, the lack of specifications in some meanings of *shang* in CC compared to the usages of *shang* in previous times indicates that abstractness arises after a specific function of *shang* is used frequently in a wider range of context. Furthermore, the types of the grammatical function of *shang* are abstracted away from various instances of *shang* after the effects of various cognitive processes are taken place on *shang*.

5   CONCLUSION

In this article, we have shown the roles of various construal operations on the diachronic development of a locative term *shang* 'above' in both its meanings and grammatical functions. It can be seen that that the change of focus on the profiled element in the scene of *SHANG* can lead to the various usages of *shang* diachronically. As more instances of *shang* occur and are frequently used in various contexts, some meanings acquire their 'unit status' and become part of the locative word *shang*. As has also been illustrated, construal factors all play a part in the diachronic development of *shang*: selection plays an important role in choosing the relevant domain and active zone for *SHANG*; prominence offers a more detail elaboration than selection in terms of the way a scene or two combined scenes of *SHANG* are processed; dynamicity presents its practical role on portraying a temporal process encoded by *shang* and it accounts for a temporal process involving two entities that exert force; perspective can consistently figure in the meaning of *shang* without being affected by other construal operations and abstraction (in the sense of schematicity) takes effect after abstracting away multiple features from various scenes of *SHANG*.

This study offers an insight into the cognitive motivations of language change (particularly semantic change). Three aspects in terms of the role of construal operation are demonstrated. Firstly, each construal factor plays a unique role in motivating the development a linguistic item. Secondly, the particular set of developments for a single word like *shang* would not happen if there were just one construal factor. Thirdly, certain construal factors (like sequential scanning and force dynamics) may work later than other cognitive processes on the development of a morpheme.

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