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A COGNITIVE APPROACH TO SPATIAL METAPHORS
IN ENGLISH AND CHINESE

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Abstract

This research adopts the cognitive linguistic framework developed by Lakoff (1987, 1993) and Langacker (1987, 1997) in carrying out a comparative analysis of spatial metaphors in English and Chinese. By taking the cognitive approach to metaphor, this study is subscribed to the view that metaphorical thinking is part of the cognitive processes through which the human mind conceptualizes the world. By focusing on spatial metaphors for investigation, this study assumes that spatial metaphors, through which many of our fundamental concepts are structured, play an especially indispensable role in our abstract thinking.

The study examines the similarities and differences of the metaphorical extensions of four image schematic concepts, namely UP, DOWN, SHANG and XIA. Two groups of data are collected and analyzed, i.e. lexicographical data obtained from dictionaries and corpora data. Lexicographical data is adopted so that the metaphorical extensions of the four concepts under concern as reflected in the lexicon can be discovered; corpora data is adopted so that the distributions of those metaphorical extensions as reflected in real life English and Chinese can be revealed.

Through both qualitative and quantitative analysis, the study has found out that:
(1) All the four concepts under investigation are mainly used to structure the same four abstract target domains, namely STATES, QUANTITY, TIME and SOCIAL HIERARCHY.
(2) A common tendency emerges from both the lexicographical data and the corpora data, which seems to suggest that in both English and Chinese, upward trajectories are linked with things considered to be desirable in the culture and downward trajectories are linked with things considered to be undesirable in the culture.
(3) For all the four concepts, there has also been noticed an elaboration from vertical dimension to horizontal dimension.
(4) Remarkable similarities mark the metaphorical extensions of UP/DOWN and SHANG/XIA.

The findings of this study suggest that there may exist a common spatial metaphorical system across Chinese and English. The cognitive linguistic claims that our abstract reasoning is at least partially a metaphorical version of image-schematic reasoning and that metaphorical mappings are grounded in our bodily experience are also reinforced.
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A Cognitive Approach to Spatial Metaphors in English and Chinese

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Chapter 1 Introduction

This is a contrastive study of spatial metaphors in English and Chinese carried out within the framework of cognitive linguistics. It is assumed in the study that there exists an intermediate level 'cognition' between language and the physical world (Svorou 1994, Gardenfors 1996a, Geiger & Rudzka-Ostyn 1993, Langacker 1987, Lakoff 1987), and an experiential view towards cognition is adopted. This view, also known as 'experiential realism', hypothesizes that (1) basic-level categories and image schemas are the two kinds of preconceptual structure directly meaningful to us; and (2) one way in which abstract conceptual structure arises from these two kinds of preconceptual structure is by metaphorical mapping (Lakoff 1987: 267-8).

By taking the cognitive approach to metaphor, this study is subscribed to the view that metaphor is essentially a mapping across conceptual domains; that metaphorical thinking is part of the cognitive processes through which the human mind conceptualizes the world; that underlying the numerous linguistic expressions of metaphor, there is a huge coherent system of conceptual metaphors operating without our consciousness and organizing our thinking; that studies of the basic conceptual metaphors of a language can reveal a lot about how the native speakers of that language come to terms with the world.
Since space enjoys a privileged position as a foundational ontological category in language, and since the human conception of space seems to structure other parts of the conceptual system through metaphorical mappings, this study chooses to focus on spatial metaphors, i.e. those metaphors which give a non-spatial concept, such as TIME, a spatial orientation, such as FUTURE IS IN FRONT. By choosing spatial metaphors as the focus of investigation, this research makes the following assumptions:

- Many of our fundamental concepts are structured in terms of spatial metaphors, which are not created out of fancy, but rooted in our physical, social and cultural experience.

- Our physical, social and cultural experience provides many possible bases for spatial metaphors. Which ones are chosen, and which ones become salient, may vary from culture to culture (Lakoff & Johnson 1980: 17-19).

- A contrastive study of spatial metaphors in English and Chinese can thus reveal the similarities and differences between the ways the English and the Chinese conceptualize the world through their SPACE concepts.

Two English space concepts, namely UP and DOWN, and two Chinese space concepts, namely SHANG and XIA, and the metaphorical extensions they have developed, constitute the main research issues of this study. The reason why UP/DOWN and SHANG/XIA are chosen over other spatial concepts like FRONT/BACK (QIAN/HOU) and LEFT/RIGHT (ZUO/YOU) is that evidence from both the evolution of spatial concepts and from children's acquisition of spatial terms seems to suggest that UP/DOWN has priority over FRONT/BACK and LEFT/RIGHT (this point is elaborated in Chapter 3).
Like any other concepts, UP, DOWN, SHANG and XIA remain abstract and elusive, and cannot easily be accessed to except by the lexical items that are used to realize them. It is one of the basic assumptions of cognitive linguistics that "semantic structure is equated with conceptual structure and meaning is assumed to equal conceptualization" (Smith 1993: 531). This makes it possible for the following strategy to be adopted in data collection and analysis: we examine the concepts UP, DOWN, SHANG and XIA through the lexical items which tag each of them respectively.

The database of this research is built up on two resources: dictionaries and corpora. Dictionaries are used in order that the conventionalized metaphorical extensions of the four concepts under concern as reflected in the lexicon can be found out. Corpora are used in order that evidence can also be provided from real life language for the metaphorical extensions of the four concepts and that comparisons between the distributions of the metaphorical extensions in English and Chinese can be carried out.

The research has the following objectives:

- To find out the metaphorical extensions along which UP and DOWN develop.
- To find out the metaphorical extensions along which SHANG and XIA develop.
- To explicate the experiential bases of the metaphorical extensions uncovered on the one hand, and the realizations of those metaphorical extensions in everyday life on the other, which, according to Lakoff (1993: 244), are two sides of the same coin.
- To discover the similarities and differences between the ways the English and the Chinese develop their UP/DOWN and SHANG/XIA concepts via metaphors, and between the ways they conceptualize other domains via their UP/DOWN and SHANG/XIA metaphors.
The study contributes to cognitive linguistic research in three ways. First, it offers a systematic comparative analysis of the metaphorical extensions of the two English concepts and the two Chinese concepts within a cognitive linguistic framework. Second, evidence is provided from the analysis for the cognitive linguistic claim that metaphorical mapping of the image schematic structure of the source domain onto that of the target domain gives rise to abstract concepts and abstract reasoning. Evidence is also provided for the possible existence of a common spatial metaphorical system across Chinese and English. The study also reinforces the claim that metaphorical mappings are not arbitrary, but are grounded in human bodily experience and daily knowledge. Third, the study contributes to research methodology as well: it shows that handled properly, the traditional dictionary-based approach combined with the modern corpus-based approach towards data collection and analysis can be fruitfully exploited in the field of cognitive linguistics, a field which has sometimes been criticized for relying on too narrow a range of data (Stibbe 1996, Kyratzis 1997, Goatly 1997); it also demonstrates how two typologically different languages can be brought together for comparative purposes within a cognitive linguistic framework (Wu 1997).

The thesis proceeds in the following way:

Chapter 2 lays out the historical background of the study, where the Aristotelian approach, the traditional linguistic approach, the pragmatic approach and the interactionist approach to metaphor are briefly discussed. A section is also devoted to biyu studies in China, where some prominent figures in the field over the centuries are briefly reviewed.

Chapter 3 sets up the theoretical framework underlying the cognitive linguistic approach to metaphor, where the experiential basis of cognition, the conceptual nature
of metaphor and the internal structure of metaphor are evaluated. The chapter also has a section on the primacy of space and of spatial metaphors and another section on the image schematic structures of UP/DOWN and SHANG/XIA.

Chapter 4 outlines the research methodology and gives an account of why and how the dictionary-based analysis is combined with the corpus-based analysis. Chapter 5 presents the metaphorical extensions of each of the four concepts and the interplay among them as reflected in the lexicon. Special attention is paid to the experiential grounding and the realizations of those metaphorical extensions detected. The correlations between UP and DOWN and between SHANG and XIA are emphasized. Similarities and differences between the two English concepts and the two Chinese concepts are also highlighted. Chapter 6 reports the findings of both qualitative and quantitative analyses of the corpora data, where the main focus is on finding out the distributions of the different metaphorical extensions as represented in the corpora and on revealing the discrepancies between English and Chinese in this respect. Finally Chapter 7 draws conclusions out of the above findings and points out possible directions future research can pursue.
Chapter 2 The Historical Background

Metaphor has been an object of study since Aristotle and Confucius. In the West there have been many different approaches to metaphor: the Aristotelian approach studies metaphor as a transference of names; the traditional linguistic approach considers metaphor as a deviant phenomenon in language which produces either a false statement or an ungrammatical sentence; the pragmatic approach takes metaphor as a special speech act, to make sense out of which calls for a special set of principles; and finally the interactionist approach understands metaphor as an interaction between two subject systems. In China the dominant approach over the centuries has been the rhetorical approach which studies metaphor as a figure of speech. This rhetorical approach pays special attention to distinguishing metaphor from other figures of speech and to dividing metaphor into incessantly increasing sub-groups. In what follows we will review these different approaches briefly. In doing so we will lay out the historical background against which the cognitive linguistic approach to metaphor is introduced.

2.1 The Aristotelian Approach: Metaphor as a Transference of Names

One of the most frequently quoted sayings of Aristotle on metaphor is the following definition given in *Poetics*: "Metaphor consists in giving the thing a name that belongs to something else; the transference being either from genus to species, or from species to genus, or from species to species, or on grounds of analogy" (*Poetics*...
1457 b 6-9). Three features of this definition are worth special attention (Ricoeur 1977: 16-20):

1. Metaphor is considered as something that happens only to the noun.

In connecting metaphor to noun as against to discourse, Aristotle constrains the direction of the history of metaphor studies for 2,000 years. On the one hand, confining metaphor as one of the "word-focused figures of speech" (Ricoeur: 16) leads to an extreme refinement in taxonomy. On the other hand, the price it carries is also high, because "it becomes impossible to recognize a certain homogeneous functioning that ... operates at all the strategic levels of language -- words, sentences, discourse, texts, styles" (ibid.: 17).

2. Metaphor is defined in terms of a metaphor.

According to the definition, metaphor is a kind of transference, a movement from one location to another. What is significant of this is that it shows that Aristotle created a metaphor to explain metaphor. As Ricoeur puts it, "the definition of metaphor returns on itself" (ibid.: 18). This can be taken as a piece of evidence in support of the contemporary cognitive approach to metaphor, for if we cannot even find a non-metaphoricalical standpoint from which we could look upon metaphor without being influenced by it, it does prove how profoundly metaphor has influenced our thinking.

3. Metaphor is the transposition of a name "that belongs to something else" (1457 b 7).

The exact word Aristotle used is allotrios, which means alien. This term is opposed to ordinary or current, which, according to Aristotle, refers to 'used by everybody' or 'in general use in a country'. The implication is therefore metaphor is neither used by everybody nor in general use in a country, i.e. metaphor is a deviation
from the ordinary mode of working of language. It follows that the use of metaphor is close to the use of strange, ornamental, or coined terms.

Besides his classical definition of metaphor, another most frequently quoted saying of Aristotle is his comment on the mastery of metaphor: "... the greatest thing by far is to have a command of metaphor. This alone cannot be imparted to another: it is the mark of genius, for to make a good metaphor implies an eye for resemblances" (Poetics 1459 a 3-8).

Three false assumptions can be observed from this quotation (Richards 1936: 90):
1. "An eye for resemblances" is a gift that some men have but others have not.
2. The command of metaphor cannot be taught.
3. Instead of the omnipresent principle of all its free action, metaphor remains something special and exceptional in the use of language, a deviation from its normal mode of working.

Richards puts forward his interactionist point of view on the basis of rejecting these false assumptions, to which we shall turn in Section 2.4. Before that, we will take a closer look at two other approaches to metaphor.

2.2 The Traditional Linguistic Approach: The Controversion Theory and the Deviance Theory

The traditional linguistic approach is mainly represented by two theories: the controversion theory and the deviance theory (Mac Cormac 1990 [1985]). Following Aristotle, the major assumption of this approach is that metaphor is a breakaway from the normal function of language; hence it lies outside the interest of linguists; if we are to account for it, special grammatical or semantic rules are needed.
The controversy theory observes that metaphor differs from ordinary language in that a literal reading of a metaphor produces a false statement. For example, in

我是一匹来自北方的狼
(wo shi yipi laizi beifang de lang)
(I be one pi come from north de wolf)
(I am a wolf coming from the north)

the identification of I with wolf is literally impossible: I, as a human being, cannot be equated with a wolf. To avoid this falsehood, the controversy theory suggests that the metaphor must be read speculatively as if it were true or false. To return to the example, the reader/hearer may paraphrase it in this way: I am like a wolf in certain respects and different from it in others. Yet this solution is hardly satisfactory, because first it does not really capture the way the reader/hearer arrives at an understanding, and second it robs the metaphor of most of its suggestive force. The controversy theory thus poses a dilemma for its holders: "either metaphors assert falsehoods or the only legitimate metaphors are the least interesting ones, the ones that collapse into ordinary language..." (Mac Cormac 1990: 29).

The deviance theory claims that metaphors are characterized by their intentional misuse of language in that literally read metaphors are ungrammatical. For example, in "The telephone is my umbilical cord to the world", the semantic feature +animate of the umbilical cord clashes with that of the telephone, -animate, which ends up in an ungrammatical sentence. The deviance theory separates the linguistic world into two categories: ordinary language that operates according to semantic rules and metaphorical language that violates semantic rules. A main weakness of this theory is that it fails to account for the fact that the two worlds are not unrelated because many metaphors are on their way of becoming part of ordinary language (this point is further
elaborated in Chapter 3). Furthermore, ordinary language is so riddled with conventional metaphors and we resort so often to metaphors to organize our thinking that a theory which claims metaphors to be unusual seems to be inherently wrong. After all, when a theory fails to account for a linguistic phenomenon, the theory itself, not the linguistic phenomenon, is to be blamed.

In brief, although insights into the nature of metaphor can be obtained from the controversion theory and the deviance theory, neither is able to walk out of the shadow of Aristotle's classical view, for following Aristotle, they both treat metaphor as something abnormal in language, something of only peripheral interest to linguists.

2.3 The Pragmatic Approach: Metaphor as a Special Speech Act

There have been several different attempts at a pragmatic approach to metaphor. One of such attempts is Mac Cormac (1990 [1985]: 159-179). He suggests that metaphorizing may be considered a special speech act because metaphors not only convey and stimulate meanings but also perform significant actions, such as suggesting, conveying and generating emotions, puzzling and producing perplexity, and forming an intimate bond between speaker and hearer. He then proceeds to develop an outline of a speech act theory adequate to generate metaphors on the basis of Bach & Harnish's (1979) speech act schema.

A recent pragmatic approach to metaphor is found in Goatly (1997), where Goatly introduces Sperber and Wilson's (1986) Relevance Theory as a framework for understanding the pragmatic processes involved in recognizing and understanding metaphor. According to him, metaphorical understanding depends on the processes
and principles involved in the interplay between knowledge of the language system, knowledge of the context, and background schematic knowledge about the world and the society.

A more elaborated pragmatic approach to metaphor is found in Searle (1993 [1979]). According to him, when we hear somebody says "Sally is a block of ice", we know that the speaker does not mean what he/she says literally; instead he/she is speaking metaphorically. Furthermore, we are unlikely to experience much trouble figuring out what he/she means. The problem is how the speaker and we manage to achieve this, how it is possible for the speaker to communicate to us when speaking metaphorically. To reiterate in Searle's pragmatic terms, the question we are trying to answer is "how is it possible for the speaker to say metaphorically 'S is P' and mean 'S is R' when P plainly does not mean R; furthermore, how is it possible for the hearer who hears the utterance 'S is P' to know that the speaker means 'S is R'" (1993: 102).

Searle puts forward a set of principles which he believes are "individually necessary and collectively sufficient" (ibid.: 108) to ensure success in communication in the case of a metaphorical utterance. First, there must be some shared strategies which will allow the hearer to recognize that the speaker does not intend the utterance to be taken literally. The most common strategy is built on the fact that a literal reading of the utterance is defective. Second, there must be some shared principles on the basis of which the P term can be associated with a set of possible values of R. For example, there may be a principle which states that "things which are P are by definition R" or "things which are P are contingently R" (ibid.: 104). Third, there must be some shared strategies with the help of which the speaker and the hearer can restrict the range of possible values of R to the actual value of R.
To return to the example "Sally is a block of ice", Searle's account for it is the following principle: "Things which are P are not R, nor are they like R things, nor are they believed to be R, nonetheless it is a fact about sensibility, whether culturally or naturally determined, that we just do perceive a connection, so that utterance of P is associated in our minds with R properties" (Searle 1993: 105, emphasis mine).

Searle's approach is criticized by Lakoff (1993: 202-251), who argues that the approach is built on a false assumption that sentences containing metaphors are "the products of a real-time process of conversion from literal to metaphorical readings" (ibid.: 219). According to Lakoff, "metaphorical mappings are fixed correspondences that can be activated, rather than algorithmic processes that take inputs and give outputs" (ibid.: 218). When confronting an utterance like "Sally is a block of ice", for example, we do not understand it by first trying to give a literal reading to a block of ice, and then, on failing, trying to give it a metaphorical reading. Instead, the utterance activates a conventional metaphor AFFECTION IS WARMTH together with its fixed set of correspondences between the affection and temperature domains. A block of ice evokes the temperature domain and, since it is predicated of a person, it also evokes common knowledge of what a person can be. Since ice is something very cold which is not warmed quickly or easily, this knowledge is mapped onto Sally as being very unaffectionate and not able to become affectionate quickly or easily. Compared with Lakoff's account, Searle's principle that "we just do perceive a connection" sounds vague and does not say what the perceived connection is or why we just do perceive it. When the details of such perceived connections are spelt out, they turn out to be fixed correspondences underlying a conceptual metaphor.
Taken together, Mac Cormac, Searle and Goatly all try to draw our attention to the pragmatic side of metaphor, especially to how the reader/hearer arrives at an understanding when confronting a metaphorical utterance. Their views have enhanced our understanding of the function of metaphor in communication.

In the above three sections, we have reviewed the Aristotelian approach, the traditional linguistic approach and the pragmatic approach. My own understanding is that metaphor, as a prevalent phenomenon both in ordinary language and in literary writing, certainly deserves investigation from different perspectives: as a rhetorical skill, as a semantic phenomenon, as a pragmatic phenomenon. However, all these different approaches have failed to reveal the full range of complexity in the cognitive processes related to metaphor, hence overlooked metaphor's contribution to human cognition. This picture begins to change with the introduction of the interaction view.

2.4 The Interactionist Approach: Metaphor as an Interaction

The Romantic Poets of the 19th century began to recognize that metaphor is organically related to language as a whole and cannot be separated from it. Coleridge, in particular, recognized metaphor as a powerful tool which enables the mind not just to react to and impose order on the world, but also to shape reality (MacLennan 1990: 42). However, the real breakthrough in the field of metaphor studies came with the publication of Richards' _The Philosophy of Rhetoric_ (1936), where the interaction view is put forward.
Richards argues that the functioning of metaphor is to be detected in nowhere else but within ordinary usage of language; for, contrary to Aristotle's well-known saying that the mastery of metaphor is a gift of genius and cannot be taught, language is "vitally metaphorical" (1936: 90). Without metaphor we would not be able to notice any hitherto unknown relations between things. Not only is metaphor not a divergence from the ordinary operation of language, but it is "the omnipresent principle of all its free action" (1936: 90).

According to Richards, "in the simplest formulation, when we use a metaphor we have two thoughts of different things active together and supported by a single word, or phrase, whose meaning is a resultant of their interaction" (ibid.). He also suggests that the underlying thought be called the tenor and the thought under whose sign the tenor is apprehended be called the vehicle. The simultaneous presence of the two components and the interaction between them engender the metaphor. As a result, the tenor does not remain unaltered because the vehicle is more than wrapping and decoration.

Black (1993 [1962]) develops the interaction view by specifying the interaction between the two components of metaphor. He claims that a metaphorical statement has two distinct subjects, i.e. a principal subject and a subsidiary one. These subjects are to be regarded as "systems" rather than isolated words or predicates. For instance, in "Man is a wolf", what acts as the subsidiary subject is not just the word 'wolf', but a lot of our general knowledge and conventionally held beliefs about wolves. Black refers to all these held knowledge and beliefs as "system of associated commonplaces".

In understanding a metaphor, the system of the subsidiary subject and that of the principal subject interact with each other. During this process the associated
commonplaces of the subsidiary subject organize the principal subject system, selecting, emphasizing, and suppressing features of the latter in the process. To return to the man-wolf metaphor, the associated commonplaces corresponding to wolf, which may include beliefs like wolves prey upon other animals, are fierce, hungry, engaged in constant struggle, etc., organize our view of man. In this process, certain human characteristics, such as walking on two legs, having a highly advanced language to express and organize their thoughts, etc., are pushed into the background, while other human traits that can without undue strain be talked about in 'wolf-language', such as ferocity, possessiveness, are rendered prominent. To put it in a simpler way, "the wolf-metaphor suppresses some details, emphasizes others -- in short, organizes our view of man" (Black 1993: 41).

Black's work brings along significant progress in clarifying the field of metaphor. After him, a few other scholars have also made attempts to elaborate the interaction theory. Among them, there are Mac Cormac (1990 [1985]) who undertakes to offer a formal explanation for metaphor by using the fuzzy set-theory and Indurkhya (1992) who undertakes to set up a new concise framework which can explain how a metaphor can create similarities between its two components.

By maintaining that metaphor is an omnipresent phenomenon of language and by highlighting the interaction between the two components of metaphor, the interaction view has already begun to recognize the cognitive value of metaphor and has paved the way for the emergence of a brand new cognitive approach, which is the focus of Chapter 3.
2.5 Biyu Studies in China

In China, unlike in the West, research into metaphor has never been independent of research into *biyu* as a whole, which explains why in this section I review *biyu* studies, rather than singling out metaphor studies. The Chinese term 比喻 *biyu* covers not only 隐喻 *yinyu* (metaphor), but 明喻 *mingyu* (explicit metaphor, simile) and 借喻 *jieyu* (loan metaphor, which means that there is no mention of the tenor, instead it is described directly as the vehicle) as well. Future studies may reveal that both *mingyu* and *jieyu* operate in essentially the same way as metaphor in organizing our thinking (Mac Cormac 1990, Gibbs 1993), hence it might be a good idea to treat them together at the very beginning.

Research on *biyu* can be dated back to as early as the Pre-Qin era. Since it is impossible to cover the long history of *biyu* studies within a few pages, in what follows we shall concentrate on a few prominent figures whose ideas have had great impact on research into *biyu*.

The earliest definition of *biyu* is found in 《墨子·小取》 (*Mozi: Xiaoqu*): "辟 也者, 举他物而以明之也." ("What is a *bi*? Take another thing to make this point clear.") From this definition we can see what Mozi saw in *biyu* is this value of conveying an idea clearly through comparing it with something else.

Confucius also mentioned *biyu* in his 《论 语·雍 也》 (*Lunyu: Yongye*). When talking about 仁 *ren* (benevolence), he said, "夫仁者, 己欲立而立人, 己欲达而达人, 能近取譬, 可谓仁 之方 也已." ("A benevolent man helps others to take their stand in so far as he himself wishes to take his stand, and gets
others there in so far as he himself wishes to get there. The ability to take as [bi] what is near at hand can be called the method of benevolence"). Hence to Confucius, biyu is an effective way to cultivate virtues in oneself.

From the quotations of Mozi and Confucius, we can see that the term biyu covered a much wider area then than it did later. Aristotle was Mozi and Confucius' contemporary. Comparing his definition with the comments made by Mozi and Confucius, we get the impression that at the very beginning of biyu studies, Chinese philosophers tended to put more emphasis on the function of biyu while the Greek philosopher Aristotle put more stress on revealing the nature of metaphor as transference of names.

The ancient philosophers' broad view on biyu was narrowed down by later scholars. Since the Han Dynasties biyu was linked with poetics and was considered as one of the most important poetic skills. In 《毛 诗 序》(Preface to The Book of Songs) we find the first piece of evidence for this change: "故 诗 有 六 义 焉： 一 曰 风，二 曰 赋， 三 曰 比， 四 曰 兴， 五 曰 雅， 六 曰 颂。" ("There are six skills of writing poems: feng, fu, bi, xing, ya, song.")

The first essay ever written on biyu is found in Liu Xie's (about 465-about 520) 《文 心 雕 龙》(The Literary Mind and the Carving of Dragons). Liu noticed that the most important characteristic of biyu is "写物以附意，扬言以切事者也" ("[a] description of things used to stand for ideas, and the use of figures of speech to intimate the nature of certain facts") (ibid.: 379). He also pointed out that the creation of a good biyu calls for careful observation of the outside world. Only after one has grasped the spirit of the object under description, can one come up with a good biyu.
Chen Kui's 《文则》Wen Ze (1190) is another important classic after Liu. Chen divided biyu into 10 groups, the first of such efforts in history, the 10 groups being: 直喻 zhiyu (straight biyu, simile), 隐喻 yinyu (implicit biyu, metaphor), 类喻 leiyu (category biyu), 诘喻 jieyu (rhetorical question biyu), 对喻 duiyu (proof biyu), 博喻 boyu (abundant biyu), 简喻 jianyu (succinct biyu), 详喻 xiangyu (detailed biyu), 引喻 yinyu (quotation biyu) and 虚喻 xuyu (empty biyu). At the first sight, Chen Kui's division looks impressive. A second sight reveals that there is no general standard underlying it. For example, zhiyu and yinyu differ in their structure, which sets them apart from the rest 8 types which mainly differ in form.

Tang Yue's 《修辞格》Figures of Speech (1923) is the first rhetorical work ever written in modern spoken Chinese and the first work which used the term figure of speech. In his short work, Tang introduced a new concept, 隐比的凝定 yinbi de ningding (conventionalization of yinbi): “隐比习用久了，他的本来比喻的意义就变成他的通常的意义，用的时候读者不觉得是修辞格了” (when a yinbi has been in use for a long time, its metaphorical sense may become conventionalized and it will no longer strike its audiences as a figure of speech) (ibid.: 16). Tang listed the following examples among others:

有 道 you dao (have roads -- have virtues)
世 风 shi feng (world wind -- world customs)
守 节 shou jie (keep bamboo stick -- keep high moral principle)
晓 事 xiao shi (daybreak things -- understand things) (ibid.: 16-17)

When all the above expressions were first put into use, they struck the audience as emotion-arousing yinbi. Yet by now years and years of repetitive uses have made them
conventionalized and they have, as a result, become part of the proper meanings of those characters underlined.

The introduction of the concept "conventionalization of metaphor" may be considered a significant contribution because (1) in this concept, Tang has actually grasped the dynamic nature of metaphor: metaphor is in a dynamic process, with new metaphors on their way of becoming conventionalized; and (2) Tang has also noticed (though he did not say it in explicit words) metaphor is an effective way of extending the meanings of a word or phrase.

Chen Wangdao's 《修辞学发凡》 Introduction of Rhetoric (1932) has been considered as a landmark in modern rhetorical research in China. Chen was very accurate in his wording when giving definition to biyu: “思想的对象同另外的事物有了类似点，文章上就用那另外的事物来比拟思想的对象的，名叫譬喻” (The object of one's thinking finds similarities in another object. One then uses that object to compare with this object) (1932: 77). Chen's major achievement in biyu studies lies in his bringing out the internal structure of biyu. He pointed out that a complete biyu is composed of three parts: 正文 zhengwen (target), 譬喻 piyu (source), 譬喻语词 piyuyuci (marker). On the basis of whether all these three parts are present, Chen distinguished three major types of biyu: (1) 明喻 mingyu (explicit biyu, simile): explicit comparison between the target and the source, in which all the three parts are present; (2) 隐喻 yinyu (implicit biyu, metaphor): a step further than simile, with the relationship between the target and the source closer because of the absence of the marker; (3) 借喻 jieyu (loan biyu): a step further than metaphor, with no mention of
the target, but the source being treated as the target, where both the target and the
marker are absent (ibid.: 77-84).

Among the works worth mentioning since 1949, there are Yuan (1982), Luo (1995)
and Wang (1996). Yuan's originalities lie in her syntactic approach to the phenomenon
of biyu. For example, she distinguishes word/sentence biyu from discourse/text biyu,
and predicate biyu from attributive/adverbal biyu (Yuan 1982: 12-17). Luo (1995) is
apparently built upon Chen (1932). According to Luo, a biyu is composed of four
parts: 本体 benti (target), 喻体 yuti (source), 比喻词 biyuci (marker) and 相似点
xiangsidian (similar points). Compared with Chen, Luo's contribution lies in the
introduction of the fourth component, similar points between target and source. He
notices that in some cases this similarity is brought out straightforwardly while in
other cases it is hidden, resulting in biyu of different aesthetic values.

Wang (1996) is an apparent attempt under Western influence to break away from
the old rhetorical tradition. Wang emphasizes that between a certain source and a
certain target, there are usually numerous similarities, however not all of them are
readily acceptable to a particular culture or society. Hence different cultures may come
up with different biyu. Wang also points out mildly that it might be more worthwhile
to learn from the West and study biyu from a cross-disciplinary and cross-cultural
perspective than to invest all the time in dividing biyu into incessantly increasing
different types.

To sum up, in this chapter we have had a quick review of metaphor studies in the
West and biyu studies in China. From Confucius and Mozi to Tang (1923), Chen
(1932) and Wang (1996), it can be observed that in China biyu research had its origin
in argumentation and began with a really broad view of the term. Since the Han Dynasties, *biyu* research got detached from argumentation and gradually shrank to a classification of figures of speech.

Four different approaches to metaphor in the West are discussed: the Aristotelian approach, the traditional linguistic approach, the pragmatic approach and the interactionist approach. While the first three approaches all treat metaphor as a deviant phenomenon in language and consider it as only of periphery interest to linguists, the fourth approach begins to notice the cognitive nature of metaphor, which eventually leads to the development of the cognitive theory, to which we shall now turn.
Chapter 3 Theoretical Prerequisites

This chapter sets up the theoretical framework of the present research. Since the cognitive approach to metaphor is an important component of cognitive linguistics, which is in turn part of cognitive science as a whole, in the first section of this chapter, we shall have an overview of cognitive science, especially of the three different levels of modeling cognition within current cognitive research, namely the level of symbolic representations, the level of conceptual representations and the level of subconceptual representations. Cognitive linguistic research is carried out on the second level. Section 3.2 narrows the focus to cognitive linguistics, where the main theoretical tenets of cognitive linguistics are set up against the background of generative linguistics. Experiential realism, as the philosophy of cognitive linguistics, and the theory of prototypes, as the cognitive linguistic view towards categorization, are also examined in this section. Section 3.3 narrows the focus still further to the cognitive theory of metaphor and discusses what different nature, structure and properties this theory ascribes to metaphor as against all the other approaches reviewed in Chapter 2. Arguments are also put forward for the experiential grounding and the realizations of conceptual metaphors in everyday life because they will form the basis of data analysis in Chapter 5. Sections 3.4 and 3.5 are devoted to space concepts, image schemas, spatial metaphors and UP, DOWN, SHANG and XIA as image schematic concepts since these form the main research issues of this study.
3.1 Symbolic, Conceptual and Subconceptual Representations of Cognition

Cognitive science has an explanatory goal and a constructive goal. To pursue the first goal, scientists formulate theories to account for different aspects of cognition by studying the cognitive activities of humans and other animals. To pursue the second goal, scientists attempt to construct systems that can accomplish various cognitive tasks by building artifacts like robots and animates (Gardenfors 1996a, 1996b).

A key issue shared by both goals is how to model the representations used by the cognitive system in an efficient way. Within cognitive science, there are presently three major approaches to this problem, viz., the symbolic approach, the conceptual approach and the subconceptual approach (Gardenfors 1996a, b). The symbolic approach starts from the assumption that cognitive systems operate as a computing machine and cognition is essentially computation involving symbol manipulation following a specific set of rules; the semantic content of the symbols has no place in the process. The brain, as the material basis for the symbolic process, is considered as irrelevant to the representation because the same mental state can be realized in a brain as well as in a computer. Thus, the symbolic approach presupposes a functionalist philosophy of mind: "In brief, the mind is conceived of as a computing device, which generates symbolic sentences as inputs from sensory channels, performs logical operations on these sentences, and then transforms them into verbal or non-verbal behaviors as output" (Gardenfors 1998, chapter 2). The early generative tradition in linguistics, which focuses on the syntax of language, belongs to the symbolic paradigm, where language is seen as strings of symbols that can be
processed by different kinds of automata. The main operations are considered to be parsing and generation of strings of symbols according to a set of grammatical rules.

The subconceptual approach maintains that associations between different kinds of information elements carry the main burden of cognitive activities. Connectionism, which uses artificial neuron networks (ANNs) to model associations, is a special case within the subconceptual paradigm. Connectionist systems consist of large numbers of simple but highly interconnected units known as neurons. These units process information in parallel in contrast to most symbolic models where the processing is serial. Each unit receives activity and transmits it to other units. The behavior of the network as a whole is determined by the initial state of activation and the connections between the units. In brief, connectionist representations can be seen as a high-dimensional space of activities of neurons and connections between them.

Both the symbolic approach and the subconceptual approach have shed valuable lights on the mystery of cognition. The former, for example, has given us insights into mathematical reasoning, and the latter has resulted in the development of artificial neuron networks capable of fulfilling some relatively simple tasks, such as vision and motor control. However, when it comes to categorization and concept formation, both the approaches appear inadequate (Langacker 1997, Fauconnier 1996: 188). Recognizing this problem, Gardenfors (1996a, 1996b, 1998), among others (Langacker 1987, 1997, Fauconnier 1996), proposes that a conceptual level be inserted as a bridge between the symbolic and the subconceptual level of modeling representations. According to him, this conceptual level has a potential to solve many of the representational problems that are difficult to handle in models on the symbolic
and subconceptual levels. Langacker (1987, 1997) advocates a similar intermediate stance between connectionist and symbolic modes of processing while presenting his cognitive grammar theory, for this grammar "speaks of 'rules' [following symbolic processing] but interprets them in a manner consistent with connectionist processing" (Langacker 1987: 239). In fact, not only cognitive grammar, but cognitive linguistic research as a whole, is mainly carried out on the intermediate conceptual level, with a goal to identify conceptual components and to elucidate the structure of the complex conceptualizations evoked by linguistic expressions. In a word, cognitive linguistics, different from generative linguistics, belongs to the conceptual paradigm of cognitive science.

Support for positing an intermediate conceptual level for understanding the representational structure of the brain can be gained from neuroscientists on the one hand and cognitive psychologists on the other. For example, Zeeman, as early as in 1977, predicted from a neuroscientist's perspective:

What is needed for the brain is a medium-scale [i.e. conceptual level] theory. The small-scale [i.e. connectionist level] theory is neurology: the static structure is described by the history of neurons and synapses. Meanwhile the large-scale [i.e. symbolic level] theory is psychology: the static structure is described by instinct and memory, and the dynamic behavior is concerned with thinking, feeling, observing [...] . It is difficult to bridge the gap between large and small without some medium-scale link. [...] what is strikingly absent is any well developed theory of the dynamic behavior of the medium-scale [...] (Zeeman 1977: 287).

Mandler (1992), from a cognitive psychologist's stance, in discussing the relation between language learning and concept formation in children, also contends that a level of representation intermediate between perception and language is needed to facilitate the process of language acquisition (587).
To clarify the relationships between the three levels of representation, one can say that the three levels apply to one and the same biological cognitive system, i.e. the brain, but from different perspectives. For example, the detection of visual features can be described in terms of neural associations in the relevant areas of the visual cortex at the subconceptual level; topographic mappings in the superior colliculus between spatial representations from different sensory modalities can be described at the conceptual level; and how damages in Broca's area block the production of certain grammatical features can be accounted for at the symbolic level (Gardenfors 1996a, b).

In brief, we can describe the activities taking place in the brain on different scales. On a subconceptual level, mechanisms that make dendrites grow to establish new connections to other neurons can be studied and simulated in artificial neuron networks. However, for more complex cognitive processes like categorization or concept formation, the subconceptual level is too fine-grained to be of constructive value, hence higher level organization among neurons is to be searched for. This leads us to the conceptual level, where large regions of the brain can be seen as geometrical structures which correlate with the level of conceptual representations. Finally, for some even more complicated cognitive feats like language processing or logical reasoning, it is necessary to leave the neuronal perspective entirely and view the brain as a symbol processor, which is what the symbolic level can offer (Gardenfors 1996a, b, 1998).
3.2 The Cognitive Linguistic Paradigm

In this section, we shall take a closer look at the field of cognitive linguistic research, which, as pointed out in the previous section, is mainly carried out on the conceptual level of representation. However, before we do that, it is necessary to have a very brief review of the theory of prototypes and basic-level categories because, as we shall see, cognitive linguistics is built on this revolutionary theory towards categorization as against the traditional objectivist view.

3.2.1 The Theory of Prototypes and Basic-level Categories

The traditional objectivist view holds that categories are defined in terms of common properties of their members and membership in a category is a matter of all or none. But a wealth of new data on categorization appears to contradict this view. In its place there is an alternative view of categorization termed as 'the theory of prototypes and basic-level categories' by Rosch (1973, 1974, 1975a, 1975b, 1977, 1978). Rosch explores the formation of categories in many different cultures and finds in them universal adherence to certain common prototypes. These prototypes describe a basic category in terms of a family of resemblance rather than by means of a series of attributes. Membership in a category is not a matter of whether it has got all the attributes required, but is determined by the perceived distance of resemblance of the entity to the prototype.
For example, experiments show that robins are conceived of as very close to the prototype for the category of bird. Turkeys and penguins, on the other hand, are conceived of as much farther away from the prototype. That explains why the average language user considers turkeys and penguins as less representative of the concept of being a bird.

Rosch also believes that the world provides us with structured information. Basic objects that have salient features present natural basic-level categories. These basic-level categories have a level of abstraction that presents the maximum information with the least cognitive effort. Above basic-level categories there exist superordinate categories, which are more abstract and more comprehensive. Below basic-level categories there stand subordinate categories, which are less abstract and less comprehensive. For example, bird may be considered a basic-level category. Superordinate to it is the category of animal. Subordinate to it is the category of sparrow, swallow, etc..

Relationships among basic-level categories, superordinate categories, and subordinate categories form a structured hierarchical organization of language in terms of which we understand and interpret the world. Basic-level categories which derive their existence from basic objects are of crucial importance to this hierarchy. They represent "the ways in which nature is perceived to cut itself at its own joints" (Mac Cormac 1990 [1985]: 96).

As Lakoff (1987: 57. See also Lakoff 1991, 1993, 1994) observes, prototype effects occur not only in nonlinguistic conceptual structure, but in linguistic structure as well. This is because linguistic structure makes use of general cognitive apparatus
and linguistic categories are kinds of cognitive categories. The cognitive linguistic approach to categorization, as an attempt to make sense of the basic claims of prototype theory, is motivated by

- a need to understand what kinds of prototype effects there are in language and what their sources are;
- a need to account for categorization not merely for physical objects but in abstract conceptual domains as reflected in language — emotions, spatial relations, social relationships, etc.;
- a need for appropriate theoretical and philosophical underpinnings for prototype theory (Lakoff 1987: 56-57).

3.2.2 An Overview of Cognitive Linguistics

3.2.2.1 Divergence of Cognitive Linguistics\(^1\) from Generative Linguistics

The development of cognitive linguistics stems from a very basic assumption now generally held by linguists, psychologists and cognitive scientists, namely that "in the relationship between language and the physical or objective world there exists an intermediate level 'cognition'" (Svorou 1994). Basically initiated with the writings of Leonard Talmy (1975), this new cognitive movement is further established by the more or less simultaneous publication in 1987 of George Lakoff's *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind* and Ronald Langacker's *Foundations of Cognitive Grammar: Theoretical Prerequisites*, two seminal books which have become landmarks in the new field.

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\(^1\) A common misunderstanding of cognitive linguistics is that since it is called 'cognitive', it should tell us how the mind and the brain function in performing various cognitive tasks, just like cognitive psychology, cognitive neurology, neurobiology do. Yet what cognitive linguistics is actually doing is to account for different aspects of language based on the findings about the mind and the brain made by other branches of cognitive science. It is still a study of language, but from a cognitive perspective. See also Fesmire 1994 and Zhang 1998 for what is 'cognitive' about cognitive linguistics.
Cognitive linguistics is established against the background of the mainstream generative linguistics. It departs from the latter in both commitments and background assumptions. Generative linguistics makes a distinction between competence and performance and keeps its focus on the former, i.e. on the internal representation of rules that generate grammatical sentences in the ideal speaker-hearer. It begins with the assumption that syntax is autonomous. The possibility that semantics and communicative function might play a necessary role in stating syntactic generalizations is ruled out a priori. This follows from the Chomskyan commitment "to describe language in terms of the mathematics of symbol manipulation systems. The subject matter of this form of mathematics is the manipulation of abstract symbols without regard for what the symbols mean and without regard for anything outside the symbol manipulation system" (Lakoff 1991: 54).

Cognitive linguistics, on the other hand, is committed to making its account of human language accord with what is generally known about the mind and brain from disciplines like cognitive and developmental psychology, cognitive anthropology, and neurobiology. Such knowledge includes the existence of basic-level categories and conceptual prototypes from psychology; the nature of color perception and categorization from psychology, anthropology and neurobiology; and the relationship between mental imagery and language from psychology (Lakoff 1991: 54).

Unlike generative linguistics, cognitive linguistics argues on empirical grounds that aspects of general cognition, semantics, and communicative function enter into the statements of general principles governing syntactic phenomena. Indeed it has studied cases where that occurs. For example, functional linguistics, as a branch of
cognitive linguistics, primarily studies the area of how communicative function plays a role in generalizations governing syntactic phenomena (Lakoff 1991: 55).

Another way in which cognitive linguistics differs from generative linguistics is the different roles they ascribe to metaphor. According to generativists, metaphor is deviant from and parasitic upon normal language and cannot be studied in any reasonable or systematic way. According to cognitive linguists, however, metaphor is a prevalent phenomenon in language; metaphor is systematic in that one common conceptual metaphor can produce numerous metaphorical expressions and different conceptual metaphors build up a huge coherent system; metaphor is also cognitive in nature in that as a way of conceptualization, it partially structures many abstract concepts through mapping concrete concepts onto them (Lakoff & Johnson 1980, Lakoff & Turner 1989, Lakoff 1993).

The main points of divergence between cognitive linguistics and generative linguistics are succinctly summarized by Taylor (1989): "Whereas generativists regard knowledge of language as an autonomous component of the mind, independent, in principle, from other kinds of knowledge and from other cognitive skills, cognitivists posit an intimate, dialectic relationship between the structure and function of language on the one hand, and non-linguistic skills and knowledge on the other" (Taylor 1989: viii). Cognitive linguistics claims that natural language is a product of the human mind, based on the same organizing principles that operate in other cognitive domains. Language, being at once both the creation of human cognition and an instrument in its service, is considered to stand a very good chance to reflect more general cognitive abilities in its structure and functioning.
Although recent cognitive linguistic research is of great diversity with respect to the analytical tools used, the points emphasized, and the perspectives adopted, there is nevertheless a set of common views on language and cognition which lends coherence to this research and justifies our talking about the cognitive paradigm (Geiger & Rudzka-Ostyn 1993: 1). Following are some of these views:

- As one domain of human cognition, language is intimately linked with other cognitive domains and as such mirrors the interplay of psychological, cultural, social, ecological, and other factors; thus, a fuller understanding of this linkage cannot be effected without interdisciplinary research;
- linguistic structure depends on (and itself influences) conceptualization, the latter being conditioned by our experience of ourselves, the external world and our relation to that world;
- language units are subject to categorization which commonly gives rise to prototype-based network; much of it critically involves metaphor and metonymy;
- the meaning of a linguistic unit is a conceptual structure conventionally associated with this unit; an essential aspect of it is imagistic, i.e. relating to the particular mental construal (favored over other possible construals) of the given situation or object.

(Geiger & Rudzka-Ostyn 1993:1)

3.2.2.2 The Three Approaches within Cognitive Linguistics

In terms of the different perspectives taken towards language and cognition, current cognitive linguistic research may be said to be represented by three main approaches: the experiential view, the prominence view and the attentional view (Ungerer & Schmid 1996: xi-xiv). The present study, which takes a cognitive approach to metaphor, belongs to the experiential view. This view is built upon psychological studies of cognitive categories which lead to the prototype model of categorization. According to this view, in linguistic research, instead of postulating logical rules and objective definitions on the basis of theoretical considerations and
introspection, a more practical and empirical path should be pursued. For example, one can carry out experiments or personal interviews to ask language users to describe what is going on in their minds when they produce and understand words and sentences. Non-objective experiential aspects of meaning emerge out of these experiments and interviews, providing a much richer and more natural description of the meanings of the words or sentences concerned. The experiential view also holds that since our shared experience of the world is stored to a great extent in our everyday language, it can thus be gleaned from the way we speak. However, in order to achieve this, one has to go beyond the 'logic' of clause patterns and investigate figurative language, especially metaphors. As a result, metaphors have joined experiments and interviews as the second major basis of the experiential approach. Following this approach, the key of metaphor is to transfer our experience of well-known objects and events to less familiar categories, especially abstract categories like time, emotions, etc.. Metaphors are no longer considered ornamental devices used in rhetorical style, but "powerful cognitive tools for our conceptualization of abstract categories" (Ungerer & Schmid 1996: 114). This point will be further elaborated in Section 3.3.

The prominence view advocates that "the selection of the clause subject is determined by the different degrees of prominence carried by the elements involved in a situation" (Ungerer & Schmid 1996: xii. See also Langacker 1987). This view is built upon findings in psychological research concerned with how our visual and auditory input is organized in terms of the prominence of the different parts. Of particular importance to this view is the notion of figure/ground segregation. When
we look at an object in our environment, for example, a mug on a desk, we normally single the mug out as a perceptually prominent figure standing out from the ground, i.e. the desk (Ungerer & Schmid 1996: 156). When we listen to a piano concert, we will not experience much difficulty in distinguishing the part played by the piano as being more prominent than the accompaniment of the orchestra. According to the prominence view, the same principle of prominence is valid in the structure of language. For example, the traditional subject-verb-complement pattern of a simple clause can be understood as a reflection of the general cognitive principle of figure/ground segregation. To put it more pointedly: in a simple transitive clause, the subject corresponds to the figure, the object to the ground, and the verb expresses the relationship between figure and ground (Langacker 1990, 1991).

The third main approach, the attentional view, is based on the assumption that what we actually express reflects which parts of an event attract our attention. This view provides an alternative approach to account for how the information in a clause is selected and arranged. The main descriptive devices of this approach are the notions of frame and perspective. Frame is defined as 'cognitive structures ... knowledge of which is presupposed for the concepts encoded by the words' (Fillmore & Atkins 1992: 75). Perspective refers to the special cognitive view on a situation that a sentence evokes by the choice of the verb and the particular syntactic pattern that it governs.

To sum up, there are three main approaches within the cognitive linguistics paradigm, namely the experiential view, the prominence view and the attentional view. The cognitive theory of metaphor, which is the theoretical framework of the present study, belongs to the experiential view.
3.2.2.3 The Two Components of Cognitive Linguistics

As pointed out by Yu (1996) and recognized by Gardenfors (1998), cognitive linguistics may be said to be composed of two parts: cognitive grammar (Langacker 1987, 1988, 1991) and cognitive semantics (Johnson 1987, 1991, 1993, Lakoff 1987, 1988, 1991, 1993, 1994, Sweetser 1990, Turner 1991, Gardenfors 1996a, 1996b, Fauconnier 1996). Cognitive Grammar aims to model the linguistic system by linking the semantic or conceptual pole and the structural pole of linguistic symbols. It is unique among linguistic grammars in that "it attempts to fully integrate phonetics and phonology, next to syntax and semantics, not just as a loosely attached additional component, but as an inherent part which operates on exactly the same principles as the other parts of the overall system" (Nuyts 1993: 270). More significantly, it is probably "the first seriously developed linguistic grammar which attempts to implement both semantic or conceptual structure and linguistic structure and the relationship between the two" (ibid.), for most other linguistic grammars only implement linguistic structure, even if they take into account semantic criteria.

Cognitive semantics, on the other hand, is a study of the relation between the words or expressions of a language and a conceptual structure. It departs from traditional truth conditional semantics in their different understandings of meaning. The latter holds that meaning exists in the objective world and that language derives meaning from reference to objects in this world. The main objective of traditional semantics is to formulate truth conditions for the sentences in the language so that
they can mirror the outside world as closely as possible. A consequence of this approach is that the meaning of an expression is considered independent of how individual users understand it. The ontological setting of traditional semantics is captured by Figure 3.1 (Gardenfors 1996b):

![Figure 3.1 The ontology of traditional semantics](image)

*Figure 3.1 The ontology of traditional semantics*
(after Gardenfors 1996b)

In contrast to this, cognitive semantics hypothesizes that meanings are elements of the conceptual structure in the heads of the language users, that they exist only through reference to a conceptualization of the world. Language itself is seen as part of the conceptual structure, not an entity with independent standing. The framework of cognitive semantics can be illustrated as in Figure 3.2 (Gardenfors 1996b):

![Figure 3.2 The framework of cognitive semantics](image)

*Figure 3.2 The framework of cognitive semantics*
(after Gardenfors 1996b)

One of the topics cognitive semantics has focused on is the relation of language to space conceptualization, and specifically, the linguistic categorization of spatial

Another interest of cognitive semantics is in capturing the relationships which hold among different senses of a morpheme through metaphorical and metonymic extensions (Brugman 1981, Lakoff 1987: 416-461, Kreitzer 1997, Lindner 1981, Morgan 1997). This stems from the basic assumption of cognitive linguistics that "the meaning of a linguistic unit is a conceptual structure conventionally associated with this unit" (Rudzka-Ostyn 1993: 1) and that the organization of the conceptual structure depends to a large extent on metaphor and metonymy.

The present study, which is a cognitive approach to conceptual spatial metaphors through their linguistic expressions, fits into the mainstream of cognitive semantic research.

To sum up, three points have been covered in the three sub-sections of 3.2.2: the divergence of cognitive linguistics from generative linguistics; the three different approaches to language within cognitive linguistics, namely the experiential view, the prominence view and the attentional view; and lastly the two main components of cognitive linguistics, i.e. cognitive grammar and cognitive semantics. The cognitive theory of metaphor fits into the experiential view on the one hand, and is an integral
part of cognitive semantics on the other hand. It will be examined in the rest of the chapter.

3.2.3 Experiential Realism: The Bodily Basis of Cognition

Experiential realism is the philosophy of cognitive linguistics and it represents the cognitive linguistic view of the nature of conceptualization. It is an attempt "to characterize meaning in terms of the nature and experience of the organisms doing the thinking" (Lakoff 1987: 266). The term 'experience' is not to be taken in the narrow sense of the things that have happened to a single individual; instead it refers to the totality of human experience: the nature of our bodies, our genetically inherited capacities, our modes of physical functioning in the world, our social organization, etc..

Experiential realism is set up against a traditionally pervasive view of human categorization and conceptualization called the 'objectivist' position. Roughly, objectivism claims that

(1) reason is abstract and 'disembodied' or 'transcendental': it exists independently of an individual and is thus not determined by his/her properties;
(2) knowledge is mainly propositional and is objectively true or false, meaning being a matter of direct correspondence of a concept to the outer world;
(3) categories are built on the basis of properties inherent in things in the world, membership in a category being a matter of all or none, and properties being necessary and sufficient conditions for defining a category (Nuyts 1993: 273-4).

In contrast to this, experiential realism claims that

(1) thought is 'embodied': it is grounded in our perception and determined by the characteristics of our physical apparatus and our social environment;
(2) thought is largely imaginative, based on the principles of metaphor and metonymy, and on imagery, and goes far beyond mirroring the outer world;
(3) categorization is based on [idealized] cognitive models which involve specially salient basic-level categories and which generate prototype effects (ibid.).

The most important idea of experiential realism is 'embodiment'. It argues that "conceptual structure is meaningful because it is embodied, that is, it arises from, and is tied to, our preconceptual bodily experiences" (Lakoff 1987: 267). To put it in another way, conceptual structure exists because preconceptual structures exist; conceptual structure is understood because preconceptual structures are understood; conceptual structure takes its form from preconceptual structures.

Lakoff (1987) distinguishes two kinds of preconceptual structures. The first kind is basic-level categories, which are "defined by the convergence of our gestalt perception, our capacity for bodily movement, and our ability to form rich mental images" (267). The second kind is image schemas, i.e. basic notions such as CONTAINER, PATH, LINK, FORCE, BALANCE, UP-DOWN, FRONT-BACK, PART-WHOLE, and CENTER-PERIPHERY, which "constantly recur in our everyday bodily experience" (ibid.). These two kinds of preconceptual structures are directly meaningful to us because they are directly and repeatedly experienced as a result of the nature of the body and its mode of functioning in the physical and social environment.

Other, more abstract conceptual structures are indirectly meaningful. They are understood because of their systematic relationship to directly meaningful preconceptual structures. They arise from basic-level and image-schematic structures in two ways, either "by metaphorical projection from the domain of the physical to abstract domains" or "by the projection from basic-level categories to superordinate and subordinate categories" (268).
Since both image schemas and the principles that determine basic-level concepts should be common to all human beings, it follows that experiential realism rules out total relativism. However, since different peoples may utilize different projections from physical domains to abstract domains, or from basic-level categories to superordinate and subordinate categories, limited relativism is permitted within experiential realism.

Another important notion of experiential realism is 'Idealized Cognitive Models', or ICMs. According to Lakoff, ICM is the basic way we organize our knowledge, and "category structures and prototype effects are by-products of that organization" (68). An ICM is roughly equivalent to Langacker's (1987) cognitive domain, Fillmore's (1982) frame, Fauconnier's (1985) mental space and Gardenfors' (1996a, 1996b) conceptual space. It is a type of knowledge base or structured conceptual complex relative to which a notion is characterized. For example, bachelor presupposes the conception of a society in which everyone is expected to marry soon after reaching a certain age; weekend can be defined only relative to an ICM that includes a notion of a work week of five days followed by a break of two days, superimposed on the seven-day calendar.

Each ICM is a complex structured whole, a gestalt, which employs four different structuring principles. Some, like that for bachelor, is supposedly represented in a propositional format. Other ICMs employ abstract image schemas, such as the UP-DOWN or FRONT-BACK schema. Also counted as structuring principles for ICMs are metaphoric mappings, where one domain is understood in terms of another (e.g.
LOVE IS A JOURNEY), and metonymic mappings, where a sub-model is used to understand the category as a whole.

In brief, experiential realism proclaims that

(1) there are two kinds of preconceptual structures which are directly meaningful to us as a result of the nature of the body, i.e. basic-level categories and image schemas. They give rise to more abstract conceptual structures partially through metaphorical projections; it is in this sense that conceptual structure is embodied;

(2) we organize our knowledge by means of structures called ICMs; one of the structuring principles for ICM is metaphorical mappings.

Thus, in both the two most important notions of experiential realism, namely embodiment and ICM, metaphor has an indispensable role to play. This is why the cognitive theory of metaphor has become an integral part of cognitive linguistics, to which we shall now turn.

3.3 The Cognitive Approach to Metaphor

In Chapter 2, we have reviewed four different approaches to metaphor: the Aristotelian approach, the traditional linguistic approach, the pragmatic approach and the interactionist approach. Two common assumptions made by the first three approaches are (1) metaphor is a deviant phenomenon in language; (2) as a purely linguistic matter, metaphor is viewed as dispensable: if one has something to say, one can presumably say it straightforwardly without metaphor; if one chose metaphor it would be for some special rhetorical or communicative purpose.
The interactionist approach abandons these two assumptions and begins to recognize the cognitive value of metaphor, thus paves the way for the emergence of the cognitive theory. Apart from the efforts made by the interactionists, Nietzsche, Shelley (Cooper 1986), Werner, Cassirer (Dirven 1985), and Reddy (1993 [1979]) had all reflected on metaphor as a cognitive phenomenon from the perspectives of philosophy, literary criticism, psychology, anthropology and linguistics respectively. But the work which marks the establishment of the cognitive approach to metaphor is Lakoff & Johnson's *Metaphors We Live By* (1980). Over the past decade and a half, this approach has been developed by George Lakoff and his colleagues in a considerable amount of research (Lakoff & Johnson 1980, Lakoff 1987, 1990, 1993, 1994, Johnson 1987, 1991, Lakoff & Turner 1989, Turner 1991, 1993, Yu 1995, 1996, Kovecses 1986, 1990). The basic claims of this approach can be summarized along the following lines:

(1) Metaphor is ubiquitous: it is a prevalent phenomenon in ordinary language.

Metaphor in poetry is not a distinctly different phenomenon from metaphor in ordinary language. Rather, poetic metaphor exploits and enriches the everyday metaphors available to any competent speaker of the language.

(2) Metaphor is conceptual in nature: it is not a figure of speech, a linguistic object. It is more accurately a figure of thought, a conceptual or cognitive organization expressed by the linguistic object.

(3) Metaphor is systematic: one common metaphorical concept may give rise to numerous linguistic expressions; different metaphorical concepts form a coherent network which underlies both our speech and our thoughts.
(4) Metaphor is composed of two domains, a relatively more clearly structured source domain and a relatively less clearly structured target domain. It is a mapping of the schematic structure of the source domain onto that of the target domain.

(5) Metaphorical mappings are not arbitrary but are grounded in our bodily experience. Once a metaphorical mapping is set up, it will then impose its structure on real life and be made real in different ways.

In what follows, we shall take a closer look at the above claims of the cognitive theory of metaphor. Section 3.3.1 mainly focuses on the first three claims, namely the ubiquity of metaphor, the conceptual nature of metaphor and the systematicity of metaphor. The fourth claim concerning the internal structure of metaphor is examined in Section 3.3.2. The fifth claim concerning the experiential grounding of metaphor is discussed in Section 3.3.3.

3.3.1 The Main Characteristics of Metaphor

3.3.1.1 The Ubiquity of Metaphor

The ubiquity of metaphor has been noticed by many researchers. Gibbs (1994) provides the following evidence:

- One historical analysis of the metaphors used in American English prose from 1675 to 1975 reveals significant metaphorical activity in each of the six 50 year periods considered.

- One empirical study examines the metaphors found in transcripts of psychotherapeutic interviews, various essays, and the 1960 Kennedy-Nixon
presidential debates. A simple frequency count reveals that people used 1.80 novel and 4.08 conventional metaphors per minute of discourse. If one assumes that people engage in conversation for as little as 2 hours per day, a person would utter 4.7 million novel and 21.4 million conventional metaphors over a 60 year life span.

- One recent analysis of the metaphors produced in television debates and news commentary programs shows that speakers use one unique metaphor for every 25 words.

Lakoff & Johnson (1980) provide evidence for the prevalence of metaphor from the analysis of a large number of everyday utterances. Through exemplification and examination, they have demonstrated that common expressions like "Is that the foundation for your theory?", "The theory needs more support", "The argument is shaky", and "The argument collapsed", are actually linguistic manifestations of a conceptual metaphor THEORIES ARE BUILDINGS; and expressions like "What he said left a bad taste in my mouth", "I just can't swallow that claim", "That argument smells fishy", "Let me stew over that for a while", reflect another conceptual metaphor IDEAS ARE FOOD.

McNeill (1992) highlights the ubiquity of metaphor from still another point of view, i.e. by investigating metaphors underlying gestures which accompany one's speech. For example, in saying "I see another proof in it", the speaker's right hand index finger points forward and down. This gesture appears to point to an object in space or possibly represents the process of looking, suggesting the metaphor 'Understanding Is Seeing'. In saying "trying to figure out what to do", the speaker's
both hands form cups, alternating up and down. This gesture seems to involve the hands hefting two objects, suggesting the metaphor 'Choosing Is Weighing'.

Taken together, these analyses demonstrate that metaphor is not the special privilege of a few gifted speakers but is ubiquitous throughout both written and spoken discourse and perhaps underlies our thinking as well.

3.3.1.2 The Conceptual Nature of Metaphor

To explicate the conceptual nature of metaphor, we shall examine the concept ARGUMENT and the conceptual metaphor ARGUMENT IS WAR (Lakoff & Johnson 1980: 4) as an example. This metaphor underlies a wide variety of expressions in our everyday language. For example:

ARGUMENT IS WAR
Your claims are indefensible.
He attacked every weak point in my argument.
His criticisms were right on target.
I demolished his argument.
I've never won an argument with him.
(Lakoff & Johnson 1980: 4)

What is to be noticed is that we do not just talk about arguments in terms of war, but we do our arguing and construe the concept ARGUMENT through the concept of war. Thus we see the person we are arguing with as an opponent; we defend our own positions and attack his; we gain ground when we win arguments and lose ground when losing arguments; we also plan and use strategies while arguing. It is in this sense that we say the conceptual metaphor ARGUMENT IS WAR structures what we do and how we understand what we are doing when we argue. To put it in another
way, we talk about arguments in terms of war because we conceive of arguments through our concept of war, and we act according to the way we conceive of things.

To appreciate this point better, let us try to imagine a culture where an argument, instead of being viewed in terms of war, is viewed as a dance. Accordingly, the participants of an argument are seen as performers rather than fighters, and the goal is to perform in a balanced and aesthetically pleasing way rather than to win. People from such a cultural background would view, experience, carry out and talk about arguments in a different way from the English, and the difference would arise from the two different conceptual metaphors: ARGUMENT IS WAR versus ARGUMENT IS DANCE.

Not only is the concept ARGUMENT structured by the metaphor ARGUMENT IS WAR, but many other abstract concepts like LIFE, LOVE, IDEAS, THEORIES are structured by conceptual metaphors like LIFE IS A PLAY, LOVE IS A JOURNEY, IDEAS ARE FOOD, THEORIES ARE BUILDINGS. In brief, metaphor is not just a linguistic phenomenon, but is conceptual in nature; metaphorical expressions are possible because there exist metaphorical concepts in our conceptual system.

3.3.1.3 The Systematicity of Metaphor

Conceptual metaphors do not operate in isolation from each other. Rather "metaphorical entailments can characterize a coherent system of metaphorical concepts and a corresponding coherent system of metaphorical expressions for those
concepts" (Lakoff & Johnson 1980: 9). The systematicity of metaphor is reflected in three conceptual metaphors of TIME, as the following examples show:

**TIME IS MONEY**
How do you spend your time these days? 
That flat tire cost me an hour.

**TIME IS A LIMITED RESOURCE**
You don't use your time profitably.
You are running out of time.

**TIME IS A VALUABLE COMMODITY**
I don't have the time to give you.
Thank you for your time. (Lakoff & Johnson 1980: 7-8)

**TIME IS MONEY, TIME IS A LIMITED RESOURCE, and TIME IS A VALUABLE COMMODITY** are all metaphorical concepts in that they capture the way we use our everyday experiences with money, limited resources, and valuable commodities to conceptualize time. Furthermore, together they form a coherent system since in our society money is a limited resource, which is in turn a valuable commodity. We might say that TIME IS MONEY entails that TIME IS A LIMITED RESOURCE, which entails that TIME IS A VALUABLE COMMODITY.

### 3.3.2 The Internal Structure of Metaphor: Metaphor as a Mapping Across Domains

In the previous section, we have examined three main characteristics of metaphor, namely the ubiquity of metaphor, the conceptual nature of metaphor and the systematicity of metaphor. This section focuses on the internal structure of conceptual
metaphor as a mapping across domains. First, we clarify the meaning of mapping. Fauconnier (1997: 1) points out that "mappings between domains are at the heart of the unique human cognitive faculty of producing, transferring, and processing meaning". In a mathematical sense, a mapping is "a correspondence between two sets that assigns to each element in the first a counterpart in the second" (ibid.). The importance of mappings has been acknowledged in both cognitive psychology and cognitive anthropology. Recent work in neurobiology has also stressed the importance of physically instantiated mappings and connections between areas of the brain (ibid.: 13).

Fauconnier (1997: 9-11) distinguishes three classes of mappings. The first class is projection mappings, which project part of the structure of one domain onto another. The general idea is that in order to talk and think about some target domains we use the structure of some source domains and the corresponding vocabulary. This kind of mappings plays an important role in structuring our knowledge base and provides means of structuring abstract concepts via concrete concepts. Most metaphorical mappings belong to this group. The second class is pragmatic function mappings, where the two relevant domains typically correspond to two categories of objects and are mapped onto each other by a pragmatic function. For example, institutions are matched with the buildings they occupy, and customers are matched with the food they order. Metonymic mappings belong to this second group. The third class of mappings is called schema mappings. They operate when a general schema, frame, or model is used to structure a situation in context. Lakoff's (1987) ICMs, i.e. idealized
cognitive models which organize our knowledge base, can be viewed as a form of schematic mapping.

Regarding the internal structure of metaphors, the cognitive approach claims that a conceptual metaphor is composed of two parts: the target domain and the source domain; the cognitive force of the metaphor lies in the mapping of the schematic structure of the latter onto that of the former; this mapping occurs at the conceptual level and is systematic in that there is a fixed set of correspondences between the structure of the target domain and the structure of the source domain; this mapping is not arbitrary in that it is constrained by the Invariance Principle (Lakoff 1993a: 215. See also Lakoff 1990, 1994, Turner 1990, 1992, 1993): "Metaphorical mappings preserve the cognitive typology (that is, the image-schema structure) of the source domain, in a way consistent with the inherent structure of the target domain".

Consider an example:

All the world's a stage,
And all the men and women merely players.
They have their exits and their entrances;
And one man in his time plays many parts.
(As You Like It 2.7)

Underlying this famous passage from Shakespeare is a very basic conceptual metaphor LIFE IS A PLAY, with LIFE being the target domain, and PLAY the source domain. PLAY has a rich internal structure, with components like actors, make-up, costume, a stage, scenery, setting and lighting, audiences, scripts, parts, roles, cues, prompts, directors, casting, playwrights, and so on. With the metaphor, a whole set of correspondences is activated: the world corresponds to a stage; all the men and women living in the world correspond to players; their birth corresponds to their
entrances onto the stage and their death corresponds to their exits. During the life span of one man, he may fulfill many functions, which corresponds to an actor playing many parts on the stage.

Consider now some everyday comments cited in Lakoff (1994):

1. He got a head start in life.
2. He's without direction in his life.
3. I'm where I want to be in life.
4. I'm at a crossroads in my life.
5. He's never let anyone get in his way.
6. He's gone through a lot in life.

The basic conceptual metaphor underlying the above idiomatic expressions is LIFE IS A JOURNEY, in which the target domain is LIFE and the source domain is JOURNEY. This metaphor contains the following correspondences or metaphorical mappings (from Winter 1995: 235):

<table>
<thead>
<tr>
<th>Source Domain</th>
<th>Target Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOURNEY</td>
<td>LIFE</td>
</tr>
<tr>
<td>Traveler</td>
<td>Person</td>
</tr>
<tr>
<td>Point of departure</td>
<td>Birth</td>
</tr>
<tr>
<td>Initial conditions</td>
<td>Personal endowment</td>
</tr>
<tr>
<td>Baggage</td>
<td>Personal problems</td>
</tr>
<tr>
<td>Obstacles</td>
<td>External difficulties</td>
</tr>
<tr>
<td>Distance</td>
<td>Duration</td>
</tr>
<tr>
<td>Distance covered</td>
<td>Accomplishments</td>
</tr>
<tr>
<td>Destination</td>
<td>Life purpose</td>
</tr>
<tr>
<td>Termination</td>
<td>Death</td>
</tr>
</tbody>
</table>
Lakoff & Turner (1989: 63-64) postulate that a metaphorical mapping of the structure of the source domain onto that of the target domain usually consists of the following:

- Slots in the source-domain schema, which get mapped onto slots in the target domain.
- Relations in the source domain, which get mapped onto relations in the target domain.
- Properties in the source domain, which get mapped onto properties in the target domain.
- Knowledge in the source domain, which gets mapped onto knowledge in the target domain (ibid.: 63-64).

The general idea of how metaphorical mappings work can be illustrated by Figure 3.3 (Gardenfors 1996a). A linguistic expression X originally denotes a particular structure in a source domain. When X is used metaphorically to talk about a target domain, it maps the particular structure of the former onto the latter.

![Diagram](Figure 3.3 The metaphorical mapping between source and target domain (after Gardenfors 1996a))

3.3.3 The Experiential Bases and the Realizations of Metaphor

The conceptual system underlying a language contains thousands of conceptual metaphors, i.e. conventional mappings from a relatively more clearly structured
domain to another relatively less clearly structured domain. The question now is: why do we have the conventional metaphors that we have? Is there any reason why the conceptual system contains one set of metaphorical mappings rather than another? The answer is provided by experiential realism, the philosophy of the cognitive approach to metaphor: cognition is embodied; we have the conventional metaphors we have because of our bodily and physical experience. To put it in another way, all the conventional metaphors we have are grounded in experience.

Consider an example. MORE IS UP is a conceptual metaphor noted by Lakoff & Johnson (1980) (see also Nagy 1974, Johnson 1987, Lakoff 1993, Goatly 1997). It underlies expressions like prices go up; his income came down; unemployment is up; exports are down, etc.. The cognitive theory postulates that this metaphor arises from the common experiences of pouring more fluid into a container and seeing the level go up, or adding more things to a pile and seeing the pile get higher. These are thoroughly pervasive experiences which we encounter every day. Further more, they have a structure, i.e. a set of correspondences between the domain of quantity and the domain of verticality, where MORE corresponds to UP and LESS corresponds to DOWN. These correspondences in real life experiences provide the basis for the correspondences in the metaphorical cases. For example, in unemployment is up, there is no real life correspondence between the changes in unemployment rate and vertical movements, nevertheless understanding the former in terms of the latter makes sense because there is a regular correspondence between quantity and verticality in so many other real life experiences.
Take another example. KNOWING IS SEEING is a widespread metaphor (Lakoff & Johnson 1980, Johnson 1987, Sweetser 1990) underlying a lot of expressions like I see what you're saying; his answer was clear; this paragraph is murky, etc.. What forms the experiential basis for this metaphor is the fact that most of what we know comes through vision, and in the overwhelming majority of cases, we believe something is true when we have seen it with our own eyes. The Chinese phrase 眼见为实 (yan jian wei shi) (eye see be true, only what is seen by the eye is true) captures the idea nicely.

What is to be emphasized is that experiential bases only motivate metaphors but do not predict them. Therefore, although all human beings experience a correspondence between MORE and UP, we cannot say for certain that every language has come up with the MORE IS UP metaphor (Lakoff 1993: 241). However, the experiential basis for this particular metaphor does predict that there should be no language which has the opposite metaphor LESS IS UP. It also predicts that it should be much easier for a speaker of a language without the MORE IS UP metaphor to pick it up than to pick up its reverse.

The experiential bases of metaphors are only one side of the coin. The other side is that once a conceptual metaphor becomes established, it will impose its structure on real life through creating new correspondences in experience and will thus be realized. What is more, once a new set of correspondences is created in one generation, it can then serve as an experiential basis for that metaphor in the next generation (Lakoff 1993: 241).
Lakoff (1993: 241-242) lists many ways in which conventional conceptual metaphors can be made real. Among the more obvious ways, there are man-made objects like thermometers and stock market graphs which exhibit straightforwardly a correlation between MORE and UP. There are also imaginative products such as cartoons, literary works, myths, etc.. For example, in many cartoons anger is depicted by steam coming out of the character’s ears, which is a vivid realization of the ANGER IS A HOT FLUID IN A CONTAINER metaphor.

Among the less obvious ways, conventional metaphors can be made real in physical symptoms, social institutions, social practices, laws, history, and so on. Consider the social practice of avoiding eye "contact" on the street and the social prohibition against "undressing someone with your eyes". Both are realizations of the conceptual metaphor SEEING IS TOUCHING, in which the eyes are construed as limbs and vision is achieved when the object seen is "touched".

In each of the above examples, something real is structured by a conceptual metaphor and therefore becomes more comprehensible or even natural. Taken together, these examples demonstrate that "much of what is real in a society or in the experience of an individual is structured and made sense of via conventional metaphor" (Lakoff 1993: 244).

It is to be pointed out that there is no clear-cut distinction between experiential bases of metaphors and realizations of metaphors. Both are correlations in real life experience that share the same structure as the correlations in metaphors. "The difference is that experiential bases precede, ground, and make sense of conventional metaphorical mappings, whereas realizations follow, and are made sense of, via the
conventional metaphors" (ibid.). Furthermore, one generation's realizations of a metaphor may become such a natural part of real life experience that they actually form part of the experiential basis for that metaphor in the eyes of the next generation.

The experiential basis and the realizations of a metaphor and the relationships they have with the particular metaphorical mapping are roughly captured in Figure 3.4. In this figure we see that the structure of the source domain directly emerges from its experiential basis. This structure is then mapped onto the target domain through a metaphor. Once this metaphorical mapping has become established, it then imposes its structure on real life experience and becomes realized in many ways. The dotted line between 'experiential basis' and 'realizations' indicates that there is no clear-cut distinction between the two.

![Figure 3.4 Experiential grounding of metaphorical mapping](image)
In Chapter 5, while presenting the metaphorical extensions of UP/DOWN and SHANG/XIA, I shall try to specify the experiential bases and the realizations of each metaphorical extension detected, following Lakoff's model (see also Johnson 1987, Goatly 1997). As Lakoff (1993: 240) readily admits, this kind of accounts remains plausible at the present stage. It nevertheless sheds valuable lights on the bodily basis of cognition and on the experiential grounding of conceptual metaphors.

To sum up, in this and the earlier sections we have demonstrated the ubiquity of metaphor, the conceptual nature of metaphor, the systematicity of metaphor, the internal structure of metaphor, and the experiential grounding of metaphor. In terms of its nature, metaphor is not linguistic but fundamentally conceptual. Metaphorical expressions we notice in language are merely a surface manifestation of a huge system of conceptual metaphors. As a basic cognitive device, metaphor makes it possible for us to understand a relatively abstract or inherently unstructured concept in terms of a more concrete or a more highly structured concept. In terms of its structure, metaphor is a mapping across conceptual domains. Such mappings are one-directional in that they only involve projections from a source domain to a target domain, not the other way round. Such mappings are not arbitrary, but are grounded in the body and in our everyday experience and knowledge and obey the Invariance Principle. A final point to be made is that the system of conventional conceptual metaphors is operated mostly unconsciously, automatically and constantly, with no noticeable effort. We normally remain unaware of the existence of this system until called attention to. This metaphor
system plays a major role both in our language and in our conceptualization. In a word, metaphor, as an important cognitive device which we live by, is indispensable to our cognitive activities.

### 3.3.4 The Classification of Metaphor

As the title of the thesis suggests, the present research is focused on spatial metaphors. This brings up the question of classifying metaphors into different groups. There have been various attempts at classifying metaphors. For example, Mac Cormac (1990: 38-42) divides metaphors into epiphors and diaphors\(^2\). Indurkhyia (1992) makes a distinction between conventional metaphors, similarity-based metaphors and similarity-creating metaphors\(^3\). Goatly (1997: 34) makes distinctions between active (e.g. His tractor of blood stopped thumping), inactive (e.g. crane referring to lifting machine) and dead metaphors (e.g. pupil referring to student).

According to the different source domains called upon, Lakoff & Johnson (1980) distinguish three types of metaphors, i.e. spatial metaphors, ontological metaphors and structural metaphors. The source domain for spatial metaphors is space. By mapping a spatial structure onto a non-spatial concept, spatial metaphors give the concept a spatial orientation. For example, the metaphor MORE IS UP gives QUANTITY a vertical orientation. This leads to English expressions like "Hope my income rises

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\(^2\) Epiphors are those metaphors whose primary function is to express a similarity between something relatively well known and something less well known. Diaphors are those metaphors whose primary function is to suggest new possible meanings by emphasizing the dissimilarities between the referents.

\(^3\) Conventional metaphors are those that have become a part of everyday language. Similarity-based metaphors invite the hearer to make a comparison between the source domain and the target domain to find out some existing similarity between them. Similarity-creating metaphors create previously non-existing similarities between the two domains.
every year" and to Chinese expressions like 鸡蛋价格又上去了 (jidán jiá ge yòu shàng qù le, egg price again up go, the price of eggs has gone up again).

Ontological metaphors allow us to view events, activities, emotions, etc. as entities and substances. For example, THE MIND IS AN ENTITY. This type of metaphors can serve various purposes, such as referring, quantifying, identifying aspects, identifying causes, setting goals and motivating actions (Lakoff & Johnson 1980: 25-27).

Spatial metaphors and ontological metaphors can be elaborated into structural metaphors, which allow us to use one highly structured and clearly delineated concept to partially structure another (ibid.: 14). For example, to say that THE MIND IS AN ENTITY does not tell us very much about the mind. However, the structural metaphor THE MIND IS A MACHINE gives us a more clearly delineated conception of the mind as having an on-off state, a level of efficiency, a source of energy, etc. (ibid.: 28).

According to the different degrees of conventionality, Lakoff & Johnson (1980) distinguish two major groups of metaphors, i.e. conventional metaphors and new metaphors, and argue that compared with the latter, the former has a greater cognitive value. Conventional metaphors refer to those that since their first occurrences have become recognized and adopted by a significant part of a language community and are now so much a part of everyday language (indeed many have even become lexicalized and found their way into dictionaries) that few people would consider them as metaphorical. Some writers may feel like labeling them as 'dead'. Yet "they are 'alive' in the most fundamental sense: they are metaphors we live by" (Lakoff & Johnson 1980: 55. See also Lakoff & Turner 1989). Following are some examples:

That boosted my spirits.
He's really low these days.
(The underlying metaphor is HAPPY IS UP/SAD IS DOWN)

He's at the peak of health.
His health is declining.
(The underlying metaphor is HEALTH IS UP/SICKNESS IS DOWN)

我要将此事上报中央。
(wo yao jiang ci shi shang bao zhongyang)
(I want jiang this matter up report central.)
(I will report this matter to the central government.)

他们是在下乡那会儿认识的。
(tamen shi zai xiaxiang nahui'r renshi de)
(They are at down country that time meet.)
(They met each other when they both went to the countryside.)
(The underlying metaphor is HIGHER STATUS IS UP/LOWER STATUS IS DOWN.)

听说要涨工资了。
(tingshuo yao zhang gongzi le)
(listen say will rise salary.)
(Rumor has it that there will be a rise in salary.)

超市的牛奶大降价。
(chao Shi de niunai da jiangjia)
(Supermarket's milk great lower price.)
(The price of milk has been lowered greatly.)
(The underlying metaphor is MORE IS UP/LESS IS DOWN.)

New metaphors refer to those that every competent speaker of a language can create as he/she likes at any moment: those that have just come into existence, or those that although have existed for some time, have not been recognized by a large part of the language community. New metaphors retain their interpretive nature and will strike most of the hearers or readers as metaphorical. Literary works and pop songs are full of metaphors of this kind. For example,

The wind thinks outrageous thoughts aloud.
My love is a red, red rose.

提着昨日重重千辛万苦，向明天换一些美满和幸福。
(tizhe zuori chongchong qianxin wanku, xiang mingtian huan yixie meiman he xingfu)
(carry yesterday chongchong thousand trial ten thousand tribulation, from tomorrow exchange some perfection and happiness.)
(May the innumerable hardships I went through yesterday bring me some happiness in return from tomorrow.)

酒入愁肠，化作相思泪。
(jiu ru chouchang, huazuo xiangsi lei)
(wine enter sad bowels, become mutual miss tear.)
(After being gulped down by separated lovers, the wine has turned into tears.)

What is to be emphasized is that there is no clear cut distinction between conventional metaphors and new metaphors. All conventional metaphors began as new metaphors which have then gradually lost their earlier status through repeated use. Meanwhile, many new metaphors are also on their way of becoming conventionalized.

The main focus of this research is on conventional spatial metaphors, i.e. on those metaphors underlying some highly conventionalized uses of spatial terms in English and Chinese.

3.3.5 Recent Studies Adopting the Cognitive Approach to Metaphor

Since mid 1980s, a large number of studies have been carried out adopting the cognitive approach to metaphor. For example, Turner (1987) carries out a study revealing the regularities behind all the kinship metaphors from Chaucer to Stevens. Kovecses (1990) presents a demonstration that emotions such as anger, pride and love are conceptualized metaphorically. Lakoff's (1992) is an analysis of the metaphorical system underlying the public discourse and expert policy deliberations on the Gulf War. Lakoff (1996) analyzes the metaphor system for conceptualizing the self. Sweetser (1995) discusses the fascinating phenomenon of the metaphorical encoding of mythological structure in everyday language. D. Freeman (1995) and Sanchez

In recent years, Chinese linguists also begin to notice the cognitive approach to metaphor which is rapidly developing in the West. However, it seems that at the present stage, many of them spend more time introducing the approach to the Chinese audience than applying it to the investigation of the Chinese language. For example, Lin (1997) gives a summary of metaphor studies in the West from Aristotle to Lakoff. Shu (1996) introduces the aims, methods and task of the modern cognitive approach. Shi (1995) and Zhao (1995) review *Women, Fire and Dangerous Things* and *Metaphors We Live By* respectively. Some Chinese scholars are also working within the broader field of cognitive linguistics. Guo (1993) is a review of the great impact cognitive science has on the development of linguistic research. Shen (1994) presents a succinct summary of Langacker's (1987) cognitive grammar. Yuan (1996) examines the contrast between cognitivism and structuralism in linguistic studies and between symbolism and connectionism in Artificial Intelligence. Zhang (1998) discusses some of the most important notions in cognitive linguistics, such as prototype theory, conceptual metaphor, image schema and syntactic iconicity.

On the basis of these introductory works, some Chinese and overseas scholars are also beginning to investigate the metaphorical phenomena in the Chinese language
using the cognitive approach to metaphor. Gu (1994) puts forward a case study of the
expressions of anger in English and Chinese and finds out that the two languages
share the same central metaphor ANGER IS HEAT. Yu's (1996) is a study of the
TIME-AS-SPACE metaphor and the Event Structure Metaphor in Chinese. Stibbe
(1996) investigates the Chinese conceptualization of illness and observes that there
are two largely incompatible metaphorical constructions of illness within Chinese
culture, one from traditional Chinese medicine and the other transferred from
conventional Western medicine. Wu (1997) examines the metaphorical extensions of
some spatial demonstratives in Chinese. Wang (1998) and Zhao (1998) examine the
metaphorical extensions of the modal verb 能 (neng) and the noun 头 (tou)
respectively. What is also noteworthy is Tai (1994) and Hsieh (1994), both represent
attempts to account for the TIME-AS-SPACE metaphor in Chinese from the
perspective of cognitive functional grammar.

The present research about spatial metaphors in English and Chinese hopes to
contribute to the deepening of our understanding of metaphor as a cognitive
phenomenon on a cross-linguistic level.

3.3.6 Criticisms of the Cognitive Approach to Metaphor

We have thus far discussed the three main characteristics of metaphor, the internal
structure of metaphor, the experiential grounding of metaphor, and the classification
of metaphor. We have also briefly reviewed some recent studies adopting the
cognitive approach to metaphor both in English and in Chinese. To get a more comprehensive picture of the cognitive approach to metaphor, in what follows we shall examine a few criticisms it has received, for influential and promising as it is, the cognitive approach to metaphor has nevertheless got its opponents (Holland 1982, Mac Cormac 1990, Wierzbicka 1986, Jackendoff & Aaron 1991, Quinn 1991, Alverson 1991, Indurkhya 1992, Kennedy & Vervaeke 1993, Cacciari & Glucksberg 1994).

The central claim of the cognitive approach is that metaphor is primarily conceptual in nature, that conventional metaphors at the linguistic level give us important clues to human cognition, that human conceptual system is fundamentally metaphorically structured. This central claim is challenged by Wierzbicka (1986).

Taking the conceptual metaphor LOVE IS A JOURNEY as an example, Wierzbicka argues that this metaphor is not applicable to the entire range of the use of the term love, for example, it is not applicable to the love between a mother and a child; instead, the use of the metaphor is limited to the kind of love found between lovers.

Wierzbicka (1986: 292) proposes the following non-metaphorical definition of love:

\[
X \text{ loves (person) } Y. = \\
\text{ When } X \text{ thinks of } Y, X \text{ feels good feelings towards } Y. \\
X \text{ feels that he wants to be with } Y. \\
X \text{ feels that he wants to cause good things to happen to } Y.
\]

She then argues that this definition shows that people can have a clear concept of love without resorting to journey metaphors.

To answer Wierzbicka's criticisms, it must first be pointed out that the definition offered by Wierzbicka herself is only one possible definition and it does not represent all the aspects of human conceptualization of LOVE. Second, we must also be aware
that Lakoff and Johnson (1980. See also Lakoff & Turner 1989, Lakoff 1987, 1990, 1993, 1994) have emphasized in many places that conceptual metaphors only partially structure their target domains. There may be a small number of abstract concepts which are understood exclusively through metaphors, for example, the concept of TIME. However, in most cases abstract concepts are only partially structured through multiple conceptual metaphors. For example, the concept of LOVE is only partially structured by the metaphor LOVE IS A JOURNEY and this metaphor alone by no means covers all the possible meanings of LOVE. Other metaphors, like LOVE IS HEAT, LOVE IS FORCE, highlight other aspects of LOVE which fail to be addressed by LOVE IS A JOURNEY. The cognitive approach does not rule out the possibility that part of the concept of LOVE may be understood nonmetaphorically. What it claims is that our understanding of LOVE is nevertheless enriched by metaphors like LOVE IS A JOURNEY, LOVE IS HEAT, LOVE IS FORCE, and our reasoning about and action towards LOVE are consequently influenced by those metaphors.

In their review of Lakoff & Turner (1989), Jackendoff & Aaron (1991) criticize that the term metaphor is used too broadly in the book. To them, what is called conventional metaphors should not be taken as metaphorical. Rather, they believe that "the traditional insight about the literal incongruity of metaphors is worth preserving" (1991: 326). Mac Cormac (1990) makes a similar point in arguing that conventional metaphors (or 'dead metaphors' in his term) should be regarded as literal rather than metaphorical. To answer this criticism, one can say that the different understandings of what counts as a metaphor between Lakoff & Turner (1989) on the one hand, and
Jackendoff & Aaron (1991) and Mac Cormac (1990) on the other, lead to their
different stances as to whether to call conventional metaphors metaphor.

Following the cognitive theory, if a concept is understood in its own terms and
hence semantically autonomous, it is not metaphorical. If, on the other hand, a concept
is understood in terms of another concept or concepts, then it is not semantically
autonomous and is therefore metaphorical. Another reason why the cognitive
approach insists on labeling conventional metaphors as metaphor is that no clear-cut
distinction can actually be drawn between conventional metaphors and new metaphors
(the proper metaphors according to Jackendoff & Aaron 1991 and Mac Cormac 1990).
For example, both Jackendoff & Aaron and Mac Cormac would consider a sentence
like "His theory has thousands of little rooms and long, winding corridors" as
metaphorical. A sentence like "The theory is sound", on the other hand, would
probably not be considered metaphorical by them because it is too conventional. What
they fail to recognize is that underlying both sentences, one common conceptual
metaphor is at work, namely THEORIES ARE BUILDINGS. The reason why the first
sentence sounds metaphorical and the second sounds conventional is that 'foundation'
has been the part of the concept BUILDING normally used to structure the concept
THEORY while 'internal rooms' are a part much less frequently evoked by the
metaphor.

The cognitive theory of metaphor aims to show that metaphor is a powerful tool in
shaping the cognitive world that we experience. Conventional metaphors are
important because they bring evidence that even what we take to be the conventional
and ordinary description of the world is actually brought about by a metaphor.
Conventional metaphors demonstrate that metaphors are not something that occur only in poetry, art, and flowery language, but are an indispensable part of everyday language and concepts. It is because of this that the cognitive theory includes conventional metaphors under the rubric of metaphor. Jackendoff & Aaron (1991) and Mac Cormac (1990) in their criticisms fail to appreciate this essential point.

Still another criticism against the cognitive approach to metaphor comes from Naomi Quinn's "The Cultural Basis of Metaphor" (1991), in which she claims that Lakoff & Johnson have put a too heavy explanatory burden on metaphor, positing that metaphor structures and indeed constrains human understanding and reasoning. Quinn argues that cultural understanding underlies metaphor use and that there is more to culture than just metaphor. "Metaphors, far from constituting understanding, are ordinarily selected to fit a preexisting and culturally shared model ... Metaphors do not typically give rise to new, previously unrecognized entailments, although they may well help the reasoner to follow out entailments of the preexisting cultural model and thereby arrive at complex inferences" (ibid.: 91). Quinn concludes that metaphor plays a comparatively minor role in constituting our understanding of the world, and that a relatively major role is played by cultural models of the world.

Quinn's conclusion does not completely deny the constitutive role of metaphors in human understanding, but she lays special emphasis on the major role of cultural models in shaping this understanding. If what she means is that cultural models constrain the selection of metaphors, she is certainly right. This is because, as the cognitive approach to metaphor advocates, although metaphors are rooted in our bodily experience, the latter can only tell what are possible metaphors. Whether these
potential metaphors are actually selected in a given culture is largely determined by the cultural models of that particular culture. In this sense, cultural models indeed constrain the selection of metaphors.

However, we cannot ignore the other side of the story (Lakoff & Johnson 1980, Yu 1995, 1996), which is cultural model itself can hardly be free of metaphor. Take the cultural model for LIFE in the United States as an example. It is termed as LIFE IS PLAYING A GAME by Ching (1993: 43). This cultural model itself is constructed as a sports metaphor. Take the Chinese theory of yin and yang as another example (the two Chinese words literally mean 'the moon/feminine/negative' and 'the sun/masculine/positive' respectively). The system of yin and yang, recognized as The Two Fundamental Forces, constitutes one of the basic models for the Chinese culture. Yet this system itself is a giant metaphor and presents to the Chinese mind a metaphorical way of conceptualizing and categorizing the world. In short, if a cultural model can be metaphorical in nature, then the role played by metaphor in human understanding cannot be discarded as minor, as what Quinn (1991) does.

Stibbe (1997), Kyritzis (1998) and Goatly (1997) criticize the cognitive view of metaphor from a more practical perspective, pointing out that it relies heavily on a narrow range of unnatural data made on the spot to fit a pre-set theory. The result is "a state of affairs where theories do not explain language the way language is, and so are unhelpful to any practical studies" (Stibbe 1997: 38). They therefore call for a closer look at a representative range of contemporary examples, from a natural source, considered in as full a context as possible. The present research, which is largely based upon authentic data taken from an English corpus and a Chinese corpus,
answers this call and represents an attempt to apply the cognitive approach to metaphor to a broader range of data to test its reliability and its explanatory power.

Finally, I would like to cast doubt on the Invariance Principle put forward by Lakoff (1993a) (cf. pp. 49-51). The main idea of this principle is that metaphorical mappings are not arbitrary but are consistent with the inherent structure of the target domain. Following this principle, slots in the source domain get mapped onto slots in the target domain; relations in the source domain get mapped onto relations in the target domain; properties in the source domain get mapped onto properties in the target domain; and knowledge in the source domain gets mapped onto knowledge in the target domain (Lakoff & Turner 1989: 63-64). This sets me wondering: it is generally understood that most of the target domains, such as TIME, EMOTIONS, etc., are very abstract ones with little or no inherent structure at all (which is why we need conceptual metaphors to construct them and to understand them). Given this, how can we expect that all the target domains can have their own slots, relations, properties and knowledge on which the source domain can be mapped? Hence, the Invariance Principle is, to say the very least, too strongly worded.

To sum up, we have reviewed in this section four criticisms concerning the conceptual nature of metaphor, the status of conventional metaphor, the relationship between conceptual metaphors and cultural models, and the range of data on which the cognitive approach to metaphor is built upon. We have also presented our own doubt on the Invariance Principle. In the process of a contrastive study of English and Chinese spatial metaphors, this research will address these challenges and help provide evidence against some of them. In particular, it will provide evidence that
abstract thinking is indeed partially structured by metaphors, especially by spatial
metaphors; and that conventional metaphors are not only metaphors, but actually play
a major role in human categorization.

3.3.7 Questions Faced by the Cognitive Approach to Metaphor

In addition to the criticisms voiced by researchers outside the cognitive approach to
metaphor, researchers pursuing this approach also recognize some questions faced by
their cognitive framework. Two of the main questions may be presented as follows
(see also Yu 1996):

The first is that more cross-linguistic and cross-cultural research needs to be done
before sound evidence can be produced for the cognitive approach's claim that abstract
reasoning is indeed partially metaphorical. Lakoff (1990, 1993a, 1993b, 1994) has
already provided some evidence that such abstract concepts as TIME, STATES,
CHANGES, CAUSES, PURPOSES, QUANTITY, and CATEGORIES are
characterized metaphorically. However, that is only from the perspective of English.
Without cross-linguistic and cross-cultural research, we cannot be sure if it is true of
other languages as well and if yes, to what extent.

The second question concerns the universality vs. relativity of conceptual
metaphorical system. As Lakoff (1993a: 245) predicts, "Metaphorical mappings vary
in universality; some seem to be universal, others are widespread, and some seem to
be culture specific". Since human understanding and reasoning are grounded in our
embodied experience, and since basic bodily experience should be common among all
human beings, it can be hypothesized that there exist universal conceptual metaphors. On the other hand, since bodily experience cannot be separated from the specific physical, social, and cultural environments where it takes place, it is also expected that there should be variations among the conceptual metaphorical systems of different cultures. However, to what extent and in what manner cognitive universals and variations exist across cultures and languages still remains to be explored.

Johnson (1992: 354) makes the same point when illuminating the philosophical implications of cognitive semantics:

Given the nature of our bodies and brains, and given the kinds of physical and cultural interactions we engage in because of the kinds of interests and purposes we have, there may well be universal image schemas, metaphorical concepts, or cognitive structures. Whether there are such universals is an empirical issue. The cross-cultural [and cross-linguistic] studies that could identify such empirical universals have simply not been carried out extensively enough at the present time. So, we cannot make any strong assertion along these lines. Neither, however, can we deny their existence. We will only know the answer when we do the necessary cross-cultural [and cross-linguistic] research.

In a word, the cognitive approach to metaphor has reached a point where it has to be supported by sound evidence produced by cross-cultural and cross-linguistic research. The present research, which is a contrastive study of spatial metaphors in English and Chinese, attempts to provide evidence for the metaphorical nature of abstract reasoning and for the possible existence of a common spatial metaphorical system shared by English and Chinese from a cross-linguistic and cross-cultural perspective.
3.4 Space, Image Schemas and Spatial Metaphors

This section argues for the primacy of the SPACE concept on the one hand, and the indispensable role played by spatial metaphors in our conceptualization on the other hand, thus giving justification for focusing on spatial metaphors, rather than any other types of metaphors, in this research. The notion of image schema will also be closely examined for the following reasons: (1) as we mentioned briefly in Section 3.2.3, image schematic structure is one of the two preconceptual structures directly meaningful to us and one of the four structuring principles for ICM; (2) spatial metaphors, which form the main focus of this research, are a kind of image schematic metaphors; (3) the main concern of the present research, namely UP, DOWN, SHANG and XIA, each represents an image schematic concept.

3.4.1 The Primacy of Space

Space has a privileged position as a foundational ontological category in language, a position that most other domains do not share. The primacy of space is manifested through the following three points (Regier 1996: 18-20):

1. Spatial relations are often expressed by closed-class forms. A closed class is a relatively small set of linguistic forms that adds members only rarely; examples are prepositions and verbal prefixes. Talmy (1983: 4) describes the characteristics of closed-class forms as follows:

   They represent only certain categories, such as space, time, perspective point... And importantly, they are not free to express just anything within these conceptual domains, but are limited to quite particular aspects and combinations of aspects,
ones that can be thought to constitute the 'structure' of those domains. Thus, the closed-class forms of a language taken together represent a skeletal conceptual microcosm. Moreover, this microcosm may have the fundamental role of acting as an organizing structure for further conceptual material.

The closed-class expressions of spatial relations are therefore evidence of the special status of space as a basic element of the human conceptual makeup.

2. The primacy of space is also strengthened by the fact that the human conception of space appears to structure other parts of the conceptual system through spatial metaphor. Its influence is therefore not localized to an isolated sphere of experience.

This is a point which has been noticed by many scholars (Svorou 1994, Levinson 1992, 1997, Krzeszowski 1993, Putz & Dirven 1996, Bloom et al. 1996, Bickel 1997). As Levinson (1992) puts it: "Spatial thinking intrudes into thinking about almost all other domains" (ibid. 5). Hence the special historical place of geometry in the Western intellectual tradition. Hence also the intrusion of spatial metaphors into English people as well as Chinese people's thinking about time (前 天 qiantian, the day before yesterday, 后 天 houtian, the day after tomorrow, etc.), about kinship (近 亲 jinqin, close kin, 远 亲 yuanqin, distant relatives), about social structure (地 位 高 diweigao, high ranking, etc.), about musical sound (音 高 gaoxin, high notes, etc.), about emotions (兴 gaoxing, in high spirits, 情 绪 低 落 qingxu diluo, in low spirits, etc.), to name but a few.

Because of the prevalence of spatial thinking, the nature of a language's spatial system will reflect much more of the language than simply its capacity for purely spatial description, and any insights gained into the working of the spatial system may eventually have ramifications throughout the conceptual system of the language.
3. Space is also attractive as a domain of linguistic inquiry because spatial systems appear to exhibit considerable cross-linguistic and cross-cultural variation.

Bowerman (1996) notices that different languages structure space in different ways. Most basically, they divide space into disparate but often crosscutting semantic categories. This is achieved by using different criteria for establishing whether two spatial situations should be considered as the same or different in kind. In addition, languages also differ in which classes of situations can be characterized readily in spatial terms, in how the roles of figure and ground are assigned in various contexts, in how objects are conventionally conceptualized for purposes of spatial description, and in how much and what kind of information spatial terms can readily express.

For example, the spatial system of Tzeltal, a Mayan language spoken in Chiapas, Mexico, relies heavily on absolute coordinates such as north, south, east, and west, even in situations in which English would use relative notions such as front, back, left, or right (Levinson 1997). The spatial terms of Mixtec present a totally different story, where the body-part system is metaphorically mapped onto the spatial system, such that body-part terms are used extensively as locatives (Svorou 1994).

Even closely related languages can differ in their spatial systems. For example, scenes that would be classified as on in English do not fall into the same category in German. Spatial events that can be captured by a single word iz-pod in Russian would have to be captured by a whole phrase, 'out from underneath', in English (Bowerman 1996).

Many other languages differ significantly from English in their structurings of space (Bowerman 1989, Talmy 1983, Casad and Langacker 1985, Denny 1982, Hill
1978, Levinson 1997). This leads to the question whether crosslinguistic variation of this sort is constrained in any way, or whether languages can vary without limit in their structurings of space. There is good reason to believe that it is not the case that each language categorizes space in its own idiosyncratic manner without any constraints. This is because all linguistic spatial systems are based on human experience of space, which is necessarily constrained by the nature of the human perceptual system and the nature of the world around us. Both are likely to impose constraints on variations of different linguistic spatial systems.

The domain of space thus suggests itself as an arena for explorations of issues of linguistic universality and variation with a force that few other domains can match: On the one hand we know both that cross-linguistic variation exists and that the essential sameness of human spatial experience across cultures motivates the search for semantic universals. On the other hand, since space is a fundamental ontological category and since it metaphorically structures many other domains in language, we are assured that inquiries concerning universality and variation in this domain will touch elements that deeply affect the language as a whole, rather than just the space concept itself. It is for these reasons that a characterization of spatial metaphors in English and Chinese would be significant.

3.4.2 The Primacy of UP/DOWN Axis

The domain of space is built around a system of coordinates having three axes: up/down axis, front/back axis and left/right axis. In what follows we shall take a
closer look at the three axes and explain why this research focuses on the
metaphorical exploitation of the first one. Fillmore (1982: 36-37) has the following
descriptions of the axes:

1. The up/down axis is determined by our recognizing the direction of the pull of
gravity. It is based on relations existing in the environment independently of ourselves,
and is not to be explained in terms of egocentric or anthropocentric predispositions of
language users.

2. The front/back axis is determined by certain inherent asymmetries of a reference
object, the front side of the object being determined with reference to its ability to
move with a fixed orientation, or with reference to a canonical means of human access
to the object, or with reference to the object's similarities with the human body. This
axis is essentially anthropocentric in that we first learn to deal with it in terms of the
bodies of the humans in our environment.

3. The left/right axis is cognitively available through personal experiences with the
basic bilateral asymmetries in the workings of our own bodies. It is essentially
egocentric in that we recognize the distinction in our own bodies first.

Among the three axes, up/down, being founded on existing relations in the
physical world and being neither egocentric nor anthropocentric, is the most basic.
Clark (1973), from a psycholinguistic perspective, makes a similar point as Fillmore
(1982). He recognizes, among others, the following two properties of human beings'
space concept, which, according to him, arise from a priori constraints our physical
and biological environment places on us.

The first property is that the earth affords us at least one natural reference plane, i.e.
ground level, and one associated direction, i.e. verticality, which is defined by gravity. Both ground level and gravity can be specified locally anywhere on the earth. Since gravity is asymmetrical, pulling objects in one direction and not the other, it helps define a natural positive and negative direction.

The second property is that our perceptual apparatus naturally defines three reference planes: first and foremost, the asymmetrical horizontal plane at ground level, with upward being positive and downward being negative; second, the asymmetrical vertical plane separating front from back, with frontward being positive and backward negative; and third, the symmetrical vertical plane separating left and right. Taken together, these two properties of our space concept noticed by Clark (1973) also suggest the salience of up/down axis over front/back and left/right axes.

Jackendoff (1996: 14-24) examines three subsets of the English vocabulary which invoke the spatial axes of an object and their nonspatial extensions from a cognitive linguistic point of view. He points out that analogues of spatial axes frequently occur in other nonspatial semantic fields and as a result axial vocabulary generalizes to these fields as well. He notices that in English, and in many other languages as well, when a nonspatial axis is invoked, it is almost always the up/down axis. About the only exception to this in English is the domain of TIME, where a one-dimensional system that goes from front to back is utilized.4

To sum up, Fillmore (1982), Clark (1973) and Jackendoff (1996) have all argued for the priority of up/down axis over the other two. In fact evidence can also be found from both the evolution of spatial concepts and from children's acquisition of spatial

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4 This point will be further elaborated when I present the findings of data analysis in Chapters 5 and 6, where we shall also notice that this is not the case in Chinese.
terms which seems to suggest the same point (Svorou 1994). For example, evidence
can be found from the evolution of sentient beings that up/down dimension is the first
spatial dimension introduced into the universe (Givon 1979: 330). According to
Svorou (1994), studies on English spatial terms and spatial terms in other languages
(Italian, Serbo-Croatian and Turkish) also reveal that children acquire terms like up
and down before they acquire terms like front, back, left and right. To put the picture
together, the priority of up/down over front/back and left/right in both the evolution
and the acquisition of spatial terms justify its being chosen as the focus of the present
research.

3.4.3 Image Schema

The main thrust of the present research, spatial metaphor, is a kind of image-
schematic metaphor, which maps the image-schematic structure of the domain of
space onto that of a non-spatial target domain. To understand spatial metaphor better,
in this section we examine the notion of image schema and its significance in our
abstract thinking. Experiential realism holds that image-schematic structure is one of
the two kinds of structure in our preconceptual experience, the other being basic-level
structure; abstract conceptual structure partially arises from image-schematic structure
by metaphorical and metonymic projections. Experiential realism also holds that
image-schematic structure is one of the four kinds of structuring principles for ICM,
the other three being propositional structure, metaphoric mappings and metonymic
mappings.
Holmqvist (1993: 31-32) gives a rather detailed description of image schema: it
"could be said to be that part of a picture which remains when all the structure is
removed from the picture, except for that which belongs to a single morpheme, a
sentence or a piece of text in a linguistic description of a picture [...] . That which
remains is a highly fluid image, specified in some aspects... but completely
unspecified in others...".

Following Lakoff's (1987) definition, image schema refers to "relatively simple
structures that constantly recur in our everyday bodily experience: CONTAINER,
PATHS, LINKS, FORCES, BALANCE, and in various orientations and relations:
UP-DOWN, FRONT-BACK, PART-WHOLE, CENTER-PERIPHERY, etc." (ibid.
267). Image schemas have an inherent spatial structure. They are directly meaningful
because they are directly and repeatedly experienced as a result of the nature of our
body and its mode of functioning in our environment. The idea is that by experiencing
for example many instances of things-over-things, we have automatically acquired
some sort of cognitive pattern or schema of the OVER relationship and can apply it to
other instances of this locative relation. Similarly, image schemas for UP, DOWN,
FRONT and BACK can also emerge quite naturally out of our bodily experience and
can be readily applied to many other situations, either in or outside the physical spatial
domain.

The internal structure of a typical image schema is examined by Langacker (1987:
217). According to him, in essence, an image schema depicts a simple relational
predication where an asymmetry can be observed between the profiled participants.
One of them is called the *trajector* since it has special status and is characterized as
the figure within the schema. Other salient entities are referred to as *landmarks* because they are naturally viewed as providing points of reference for locating the trajector. The trajectory a trajector moves through is called its *path*. However, it should be noted that the definition of trajector itself makes no reference to motion. Hence, this schematic description can be applied to both static and dynamic relations, in the case of the former the path will be depicted as zero. Besides trajector, landmark and path, another element which an image schema contains is an implied *observer* because it is always from the point of view of a particular observer that the trajector and the landmark are seen as forming a special relationship.

The significance of image schemas in our abstract thinking is highlighted by Lakoff (1987: 275): "Image schemas provide particularly important evidence for the claim that abstract reason is a matter of two things: (a) reason based on bodily experience, and (b) metaphorical projections from concrete to abstract domains". Those image schemas which structure our experience of space also structure our concepts in abstract domains. For instance, categories are understood in terms of CONTAINER schema, hierarchical structure in terms of PART-WHOLE and UP-DOWN schemas, relational structure in terms of LINK schema, radial structure in categories in terms of CENTER-PERIPHERY schema, foreground-background structure in terms of FRONT-BACK schema. Lakoff summarizes this as 'The Spatialization of Form Hypothesis' (ibid.):

Strictly speaking, the Spatialization of Form hypothesis requires a metaphorical mapping from physical space into a 'conceptual space'. Under this mapping, spatial structure is mapped into conceptual structure. More specifically, image schemas (which structure space) are mapped into the corresponding abstract configurations (which structure concepts). The Spatialization of Form hypothesis thus maintains that conceptual structure is understood in terms of image schemas plus a metaphorical mapping.
This hypothesis raises the possibility that a great many, if not all, abstract inferences are actually metaphorical versions of spatial inferences inherent in the structures of image schemas. That is, metaphors based on image schemas give rise to abstract reasoning, and abstract reasoning is based on spatial reasoning via metaphorical projections of image schemas. However, as Lakoff (1990: 72) himself admits, the Spatialization of Form Hypothesis remains "an empirical hypothesis" at the present stage. A precise formulation of the hypothesis would require much more cross-linguistic and cross-cultural research as well as in-depth investigations within linguistic and cultural boundaries into the full inventory of image-schemas and image-schematic metaphors.

3.4.4 Spatial Metaphors

Spatial metaphors have the domain of space as their source domain. They map the image-schematic structure of the space domain onto that of nonspatial, abstract domains, thus enabling us to talk about and to think of those nonspatial domains in spatial terms. Examples are FUTURE IS IN FRONT/ PAST IS BEHIND and HAPINESS IS UP/ SADNESS IS DOWN. The former gives the domain of TIME a front/back orientation; the latter gives the domain of EMOTIONS an up/down orientation.

As pointed out briefly in the previous section, spatial metaphors are a kind of image-schematic metaphors of high degree of cognitive indispensability (Lakoff & Turner 1989: 99-100). Image-schemas have two roles to play in forming spatial
metaphors. First, they provide us with skeletal structure for rich mental images.

Consider the following four lines taken from Auden's "As I Walked One Evening":

The glacier knocks in the cupboard,
The desert sighs in the bed,
And the crack in the tea-cup opens,
A lane to the land of the dead.
(from Lakoff & Turner 1989: 99)

Here the image-schematic structure of a path emanating from a bounded space enables us to form a rich mental image of the underlying metaphorical mapping, i.e. the stream of fluid coming from the cup being mapped onto the lane to the land of the dead.

Second, image schemas have an internal logic of themselves which permit spatial reasoning. For example, the part-whole image schema includes in its basic logic: "If A is a part of B, then B is not a part of A" (Lakoff 1987: 273). The link image schema includes as its basic logic "If A is linked to B, then B is linked to A" (ibid.: 274).

When spatial metaphors map the image-schematic structures of spatial domains onto non-spatial, abstract domains, the image-schemas and their inherent logic are preserved during the process. Bounded regions with their interior and exterior are mapped onto bounded regions, paths with their beginning points and end points are mapped onto paths. Meanwhile, the spatial logic of the image-schemas is preserved as well and becomes abstract logic in the non-spatial target domains. For example, numerical value is metaphorically understood as a literal vertical scale, and so the logic of vertical scale applies to numerical value: if item X is of higher numerical value than Y, and Y of higher numerical value than Z, then X is of higher numerical value than Z.
Lakoff & Johnson (1980: 17-19) notice the following characteristics of spatial metaphors:

- Most of our fundamental concepts are organized in terms of one or more spatial metaphors.
- There is an internal systematicity to each spatial metaphor.
- There is an overall external systematicity among the various spatial metaphors, which defines coherence among them.
- Spatial metaphors are rooted in physical and cultural experience; they are not randomly assigned.
- In many cases spatialization is so essential a part of a concept that it is difficult for us to imagine any alternative metaphor that might structure the concept.
- Our physical and cultural experience provides many possible bases for spatial metaphors. Which ones are chosen, and which ones are major, may vary from culture to culture.

These are also the main assumptions underlying the present research. The latter in turn attempts to provide evidence for these assumptions through a contrastive study of basic spatial metaphors in English and Chinese.

Spatial metaphor has become an active sub-branch within the cognitive approach to metaphor over the past two decades. For example, Nagy (1974) finds out that there seems to be an association of literal vertical position or motion with value or change of value on non-spatial scales such as numerical value, moral value, or frame of mind. Hill (1978) presents an analysis of linguistic representation of spatial and temporal orientation in English. Hill (1982) is a contrastive study of the up/down, front/back and left/right in Hausa and English. Vanparys (1984) analyzes and interprets metaphors expressed by prepositional noun phrases that are introduced by the three typical source prepositions: from, off, out of. In recent years, there are H. Klein (1987) and O. Dahl (1995) dealing with how time concepts are structured through space concepts in Toba and Malagasy respectively. Leal and his students are working on spatial metaphors in Hukchol, Mexican Spanish and Akatec (internet communication).
Patent (1996) has even done some research (unpublished) into metaphors in Standard Chinese, which he notices has the metaphor STATUS IS UP. Yu (1996) investigates the TIME-AS-SPACE metaphor and the EVENT STRUCTURE THROUGH SPACE metaphor in Chinese. Other relevant research includes Borneto (1996), Cook (1996), Dabrowska (1996), and Bickel (1997), which deal with spatial metaphors in German, Hawaiian, Polish and Belhare respectively (see also Putz & Dirven 1996).

In brief, four points have been covered in the four sub-sections of 3.4, namely the primacy of the space concept in human language and conceptualization, the primacy of up/down axis compared with front/back axis and left/right axis, the internal structure and the significance of image schemas in our abstract thinking, and finally the main characteristics of spatial metaphors as a kind of image-schematic metaphors. In the following section, we shall examine the four image schematic concepts which comprise the main research issues of the present study, i.e. UP, DOWN, SHANG and XIA.

3.5 Research Issues: UP, DOWN, SHANG and XIA as Image Schematic Concepts

The main concern of the present research, namely, UP, DOWN, SHANG and XIA, each activates an image schema depicting a movement or a particular location of the trajector in relation to the landmark along the vertical axis. When UP/DOWN and SHANG/XIA depict a movement of the trajector, they shall be referred to as the
dynamic UP/DOWN and the dynamic SHANG/XIA. When they depict a particular location of the trajector, they shall be referred to as the static UP/DOWN and the static SHANG/XIA. Since both UP/DOWN and SHANG/XIA are defined by gravity and ground level which remain more or less the same throughout the world, the viewpoint of an implied observer will not make much difference: If A is seen as occupying a higher place than B from your point of view, in most cases I will not see B as occupying a higher place than A, so long as we are both in the canonical position, i.e. standing upright, not upside down. Therefore we will not take into account the observer when dealing with the data. Below are the graphic representations for the image schema of the dynamic UP/SHANG and of the dynamic DOWN/XIA:

![Diagram](attachment:diagram.png)

Figure 3.5 Schema for the dynamic UP and SHANG

Figure 3.6 Schema for the dynamic DOWN and XIA

For example:

1. The monkey climbed up the tree.
2. The unemployment rate has gone up to 4%.
3. 我们爬上山顶。
   (women pashang shanding.)
   (we climb up mountain top.)
   (We climbed up to the top of the mountain.)
4. 气温上升到38度。
   (qiwen shangsheng dao 38 du.)
   (temperature up rise to 38 degrees.)
   (The temperature has risen to 38 degrees.)
5. The monkey climbed down the tree.
(6) Cut your shopping down to twice a week.
(7) 我们走下山坡。
   (women zouxia shanpo.)
   (we walk down mountain slope.)
   (We walked down the mountain.)
(8) 气温下降到零下 10 度。
   (qiwen xiajiang dao lingxia 10 du.)
   (temperature down drop to zero down 10 degrees.)
   (The temperature has dropped to 10 degrees below zero.)

In (1) the trajector is the monkey and the landmark is the tree. In (2) the trajector is the unemployment rate and the landmark is 4%. It is to be noted that in (2) up has developed a metaphorical meaning "Towards a Higher Rate Is Up". In (3) the trajector is 我们 (us) and the landmark is 山顶 (the top of the mountain). In (4) the trajector is 气温 (the temperature) and the landmark is 38 度 (38 degrees). Again in (4) shang has developed a metaphorical meaning "Towards a Higher Temperature Is Shang". Similar analysis applies to examples (5) to (8).

When the trajector remains unmoved, that is, when the path depicted is zero, we get the static UP/SHANG and the static DOWN/XIA as follows:

![Figure 3.7 Schema for static UP/SHANG](image)

![Figure 3.8 Schema for static DOWN/XIA](image)

DOWN/XIA

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5 This metaphorical meaning is more closely examined in Section 5.2.1 of Chapter 5.
6 This metaphorical meaning is more closely examined in Section 5.1.1 of Chapter 5.
For example:

(9) The kite is up in the sky.
(10) They were two goals up at half time.
(11) 红旗在操场上空飘扬。
       (hongqi zai caochang shangkong piaoyang)
       (red flag at playground up sky fly)
       (The red flag is flying in the wind over the playground.)
(12) 男性地位在女性地位之上。
       (nanxing diwei zai nuxing diwei zhi shang.)
       (man status at women status zhi up.)
       (Men's status is above women's status.)

(13) The kite is down on the ground.
(14) Brazil was two down against France at half time.
(15) 种子埋在地地下。
       (zhongzi maizai dixia.)
       (seed bury at ground down.)
       (The seeds are buried deep down in the earth.)
(16) 女性地位在男性地位之下。
       (nuxing diwei zai nanxing diwei zhi xia.)
       (woman status zai man status zhi down.)
       (Women's status is below men's status.)

In (9) the trajector is the kite and the hidden landmark is the ground level. In (10) the trajector is they and the hidden landmark is the goals of the opponent team. Up in (10) has already developed a metaphorical meaning "More Is Up". In (11) the trajector is the red flag and the landmark is the playground. In (12) the trajector is men's status and the landmark is women's status. Again in (12) shang has developed a metaphorical meaning "A Higher Status Is Shang". Similar analysis applies to sentences (13) to (16).

However, it must be pointed out that the Chinese SHANG and XIA do not match the English UP and DOWN as closely as the above examples seem to suggest. While dealing with my Chinese corpus data, I noticed that the static SHANG and XIA carry

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7 This metaphorical meaning is more closely examined in Section 5.2.1 of Chapter 5.
8 This metaphorical meaning is more closely examined in Section 5.1.2 of Chapter 5.
a special case which cannot find any equivalent with the static UP and DOWN. I call this special use of SHANG and XIA the static contact SHANG and the static contact XIA, because they both depict a contact between the trajector and the landmark⁹. This special use is best represented by the following diagrams:

Consider the following examples:

(17) 报纸上放着一支笔。
    (baozhi shang fangzhe yizhi bi.)
    (newspaper up place the one zhi pen.)
    (There is a pen on the newspaper.)

(18) 报纸上有一篇文章。
    (baozhi shang you yipian wenzhang.)
    (newspaper up have one pian article.)
    (There is an article in the newspaper.)

(19) 会上有一个发言。
    (huishang you yige fayan.)
    (meeting up have one ge speech.)
    (There is a speech at the meeting.)

(20) 报纸下面有一支笔。
    (baozhi xiamian you yizhi bi.)
    (newspaper down side have one zhi pen.)
    (There is a pen under the newspaper.)

(21) 钢板在巨大的压力下变形。
    (gangban zai juda de yali xia bianxing.)

⁹ Dr. Tang noticed that with both the dynamic UP/DOWN and the dynamic SHANG/XIA, sometimes a contact between the trajector and the landmark can be observed. Since this dynamic contact UP/DOWN and SHANG/XIA do not produce any extra metaphorical extensions not shared by the dynamic UP/DOWN and SHANG/XIA, they are not taken into consideration in this thesis.
(steel board at huge pressure down change shape)
(The steel board bent under the enormous pressure.)
(22)在市场经济作用下，物价有升有降。
(zai shichang jingji zuoyong xia, wujia you sheng you jiang.)
(at market economy function down, price have rise have drop.)
(Under the influence of the market economy, prices rise and drop.)

The trajector and the landmark of each of the above examples are presented in the following table. Column 3 'concrete or abstract' identifies the concreteness or the abstractness of the trajector and the landmark concerned:

<table>
<thead>
<tr>
<th>Number</th>
<th>Trajector - landmark</th>
<th>Concrete or abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Pen - newspaper</td>
<td>Concrete - concrete</td>
</tr>
<tr>
<td>18</td>
<td>Article - newspaper</td>
<td>Abstract - concrete</td>
</tr>
<tr>
<td>19</td>
<td>Speech - meeting</td>
<td>Abstract - abstract</td>
</tr>
<tr>
<td>20</td>
<td>Pen - newspaper</td>
<td>Concrete - concrete</td>
</tr>
<tr>
<td>21</td>
<td>Pressure - steel board</td>
<td>Abstract - concrete</td>
</tr>
<tr>
<td>22</td>
<td>Rising and falling of prices - the influence of the market economy</td>
<td>Concrete - concrete</td>
</tr>
</tbody>
</table>

Table 3.1 The trajector & the landmark of examples 17-22

In example (17) the trajector is the pen and the landmark is the newspaper, both being concrete objects. In (18) while the landmark remains to be the newspaper, the trajector has become an abstract object, the article. In (19) both the trajector (the speech) and the landmark (the meeting) have become an event. From (17) to (19) we can notice the gradual development of a metaphorical extension (At A Public Position Is Shang)\textsuperscript{10} out of the contact SHANG.

\textsuperscript{10} This metaphorical extension is more closely examined in Section 5.1.4 of Chapter 5.
Similar analysis holds true for examples (20) to (22). In (20) the trajector is the *pen* and the landmark is the *newspaper*, both being concrete objects. In (21) the trajector remains a concrete object, *the steel board*, while the same cannot be said about the landmark, which is *the pressure*. In (22) both the trajector (*the rising and falling of the prices*) and the landmark (*the influence of the market economy*) have become an event. Again from (20) to (22) we can notice the gradual development of a metaphorical extension (Under Control of Something is Xia)\(^\text{11}\) out of the contact XIA.

It is to be noticed that what is important for the contact SHANG is that there is contact between the trajector and the landmark (usually a surface) and the trajector is supported by the landmark, and what is important for the contact XIA is that there is a sense of the trajector being covered or pressed by the landmark.

To sum up, both UP/DOWN and SHANG/XIA represent cognitive configurations consisting of the following elements and their interrelations, namely

(i) a **trajector**, which can be static or dynamic along
(ii) a vertical **path**, and is seen as being related to
(iii) a **landmark**.

UP and DOWN have two prototypical uses, the dynamic UP/DOWN and the static UP/DOWN. SHANG and XIA have three prototypical uses, the dynamic SHANG/XIA, the static SHANG/XIA and the contact SHANG/XIA. When UP/DOWN and SHANG/XIA, as image schemas, are used to structure other domains outside space, i.e. when we give other non-spatial domains a vertical space axis, a trajector, a landmark and a path, that will be called an instance of a metaphorical extension of UP/DOWN or SHANG/XIA. For example, in example (2) "The unemployment rate has gone *up* to 4\%", *up* indicates a change in the unemployment

\(^{11}\) This metaphorical extension is more closely examined in Section 5.1.4 of Chapter 5.
rate from being low to being high. In (6) "Cut your shopping down to twice a week", 
down indicates a change in the times of shopping per week. In (12) “男性地位在女性 
地位之上”, shang is about a higher status men have as against women. In (16) 
“女性地位在男性地位之下”, xia is about a lower status women have as against 
mens. In (19) “会上有一个发言”, shang is about an entity being located at a public 
location and in (22) “在市场经济作用下, 物价有升有降”, xia is about an entity 
being under the control of something else. In all these cases, UP/DOWN and SHANG/ 
XIA are used to structure non-spatial concepts and hence have developed 
metaphorical extensions.

The components of the UP/DOWN schema and the SHANG/XIA schema, namely 
trajector, landmark and path, present natural parameters along which each record of 
my database can be analyzed. More details of the parameters for data analysis will be 
given in the next chapter on research methodology.

In this chapter, we have set up the theoretical framework underlying the cognitive 
approach to metaphor and upon which the present research of spatial metaphors in 
English and Chinese is to be carried out. We began with an overview of cognitive 
science and cognitive linguistics in general in Sections 3.1 and 3.2. In Section 3.3 we 
analyzed the conceptual nature of metaphor, the internal structure of metaphor as a 
mapping across domains, and the experiential grounding and realizations of 
metaphors in real life. We also discussed some criticisms of the cognitive theory of 
metaphor and the main questions it faces at the moment. Section 3.4 argued for the 
primacy of the SPACE concept and of spatial metaphors, and the notion of image
schema was clarified. In Section 3.5 it was stressed that the main concern of the present research, namely, UP, DOWN, SHANG and XIA, are all image schematic concepts frequently used to structure other non-spatial concepts through metaphorical mappings.
Chapter 4 Research Methodology

This chapter gives a brief description of the research methodology. Section 4.1 is about how to access to the four concepts, namely UP, DOWN, SHANG and XIA, by the lexical items that are used to realize them. Section 4.2 explains why and how the dictionary-based approach and the corpus-based approach are combined in data collection and analysis. Section 4.3 is about building up a database for each of the concepts under concern.

4.1 From UP to Up

There is one technical point to be made clear at the beginning: to differentiate the concept UP from the word up, the former shall always appear in capitalized letter and the latter in italicized form of small letter. So it is with DOWN and down, SHANG and shang, XIA and xia.

In this thesis, my research interest is in the concept UP, the concept DOWN, the concept SHANG and the concept XIA, and the metaphorical extensions each of them has developed. When coming to data collection, this presents a problem, for concept is itself an elusive concept not easily got hold of. As Pederson and Nuyts (1997: 3-4) observe, "Conceptualization sits at the core of the black-box problem of the human mind: it never reveals itself directly at the observable surface of human behavior; it only 'appears' indirectly, in disguise, coded in or filtered through the 'structural principles' of the many different types of human behavioral systems, linguistic and otherwise."
Pederson and Nuyts (ibid.) also point out that the only way to study concepts and conceptualization is to study different types of behavior, especially linguistic behavior, and try to distinguish between those features of the behavior which are inherent in the cognitive systems directly affecting it and those features of the behavior which must be due to the 'deeper' conceptual systems 'steering' it.

Among all the human behaviors, the study of linguistic behavior has acquired a special status in the study of conceptualization. This is because of the following two reasons. Firstly, linguistic behavior is a type of behavior which explicitly encodes and transmits conceptual information, hence it is a relatively privileged source of information on concepts and conceptualization. Secondly, among all types of human information-processing behavior, linguistic behavior has so far received the most research attention; hence it currently provides the richest possibilities for investigating conceptualization.

The present research also takes this linguistic approach to human conceptualization and attempts to have access to the concepts UP, DOWN, SHANG and XIA through the various words which encode them. In doing so, I am making a basic assumption of cognitive linguistics, namely semantic structure is equated with conceptual structure and meaning is equated with conceptualization (see e.g., Langacker 1987, Lakoff 1987, Johnson 1987, Geiger & Rudzka-Ostyn 1993, Putz & Dirven 1996).

It is without doubt that up and down are not the only words which encode the concepts UP and DOWN, and shang and xia are not the only words which encode the concepts SHANG and XIA. The attempt to find out all the possible words which have something to do with the concepts UP and DOWN in English and with the concepts
SHANG and XIA in Chinese ended up in a list of 54 English words and a list of 58 Chinese words (for the lists, see Appendix 1). After a frequency count of each of the 54 English words among a 5 million words' English corpus (for the frequencies, see Appendix 1), and after other criteria like value for definitions and word formation, degree of morphological simplicity, availability (what first comes to mind) and ease or difficulty of learning are taken into account (Ungerer & Schmid 1996: 268), it can be reasonably assumed that the word *up*, with a frequency of 5728, and the word *down*, with a frequency of 4781, are the most representative words of the concepts UP and DOWN respectively. Hence it can be cautiously expected that by concentrating on the 5728 instances of *up* and the 4781 instances of *down* sorted out from the corpus, and on the different uses of *up* and *down* as recorded in dictionaries, this research stands a good chance of uncovering most of the metaphorical extensions generated by the concepts UP and DOWN.

After similar procedures were followed with all the 58 Chinese words (this time the frequencies were sorted out from *Dictionary of Contemporary Chinese Words Frequencies* 《现代汉语常用词词频词典》, which was based on a 20 million character corpus not yet available for public use. For the frequencies of the words, see Appendix 1), *shang*, with a frequency of 72545, and *xia*, with a frequency of 28622, are assumed to be the most representative words of the concepts SHANG and XIA respectively. From their uses as reflected in corpus data and as recorded in dictionaries, the metaphorical extensions SHANG and XIA have generated are to be detected.

Thus the focus of this research has been narrowed down from the abstract concepts of UP/DOWN and SHANG/XIA to the more tangible portions (also believed to be the most representative portions) of them tagged by the words *up/down* and
It is because "man has developed the behavioral peculiarity of attaching words to certain types of concept formation" (Lenneberg 1967: 365), or putting it in another way, it is because that words tag the processes by which human beings deal cognitively with their environment, that we can trace the process of conceptualization through the analysis of the development of words' meanings.

4.2 The Dictionary-based Approach and the Corpus-based Approach

For many years in theoretical linguistics the traditional way of data collection is the intuition-based approach. Following this approach, many authors (e.g. Lakoff & Johnson 1980, Max 1993, Mac Cormac 1990) take data collection for granted and do not bother to give an explicit explanation as to where and how they collect their data. The usual practice is to depend on one's own language intuition as a native speaker and to invent some examples on the spot to demonstrate one's point. Although it cannot be denied that over the centuries this approach has produced a lot of valuable research, its weakness is obvious to see: in many cases, humans tend to notice unusual occurrences more than typical occurrences, and therefore conclusions based on intuition or anecdotal evidence can be unreliable. Hence the present research will not mainly depend on the intuition-based approach in its data collection, although it must be admitted that personal judgements based on intuition always have a role to play in data analysis following whatever approach.

The second widely used option is to take a dictionary-based approach. Dictionaries, 

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1 I owe this term (and two other terms, i.e. dictionary-based approach and corpus-based approach) to Prof. Geoffrey Leech.
as records of the lexicon of a language compiled by lexicographers, provide lexicographical evidence for changes in the word-formation and word-meanings of a language. Following the cognitive linguistic assumption that meaning equates conceptualization, the process of conceptualization can thus be traced through the development of word-meanings as recorded in dictionaries. This explains why the dictionary-based approach is popular among cognitive linguists (see, e.g. Lindner 1981, Brugman 1981, Herskovits 1986, Vandeloise 1984, 1994, Smith 1993, Yu 1995, 1996, Sweetser 1990). As far as conceptual metaphor is concerned, the important point to be noted is that "the metaphorical process has left its mark on the vocabulary of the language, by dint of the fact that various metaphorical extensions and transfers have been Lexicalized, that is to say have found their way into the dictionary with a second and separate conventional meaning" (Goatly 1997: 31, original emphasis).

Since the main focus of the present research is on conventionalized spatial metaphors, dictionaries, as "the cemeteries and the mortuaries, definitely the dormitories, and generally the resting place for the populations of [conventional] metaphors" (Goatly 1997: 31), provide a rich resource for the metaphorical extensions of UP, DOWN, SHANG and XIA as recorded in the lexicon. Hence, the dictionary-based approach is adopted as a major method of data collection and analysis in this study.

In the past several years, on-line corpora and analysis tools have become more accessible, which makes the third option, i.e. corpus-based studies, increasingly popular. Corpus-based studies utilize a large and principled collection of natural texts as the basis for analysis, make extensive use of computers for analysis, and depend on both quantitative and qualitative analytical techniques. These features result in a scope and reliability of analysis not otherwise possible. However, the corpus-based analysis
should be seen as a complementary approach to more traditional approaches, rather than as the single correct approach (Biber et al 1998). This is because in many cases language use can be studied through detailed analyses of specific linguistic features in particular texts, thus complementing the findings from analyses of large corpora.

The present research, which aims at a reasonably large-scale contrastive study of spatial metaphors in English and Chinese, attempts to find out all the metaphorical extensions UP, DOWN, SHANG and XIA have developed. This requires empirical analysis of large databases of authentic texts in addition to the lexicographical evidence provided by dictionaries. Because of this, the present research attempts to combine the dictionary-based approach with the corpus-based approach and to collect its data from two resources: dictionaries and corpora.

A contrastive study always aims at revealing both the similarities and differences between the two objects under investigation. It is reasonable to expect that the similarities and differences between UP/DOWN and SHANG/XIA should lie in two respects: (1) the actual metaphorical extensions they have developed; and (2) the distributions of those metaphorical extensions detected. (1) can be obtained through qualitative analysis, and (2) can be obtained via statistical analysis. With lexicographical data from dictionaries, only qualitative analysis will be carried out to uncover the metaphorical extensions of UP, DOWN, SHANG and XIA as reflected in the lexicon. With corpora data, on the one hand, qualitative analysis will be implemented to find out the metaphorical extensions of the four concepts under concern as reflected in the corpora; on the other hand, quantitative analysis will also be implemented to find out the distributions of the different metaphorical extensions.
uncovered. Quantitative analysis will not be done with lexicographical data because
dictionaries do not provide a solid basis for it.

The Chinese dictionaries chosen are:

《现代汉语词典》1996  
Dictionary of Contemporary Chinese  
《辞海》(缩印本, 1989)  
A Comprehensive Dictionary of Chinese  
《现代汉语常用词词频词典》1990  
Dictionary of Contemporary Chinese Words' Frequencies

Together they yield 190 lexical items containing shang and 115 lexical items
containing xia. The English dictionaries chosen are:

Collins Cobuild English Language Dictionary (1996)  

Together they produce 626 lexical items containing up and 328 lexical items
containing down.

The English corpus finally chosen is the 5 million word Word Bank of the Collins
Cobuild English Language Dictionary (1996). The Chinese corpus is a self-built one
which is made up of about 1.8 million characters of written materials downloaded
from the internet (for a description of the two corpora, see Appendix 2). While
compiling the Chinese corpus, special attention was paid to its size so that it can yield
roughly the same number of instances of shang as that of up retrieved from the
English corpus, and roughly the same number of instances of xia as that of down.

Since shang and xia enjoy higher frequencies in Chinese than up and down in English,
the 1.8 million character corpus already produces 8079 instances of shang and 4387
instances of xia, which can be roughly compared with the 5728 ups and 4781 downs.

The normalized frequencies for shang and xia among 1 million characters are 4488.33
and 2437.22 respectively, and the normalized frequencies for up and down among 1 million words are 1145.6 and 956.2 respectively.

4.3 Building up a Database

The software Microsoft Access is used to process both the lexicographical and the corpora data. A database is built up for up, down, shang and xia as recorded in the lexicon and in the corpora separately. Random sampling is carried out with the corpora data. A random list is adopted and about 10% of the instances of up/down and shang/xia are randomly selected. After those cases which lack sufficient contexts for detailed analysis are deleted, 529 instances of up, 431 instances of down, 750 instances of shang and 434 instances of xia form the final corpora database.

With the lexicographical data, each record of up, down, shang and xia is given 9 fields, which are:

Field 1: ID number. This is for easy reference and calculation.

Field 2: lexical entry, such as add up, break down, 上班(shangban), 下岗(xiagang).

Field 3: sample text. An example of the lexical entry provided by one of the dictionaries. This gives the lexical item concerned at least some minimum context.

Field 4: sense. The meaning of up/down and shang/xia in the lexical item within that particular context.²

² Wherever possible, the definition available in the dictionaries is used. In those cases (especially with verb particle constructions) where the dictionaries do not offer a separate definition for up or down, the meaning of the whole VPC in which up or down is located is given instead. This does not suggest that the up or down in that VPC does not carry its own meaning. Further arguments are offered at the end of the section.
Field 5: *trajector or TR*. The object which moves along the vertical axis and whose location is to be identified in that particular context. The object can also stay unmoved over a period of time at a particular location.

Field 6: *landmark or LM*. The unmoved object whose location is known and is used as the reference point to identify the location of the trajector in that particular context.

Field 7: *path*. The trajectory which the trajector follows in moving along the vertical axis. In those cases where the trajector stays unmoved at a particular location, the path shall be depicted as 'zero'. The value for this field will help distinguish the static UP/DOWN and SHANG/XIA from the dynamic UP/DOWN and SHANG/XIA.

Field 8: *vertical axis*. This field identifies the vertical axis in the particular context under investigation. In cases where the value for this field is identified as 'literal vertical axis', there is no metaphorical extension involved; in cases where the value for this field is 'vertical axis of prices, speeds, time', etc., a metaphorical extension is pinned down.

Field 9: *metaphorical extension*. This field answers two questions: 'Is there any metaphorical extension involved?' and if 'yes', 'what is the metaphorical extension and what is its target domain?'. When it is found that the image schema UP/DOWN or SHANG/XIA is mapped into a non-spatial domain, such as TIME, QUANTITY, etc., that shall be considered as an instance of a metaphorical extension and the value put down shall be 'yes' followed by the specification of the metaphor and the identification of the target domain in capitalized letters. When it is found that the image schema UP/DOWN or SHANG/XIA operates within the domain of space, that shall be considered as an instance of absence of metaphorical extension and the value put down shall be 'no'.
With the Chinese data, in order to capture the difference between the contact SHANG, the static SHANG and the dynamic SHANG on the one hand, and between the contact XIA, the static XIA and the dynamic XIA on the other hand, one more field 'prototype model' is introduced. The value for this field is 1 or 2 or 3, with 1 referring to the contact SHANG/XIA, 2 referring to the static SHANG/XIA, and 3 referring to the dynamic SHANG/XIA.

With the corpora data of both English and Chinese, there is no field for 'lexical entry' and field 3 'sample text' refers to the context taken from the corpus in which that particular instance of up/down or shang/xia is found to occur.

In the final statistical analysis of the corpora data, filters are created that combine and control the various fields in order to calculate (1) the percentage of the data with metaphorical extensions, (2) the percentage of the data without metaphorical extensions, and (3) the frequency of each metaphorical extension detected. For example, I can create a query of instances of up that have metaphorical extension and have QUANTITY as target domain, or a query of instances of down that have metaphorical extension and have TIME as target domain.

While doing the English data analysis, one question which cannot be avoided is how to analyze the up or down in a particular verb-particle construction (VPC), such as pick up, or cut down. In traditional semantic approach (see, e.g. Fraser 1976), it is held that particles do not contribute to the meaning of the VPC, because by definition VPCs are idioms and no semantic information can be associated with any component part of an idiom. Cognitive linguistic approach is in direct contrast with this. Supported by a detailed investigation of VPCs with out and up, Lindner (1981: 38-39) claims that "particles almost invariably do code some part of the meaning of the VPC".
On the basis of Lindner's research, Morgan (1997: 329), in her treatment of the English VPCs, makes the following assumptions:

1. The semantics of VPCs are not arbitrary; the meanings of VPCs are directly related to aspects of the individual meanings of the component verbs and particles, by inheritance and/or by metaphorical or metonymic extension.

2. The verb contributes the source domain of the VPC, whether literally, metonymically, or metaphorically.

3. The particle of the VPC is the expression of a cognitive image schema (e.g., containment, verticality), which may be instantiated literally or metaphorically.

The present research follows Lindner (1981) and Morgan (1997) in recognizing the contribution of *up* or *down* to the whole phrase. However, since our interest is not in *up/down* as a word, but in *up/down* as encoding the concept UP/DOWN, we will not concern ourselves with distinctions between *up/down* as a preposition, or adjective or adverb.

Below are some examples taken from the lexicographical data and the corpora data (for more examples, see Appendix 3).

<table>
<thead>
<tr>
<th>ID No.</th>
<th>Lexical entry</th>
<th>Sample text</th>
<th>sense</th>
<th>TR</th>
<th>LM</th>
<th>path</th>
<th>Vertical axis</th>
<th>Meta. Ext.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Add up</td>
<td>We add all the marks up.</td>
<td>To calculate the total</td>
<td>All the marks</td>
<td>Not mentioned</td>
<td>Towards a larger number</td>
<td>Vertical axis of numbers</td>
<td>Yes: towards a larger number is up. NUMBERS/QUANTITY</td>
</tr>
<tr>
<td>10</td>
<td>Ask up</td>
<td>When the doctor arrives, ask him up.</td>
<td>To invite (sb.) to come upstairs</td>
<td>The doctor</td>
<td>(my present location)</td>
<td>Coming upstairs</td>
<td>Literal vertical axis</td>
<td>No</td>
</tr>
<tr>
<td>90</td>
<td>Cheer up</td>
<td>You need a holiday to cheer you up.</td>
<td>To (cause to) feel happier</td>
<td>you</td>
<td>(your present mood)</td>
<td>Towards a happier mood</td>
<td>Vertical axis of emotional states</td>
<td>Yes: towards a state of cheerfulness is up. EMOTIONAL STATES/STATES</td>
</tr>
<tr>
<td>150</td>
<td>Drag up</td>
<td>All the supplies have to be dragged up by the climbers.</td>
<td>To pull (sth) upward</td>
<td>The supplies</td>
<td>(the present location of the supplies)</td>
<td>Towards the top of the mountain</td>
<td>Literal vertical axis</td>
<td>No</td>
</tr>
<tr>
<td>ID No.</td>
<td>Lexical entry</td>
<td>Sample text</td>
<td>sense</td>
<td>TR</td>
<td>LM</td>
<td>path</td>
<td>Vertical axis</td>
<td>Meta. ext</td>
</tr>
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</tr>
<tr>
<td>15</td>
<td>Bend down</td>
<td>He asked me to bend down so that he could stand on my shoulders.</td>
<td>to move the top part of one's body downwards while standing</td>
<td>the top part of my body</td>
<td>the original position of the top part of my body</td>
<td>down from the original position</td>
<td>literal vertical axis</td>
<td>No</td>
</tr>
<tr>
<td>33</td>
<td>Calm down</td>
<td>When she had calmed herself down, she started the engine.</td>
<td>If you calm down or if someone calms you down, you become less upset, excited, or lively.</td>
<td>Herself</td>
<td>Her original state</td>
<td>Down from the original state</td>
<td>Vertical axis of states</td>
<td>Yes: towards a calmer state is down. MENTAL STATES/STATES</td>
</tr>
<tr>
<td>34</td>
<td>Carry down</td>
<td>The custom has been carried down from the 18th century.</td>
<td>to give or leave (sth such as an idea) to people who are younger or come later</td>
<td>The custom</td>
<td>The 18th century</td>
<td>Down from the 18th century</td>
<td>Vertical axis of time</td>
<td>Yes: towards a later time is down. TIME</td>
</tr>
<tr>
<td>58</td>
<td>Cut down</td>
<td>Save time for yourself by cutting your shopping down.</td>
<td>to reduce sth or do it less often</td>
<td>Your shopping</td>
<td>The original amount of your shopping</td>
<td>Down from the original amount</td>
<td>Vertical axis of amounts</td>
<td>Yes: towards a smaller amount is down. AMOUNTS/QUANTITY</td>
</tr>
<tr>
<td>138</td>
<td>Lay down</td>
<td>The dinner guest laid down his knife and fork with a look of complete satisfaction.</td>
<td>to place (sth, someone, or oneself) down, as on the ground, furniture, etc</td>
<td>His knife and fork</td>
<td>(the dinner table)</td>
<td>Down onto the table</td>
<td>Literal vertical axis</td>
<td>No</td>
</tr>
</tbody>
</table>

Excerpt from the lexicographical data of DOWN

<table>
<thead>
<tr>
<th>ID No.</th>
<th>Lexical entry</th>
<th>Sample text</th>
<th>sense</th>
<th>Pro. model</th>
<th>TR</th>
<th>LM</th>
<th>path</th>
<th>Vertical axis</th>
<th>Meta. Ext.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>上岸</td>
<td>上岸之后找旅馆</td>
<td>Go ashore</td>
<td>3</td>
<td>Not mentioned</td>
<td>The bank</td>
<td>Up to the bank</td>
<td>Literal vertical axis</td>
<td>No</td>
</tr>
<tr>
<td>4</td>
<td>上半天</td>
<td>上半天做农活</td>
<td>In the morning</td>
<td>2</td>
<td>The morning</td>
<td>(the noon)</td>
<td>zero</td>
<td>Vertical axis of time</td>
<td>Yes: an earlier time is shang. TIME</td>
</tr>
<tr>
<td>ID No.</td>
<td>Lexical entry</td>
<td>Sample text</td>
<td>sense</td>
<td>Pro. model</td>
<td>TR</td>
<td>LM</td>
<td>path</td>
<td>Vertical axis</td>
<td>Meta. Ext.</td>
</tr>
<tr>
<td>-------</td>
<td>---------------</td>
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<td>----</td>
<td>----</td>
<td>------</td>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>1</td>
<td>下巴</td>
<td>他的下巴很长。</td>
<td>the lower jaw</td>
<td>2</td>
<td>The lower jaw</td>
<td>2</td>
<td>The face</td>
<td>zero</td>
<td>Literal vertical axis</td>
</tr>
<tr>
<td>3</td>
<td>下班</td>
<td>你今天下班后去哪儿？</td>
<td>To go off work</td>
<td>3</td>
<td>You</td>
<td>Your working place</td>
<td>Your working state Down from the working state</td>
<td>Vertical axis of states</td>
<td>Yes: towards a less active state is xia. STATES</td>
</tr>
<tr>
<td>5</td>
<td>下半夜</td>
<td>我昨晚半夜睡得不好</td>
<td>The latter half of the night</td>
<td>2</td>
<td>The latter half of the night</td>
<td>The 1st half of the night</td>
<td>zero</td>
<td>Vertical axis of time</td>
<td>Yes: a later time is xia. TIME</td>
</tr>
<tr>
<td>12</td>
<td>下策</td>
<td>不到万不得已，他们是不会出此下策的</td>
<td>A bad strategy</td>
<td>2</td>
<td>The bad strategy</td>
<td>A good strategy</td>
<td>zero</td>
<td>Vertical axis of quality</td>
<td>Yes: of poorer quality is xia. QUALITY/STATES</td>
</tr>
<tr>
<td>24</td>
<td>下达</td>
<td>只有这样才能做到上情下达</td>
<td>make known (or transmit) to lower levels</td>
<td>3</td>
<td>The feelings of the leader</td>
<td>Those under the leadership Down to those under the leadership</td>
<td>Vertical axis of statuses</td>
<td>Yes: towards a lower status is xia. STATUSES/SOCIAL HIERARCHY</td>
<td></td>
</tr>
<tr>
<td>99</td>
<td>脚下</td>
<td>脚下的地在抖</td>
<td>Under the feet</td>
<td>1</td>
<td>The ground</td>
<td>The feet</td>
<td>zero</td>
<td>Literal vertical axis</td>
<td>No</td>
</tr>
</tbody>
</table>

Excerpt from the lexicographical data of XIA

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I was brought up in a white neighborhood with a white mother and white brothers and sister.</td>
<td>Look after a child until it is grown up and try to give it particular beliefs and attitudes</td>
<td>1</td>
<td>(the state of being a child)</td>
<td>Towards being a grown-up</td>
<td>Vertical axis of mental states</td>
<td>Yes: towards a more mature state is up. MATURITY/MENTAL STATES/STATES</td>
</tr>
<tr>
<td>21</td>
<td>The French champions, 5-1 up from the home leg, dominated the 1st half against the Albanians.</td>
<td>In a winning position by a certain number of points or goals</td>
<td>The French champions</td>
<td>The Albanians</td>
<td>zero</td>
<td>Vertical axis of scores</td>
<td>Yes: of a larger score is up. SCORES/QUANTITY</td>
</tr>
<tr>
<td>-------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------</td>
<td>--------------------------</td>
<td>-----------------------------------</td>
<td>-----------------------</td>
<td>---------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>3</td>
<td>Looking back now, Charlie says he supposes he is up there with the greats, but he never considered himself a great star.</td>
<td>Situated in a high place (according to a particular social standard)</td>
<td>Charlie</td>
<td>The greats</td>
<td>zero</td>
<td>Vertical axis of statuses</td>
<td>Yes: of a higher status is up. STATUSES/SOCIAL HIERARCHY</td>
</tr>
<tr>
<td>88</td>
<td>It is quite a steep climb up to the Gatehouse but the Castle's entrance was deliberately placed so that anyone approaching it should arrive out of breath.</td>
<td>Towards a higher place</td>
<td>Anyone climbing</td>
<td>The Gatehouse</td>
<td>zero</td>
<td>Literal vertical axis</td>
<td>No</td>
</tr>
</tbody>
</table>

Excerpt from the corpus data of UP

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>You will feel a stretching sensation around your neck, providing you keep the left heel down.</td>
<td>Toward the ground</td>
<td>The left heel</td>
<td>(the original position of the heel)</td>
<td>zero</td>
<td>Literal vertical axis</td>
<td>No</td>
</tr>
<tr>
<td>20</td>
<td>'Markets tend to go both up and down,' I continued aloud, 'and our BBP Fund is no exception.'</td>
<td>To a lower point on a scale</td>
<td>markets</td>
<td>Not mentioned</td>
<td>To a smaller amount</td>
<td>Vertical axis of amounts</td>
<td>Yes: towards a lower amount is down. AMOUNTS/QUANTITY</td>
</tr>
<tr>
<td>42</td>
<td>He had only been out of the pit six months. He came down to Yorkshire in 1953, and came into contact with young Scargill soon after.</td>
<td>From north to south</td>
<td>he</td>
<td>Yorkshire</td>
<td>Down to Yorkshire</td>
<td>Horizontal axis</td>
<td>Elaboration: southward is down.</td>
</tr>
<tr>
<td>139</td>
<td>In the early 1980s he directed Agudat Israel to support a no-confidence motion in the government to close down a Mormon college in Jerusalem.</td>
<td>To stop the operations temporarily</td>
<td>The college</td>
<td>(its operative state)</td>
<td>Towards the end</td>
<td>Vertical axis of states</td>
<td>Yes: towards finality is down. FINALITY/STATES</td>
</tr>
</tbody>
</table>

Excerpt from the corpus data of DOWN

<table>
<thead>
<tr>
<th>ID No.</th>
<th>sample text</th>
<th>sense</th>
<th>pro. model TR</th>
<th>LM</th>
<th>path</th>
<th>vertical axis</th>
<th>meta. Ext.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>半数以上的票房收入来自北美以外的市场</td>
<td>towards a higher point on a scale</td>
<td>2 the income</td>
<td>50% of the income</td>
<td>zero</td>
<td>vertical axis of quantity</td>
<td>yes: of a larger amount is shang. AMOUNTS/QUANTITY</td>
</tr>
<tr>
<td>3</td>
<td>刘启兴拼命抓住东西往上涨</td>
<td>towards a higher place</td>
<td>3 Liu Qixing</td>
<td>not mentioned</td>
<td>towards a higher place</td>
<td>literal vertical axis</td>
<td>no</td>
</tr>
<tr>
<td>19</td>
<td>她在大坂的比赛上也同样跑出了好成績</td>
<td>at an abstract location</td>
<td>1 she</td>
<td>the competition</td>
<td>zero</td>
<td>-</td>
<td>yes: at a public location is shang. PUBLICITY/STATES</td>
</tr>
</tbody>
</table>

105
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>如果他当上书记，很可能造福百姓的好书记</td>
<td>(fulfillment of an action)</td>
<td>3</td>
<td>he</td>
<td>the post of the secretary</td>
<td>towards fulfillment of the action</td>
<td>vertical axis of states</td>
<td>yes: towards fulfillment of an action is shang. FULFILMENT/STATES</td>
</tr>
<tr>
<td>34</td>
<td>中国队上届也被公认是最佳的队伍</td>
<td>last term</td>
<td>2</td>
<td>the last term</td>
<td>the present term</td>
<td>zero</td>
<td>vertical axis of time</td>
<td>yes: an earlier time is shang. TIME</td>
</tr>
<tr>
<td>72</td>
<td>将决议逐级上报到中央待批</td>
<td>towards a higher authority</td>
<td>3</td>
<td>the decision</td>
<td>the central government</td>
<td>towards the central government</td>
<td>vertical axis of social hierarchy</td>
<td>yes: a higher authority is shang. SOCIAL HIERARCHY</td>
</tr>
</tbody>
</table>

Excerpt from the corpus data of SHANG

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>在篮球相对公道的情况下，中国队往往发挥正常</td>
<td>under an abstract situation</td>
<td>1</td>
<td>the Chinese team playing normally</td>
<td>the judge being fair</td>
<td>zero</td>
<td>-</td>
<td>yes: under the control of a situation is xia. SOCIAL HIERARCHY</td>
</tr>
<tr>
<td>23</td>
<td>到俱乐部足球场看球的球迷主要来自下等阶层</td>
<td>the lower class</td>
<td>2</td>
<td>the lower class</td>
<td>the upper class</td>
<td>zero</td>
<td>vertical axis of statuses</td>
<td>yes: of a lower status is xia. STATUSES/SOCIAL HIERARCHY</td>
</tr>
<tr>
<td>29</td>
<td>还有两个小洞翻滚到水底</td>
<td>under the water surface</td>
<td>2</td>
<td>the rolls</td>
<td>the water level</td>
<td>zero</td>
<td>literal vertical axis</td>
<td>no</td>
</tr>
<tr>
<td>39</td>
<td>在人口出生率不断下降的芬兰</td>
<td>fall to a lower point on a scale</td>
<td>3</td>
<td>the birth rate</td>
<td>(the original birth rate)</td>
<td>down from the original birth rate</td>
<td>vertical axis of rates</td>
<td>yes: towards a lower rate is xia. RATES/QUANTITY</td>
</tr>
<tr>
<td>43</td>
<td>从三月下旬开始</td>
<td>the last ten days in a month</td>
<td>2</td>
<td>the last ten days of March</td>
<td>the mid ten days of March</td>
<td>zero</td>
<td>vertical axis of time</td>
<td>yes: a later time is xia. TIME</td>
</tr>
<tr>
<td>80</td>
<td>保护职工和企业改革的合法权益</td>
<td>go off on duty</td>
<td>3</td>
<td>the workers</td>
<td>their original post</td>
<td>down from the post</td>
<td>vertical axis of states</td>
<td>yes: towards a less active state is xia. STATES</td>
</tr>
</tbody>
</table>

Excerpt from the corpus data of XIA

106
Chapter 5 SHANG/XIA and UP/DOWN in the Lexicon

This chapter presents the findings of the four concepts under concern as reflected in the lexicon. It is hoped that through an analysis of the lexical entries containing shang, xia, up and down in the dictionaries chosen, we will be able to discover from them a reasonably comprehensive list of the conventionalized metaphors for SHANG, XIA, UP and DOWN. The chapter consists of three sections. Section 5.1 is about the metaphorical extensions of SHANG/XIA as recorded in the Chinese lexicon. Section 5.2 is about the metaphorical extensions of UP/DOWN as recorded in the English lexicon. Section 5.3 summarizes the findings and highlights the systematicity and coherence underlying the metaphorical mappings of SHANG/XIA and UP/DOWN onto their abstract target domains.

Following the claims of experiential realism that conceptual metaphors arise from bodily experience and once set up, will then impose their structures on real life, in presenting the metaphorical extensions detected, I shall try to work out their experiential grounding on the one hand and their realizations in real life on the other. It is to be emphasized that the lists I shall come up with are by no means comprehensive. Nevertheless, they point out a possible direction worth pursuing in future research.
5.1 SHANG and XIA

SHANG and XIA originated as purely spatial concepts. This is reflected in the earliest pictographic characters inscribed on oracle-bones excavated from 殷 Yin (capital of the Shang Dynasty). For shang the earliest pictographic version is  （something being above something else) and for xia the earliest pictographic version is  （something being below something else）¹.

As noted in Section 3.5, SHANG and XIA have three prototypical models, the static model, the contact model (which is a special case of the static model), and the dynamic model. The static model denotes the particular location of the trajector in relation to the landmark. The contact model highlights the contact between the trajector and the landmark: with SHANG, the trajector stays on the surface of and is supported by the landmark; with XIA, the trajector stays underneath and is covered by the landmark. The dynamic model denotes the orientation of the motion of the trajector in relation to the landmark. The importance of the SPACE domain as a whole, and of SHANG/XIA dimension in particular, together with the many unique features of the Chinese history, culture and society, has made it possible many interesting metaphorical extensions for SHANG and XIA to follow.

Generally speaking, evidence in the Chinese lexicon shows that SHANG and XIA as tagged by the words shang and xia are mainly used for the conceptualization of a certain stage or a certain process in the following four target domains, namely,

¹ These 2 pictographic characters could suggest that SHANG and XIA were originally concepts which captured the static relationship between TR and LM. That SHANG and XIA now also capture the dynamic relationship between TR and LM might be a later development.
QUANTITY of something, SOCIAL HIERARCHY of people or organizations, TIME, and STATES of people, objects or events. The metaphorical extensions identified are:

(1) AT/TOWARDS A LARGER QUANTITY IS SHANG
(2) AT/TOWARDS A HIGHER STATUS IS SHANG
(3) AT/TOWARDS AN EARLIER TIME IS SHANG
(4) AT/TOWARDS A MORE DESIRABLE STATE IS SHANG

AT/TOWARDS A SMALLER QUANTITY IS XIA
AT/TOWARDS A LOWER STATUS IS XIA
AT/TOWARDS A LATER TIME IS XIA
AT/TOWARDS A LESS DESIRABLE STATE IS XIA

The mapping of the image-schematic structures of SHANG and XIA onto that of their target domains and the relationship this mapping has with its experiential grounding and its realizations in real life are roughly captured in the following figure:

Figure 5.1 Mapping SHANG-XIA onto their target domains
In this figure we see that the image-schematic structures of SHANG and XIA emerge directly from our bodily experience. These directly meaningful structures are then mapped onto various target domains (i.e. QUANTITY, SOCIAL HIERARCHY, TIME and STATES) through conceptual metaphors. As a result, these target domains are structured by SHANG and XIA and become indirectly meaningful to us. Once set up, these metaphorical mappings then impose their structures on many other aspects of real life, thus resulting in their realizations in many different ways. In order to better capture the changes in the location of the trajector over a period of time, a time dimension has been introduced to the target domains. The trajector can, of course, remain stationary from time 1 to time 3 as well.

One thing to be emphasized before we go to closer examination of the metaphorical extensions observed is that the four target domains onto which the image-schematic structures of SHANG and XIA are projected, namely QUANTITY, SOCIAL HIERARCHY, TIME and STATES, are all basic and important concepts in our daily life. The mere fact that the Chinese rely on spatial metaphors to construe these abstract domains provides a piece of evidence for the cognitive linguist's claim that abstract conceptual structure partially arises from image-schematic structure and that abstract thinking is partially metaphorical thinking.

It is easy to see that there exist close parallels between the metaphorical extensions of SHANG and XIA: while A LARGER QUANTITY is SHANG, A SMALLER QUANTITY is XIA; and while A HIGHER STATUS is SHANG, A LOWER STATUS is XIA. This is a piece of evidence that SHANG and XIA organize the four abstract target domains in a coherent and systematic way rather than in a chaotic manner. Of course, this does not rule out the possibility that there might exist minor
incoherent points within the overall system. In the following descriptions, we shall notice that some mismatches exist between certain specific metaphorical extensions of SHANG and XIA.

5.1.1 QUANTITY

The general metaphorical extensions observed for this target domain are:

AT/TOWARDS A LARGER QUANTITY IS SHANG.

AT/TOWARDS A SMALLER QUANTITY IS XIA.

With this pair of metaphors, the image schematic structures of SHANG and XIA are mapped onto that of the domain of QUANTITY, giving the latter a vertical numerical scale.

Experiential Grounding:

If more of a substance or of physical objects is added to a container or pile, the level goes up. For example, if we leave the water running, the water level of the bathtub will go up. This is considered as one of the clearest physical bases for all possible conceptual metaphors because it recurs again and again in everyday life (see Lakoff & Johnson 1980: 15-16, Lakoff 1993: 240, Johnson 1987, Goatly 1997).

It is not that our bodily experience offers no basis for alternative metaphors to conceptualize QUANTITY. For example, perhaps we could say "A LARGER QUANTITY IS HEAVIER" and "A SMALLER QUANTITY IS LIGHTER" or "A LARGER QUANTITY IS LONGER" and "A SMALLER QUANTITY IS SHORTER". That Chinese (and English as well, as will be discussed in 5.2) did not develop along these lines is no accident, because as we argued in Chapter 3, SPACE...
in general and SHANG/XIA in particular, occupy a primary position in our experience
and in our cognitive activities.

Realizations of the Metaphor:

Man-made objects like thermometers and stock market graphs are realizations of
the metaphor in real life\(^2\). With thermometers, increases in temperature are
represented as the level of mercury going up and decreases as the level going down.
So it is with stock market graphs, where increases and decreases in stock prices are
represented as lines or bars going up and down respectively. In this way,
thermometers and stock market graphs accord with the metaphor by exhibiting a clear
correlation between A LARGER QUANTITY and SHANG and between A
SMALLER QUANTITY and XIA, and are therefore much easier to accept than if they
contradicted the metaphor.

AT/TOWARDS A LARGER QUANTITY IS SHANG// AT/ TOWARDS A
SMALLER QUANTITY IS XIA carry the following special cases:

Increase in salary is shang/ Decrease in salary is xia.
Increase in costs is shang/ Decrease in costs is xia.
Increase in prices is shang/ Decrease in prices is xia.
Increase in inflation rate is shang/ Decrease in inflation rate is xia.
Increase in temperature is shang/ Decrease in temperature is xia.
Increase in speed is shang/ Decrease in speed is xia.
Increase in volume/pitch of voice is shang/ Decrease in volume/pitch of voice is xia.
Increase in number is shang/ Decrease in number is xia.

For example:

工资上调 (gongzi shangtiao, salary up adjust, a rise in the salary)
消费下降 (xiaofei xiajian, consumption down fall, a drop in consumption)
物价上涨 (wujia shangzhang, price up rise, a rise in the price)
物价下跌 (wujia xiadie, price down drop, a drop in the price)

\(^2\) Both thermometers and stock market graphs were created in the West and then introduced to China. In
this sense the metaphor was first made real in this way in the West. Yet by now both the objects have
become an integral part of everyday life in China, which suggests that the Chinese have adopted this
particular way of realizing the metaphor.
通货膨胀上扬 (tonghuo pengzhang shangyang, inflation rate up rise, a rise in the inflation rate)
通货膨胀下降 (tonghuo pengzhang xiajiang, inflation rate down fall, a drop in the inflation rate)
温度上升 (wendu shangsheng, temperature up rise, a rise in the temperature)
速度下降 (sudu xiajiang, speed down land, a drop in the speed)
声音上扬 (shengyin shangyang, voice up rise, a rise in the voice)
数量下调 (shuliang xiatiao, number down adjust, to decrease a number)

From the above examples, it can be observed that within the target domain QUANTITY, there exist close parallels between the specific metaphorical extensions for SHANG and XIA, so that if something is oriented shang, then its opposite is always oriented xia. There is also overall coherence among the different specific metaphorical extensions observed. For example, 'Increase In Costs', 'Increase In Prices' and 'Increase In Inflation Rate' are interrelated and are all oriented upwards. 'Decrease In Costs', 'Decrease In Prices' and 'Decrease In Inflation Rate' are also interrelated and are all oriented downwards. Together these two points characterize a coherent system which structures our understanding of the domain of QUANTITY. We can roughly capture the system at work by the following figure:

![Diagram](image)

Figure 5.2 The domain of QUANTITY structured by SHANG/XIA

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5.1.2 SOCIAL HIERARCHY

The general metaphorical extensions observed for this target domain are:

AT/TOWARDS A HIGHER STATUS IS SHANG.

AT/TOWARDS A LOWER STATUS IS XIA.

With this pair of metaphorical extensions, the image-schematic structures of SHANG and XIA are mapped onto that of the target domain of SOCIAL HIERARCHY. Since what counts as a higher status and what counts as a lower status are a matter of judgment, different observers belonging to different sub-cultural groups may have different opinions (see, e.g. Jackendoff 1996: 23, Lakoff & Johnson 1980: 22-24). Take the Buddhists as an example. According to their values, a status which is considered prestigious in this world is not necessarily considered prestigious in their higher world. In this respect, the Buddhists conflict with the mainstream cultural values. However, with them a higher status is still counted as shang and a lower status as xia. That is to say, although the Buddhists may have radically redefined notion of status, they and the mainstream culture still share the same conceptual metaphor AT/TOWARDS A HIGHER STATUS IS SHANG/

AT/TOWARDS A LOWER STATUS IS XIA. In this way, their particular value system is coherent with the major conceptual metaphor of the mainstream culture. In the following discussion, the point of view of an observer within the mainstream culture is assumed.

Experiential Grounding:

In ancient society, a man's status is associated with his physical strength, the latter in turn is typically correlated with his physical size. A man taller and bigger is usually
stronger hence in a better position to win a fight than a man shorter and smaller. The victor in a fight is typically on top of the loser (Lakoff & Johnson 1980: 15-16, Lakoff 1993, Johnson 1987).

In modern society, social status is typically correlated with social power. The higher the status, the more the power. This then agrees with the metaphor introduced in the previous section AT/TOWARDS A LARGER QUANTITY IS SHANG//AT/TOWARDS A SMALLER QUANTITY IS XIA.

Realizations of the Metaphor:

Architecture: Take the halls in the Forbidden City as an example. To go to any of the halls, one needs to climb a lot of stairs. Those halls symbolize the emperor's status and power in people's eyes and are therefore raised far above the ground level.

Rituals: In ancient China, the throne of the emperor was always situated at a place several steps higher than the seats for his ministers (if they were to have a seat at all). Within family households, the seat for the patriarch was also situated at a higher place or at a place considered to be higher. Common people kowtow in front of officials to acknowledge their humbleness. The rebellious were forced to kneel down on their knees to repent of their sin.

Religious beliefs: Both in Buddhism and in Taoism, the higher world is considered as being literally above this world. The aim for practicing Buddhism or Taoism is to go up to that higher world.

Social practices: In a name list, the names of VIPs come at the top of a page. In the prize-giving ceremonies of sports games, the champion stands a step higher than the second place, who in turn stands a step higher than the third place. Such is also the arrangement with their national flags.
No specific metaphorical extensions are distinguished within the domain of

SOCIAL HIERARCHY. Below are some examples:

(1) 上调 (shangdiao, up move, move to a higher social position)
(2) 下放 (xiafang, down place, be moved to a lower social position)
(3) 上情下达 (shangqing xiada, up feeling down reach, for the feelings of those at the top to reach those at the bottom)
(4)上级部门 (shangji bumen, up step bureau, those bureaus of a higher level)
(5)下级部门 (xiaji bumen, down step bureau, those bureaus of a lower level)
(6)上司 (shangsi, up control, the boss)
(7)手下 (shouxia, hand down, one's clients)
(8)上座 (shangzuo, up seat, the seat for VIP)
(9)下座 (xiazuo, down seat, the seat for less prestigious people)
(10)上流社会 (shangliu shehui, up stream society, the upper class society)
(11)下流社会 (xiaoliu shehui, down stream society, the lower class society)
(12)上中农 (shangzhongnong, up middle peasant, the upper-middle class peasants)
(13)下中农 (xiazhongnong, down middle peasant, the lower-middle class peasants)

In example (1), to move to a social position with more importance is referred to as an 'up move'. In example (2), to be driven to a social position with less prestige is called 'being placed downwards'. In (3), 'up feelings' refers to the feelings of those figures at the top and their being understood by the public is referred to as 'down reach'. Similar explanations can be applied to examples (4) to (11). Examples (12) and (13) are peculiar in a sense because 'upper-middle class peasants' refers to those with more property than middle class peasants; 'lower-middle class peasants' refers to those with less property than middle class peasants; and, according to the value system of Communist China around the 1950s, 'upper-middle class peasants' are of lower social status than 'lower-middle class peasants'. Underlying this phenomenon are two conflicting cultural values. One is the traditional value 'richer is better' and the other is the extreme communist value 'poorer is better'. The fact that those with more property
are called *shangzhongnong* (upper middle peasants) despite their lower status and those with less property are called *xiazhongnong* (lower middle peasants) despite their higher status seems to suggest that the traditional value overrides the extreme communist value in this particular case. In the following sections, we shall notice more examples of conflicting values reflected in conceptual metaphors.

5.1.3 TIME

The general metaphorical extensions observed for this target domain are:

AT/TOWARDS AN EARLIER TIME IS SHANG.

AT/TOWARDS A LATER TIME IS XIA.

These two metaphors fit into the larger system of TIME-AS-SPACE metaphor noticed by many researchers (see e.g., Lakoff & Johnson 1980, Lakoff 1993, Alverson 1994, Svorou 1994, Allan 1995, Yu 1996). With the two metaphors, the image-schematic structures of SHANG and XIA are mapped onto the domain of TIME, giving the latter a vertical axis.

In the history of human thought, the conceptions of SPACE and TIME figured prominently among the most fundamental notions of philosophy. People had noticed the interconnections between the two concepts long before Einstein's relativism was put forward. As Samuel Alexander (1859-1938) put it, "space is in its very nature temporal and time spatial" (from Keshavmurti 1991: 36). However, SPACE and TIME do not seem to stand on a completely equal footing from a conceptual perspective. Look at the following definition for SPACE and TIME:

Space is commonly regarded as something that is around us and above us, and Time as something that flows on forever. (Keshavmurti 1991: 1)
In this definition, SPACE is defined literally in its own terms (around and above) while TIME is defined by resorting to a spatial metaphor (something that flows on forever). That the concept TIME cannot be approached without getting onto the vehicle of a spatial metaphor is also illustrated by the following Buddhist view:

Time is unintelligible. The past, the present and the future are relative, they are not self-existent. The past is that nature of an object which was produced and has been destroyed. The present is one which has been produced and still exists. The future one is that which has not yet come into being. Time exists only in relation to things. It cannot exist apart from them. (from Keshavmurti 1991: 38)

From this quotation it can be seen that in Buddhism time is defined in terms of objects or things coming into and going out of existence. Since objects and things only exist in SPACE, it follows that the definition of TIME in Buddhism does not get around SPACE, either. Indeed, throughout history and across different cultures, "the models in which the conceptualization of time is cast have all been spatial in nature. The major models include time as linear, time as cyclic, and time as spiral" (Yu 1996: 86).

With the linear model, time is one-dimensional, moving from the past through the present to the future, or vice versa. With the cyclic model, time is two-dimensional, forming a closed loop along which one can go forward to the past. With the spiral model, time occupies a three-dimensional space while moving around and upward or forward.
5.1.3.1 TIME PASSING IS MOTION ALONG HORIZONTAL AXIS

In Chinese it is mainly the linear model, rather than the cyclic or the spiral model, that has been chosen for the conceptualization of TIME\(^3\). The linear model offers at least two possibilities, one is TIME PASSING IS MOTION ALONG HORIZONTAL AXIS, and the other is TIME PASSING IS MOTION ALONG VERTICAL AXIS. In Chinese both versions seem to enjoy more or less the same level of popularity. This section discusses the horizontal version briefly. Following this version, the Chinese give their TIME concept a 前/后 (QIAN/ HOU, FRONT/BACK) orientation. Two special cases are distinguished with this version (see Reichenbach 1956, Yu 1996: 95-152, Lakoff & Johnson 1980, Lakoff 1993: 217-218):

**Special case 1:** TIME PASSING IS MOTION OF AN OBJECT ALONG HORIZONTAL AXIS.

The observer is fixed, facing the direction time is coming. Times are entities moving horizontally with respect to the observer. Times are oriented with their fronts in their direction of motion.

**Entailments:**

The past is the time that has gone by the stationary observer. The present is the time at the same location as the observer. The future is the time that is moving toward the observer.

\(^3\) Dr. Jiang Yan suggested that notions like 天干 (the Heavenly Stems) and 地支 (the Twelve Earthly Branches) seem to show that the cyclic model is also in use.
This case may be illustrated by the following figure:

![Diagram showing time as a moving object.]

**Figure 5.3 Case 1: Time as moving object**  
(after Yu 1996: 113)

It accounts for both the linguistic form and the semantic entailments of the following expressions among others:

- 过去 (guoqu, passed/ gone by, past)
- 已往 (yiwang, already gone, past)
- 去年 (qunian, gone year, last year)
- 现在 (xianzai, on hand existing, at present)
- 当前 (dangqian, just at-front, at present)
- 眼前 (yanqian, eye at-front, at present)
- 将来 (jianglai, will come, future)
- 未来 (weilai, not yet come, future)
- 来日 (lairi, come day, future)

**Special case 2: TIME PASSING IS MOTION OF THE OBSERVER OVER A HORIZONTAL LANDSCAPE.**

Times are fixed locations along a horizontal landscape; the observer is moving with respect to time; the observer is moving towards the future.

**Entailments:**

- The past is the time that has been left behind by the moving observer. The present is the time at the same location as the observer. The future is the time that is lying ahead of the observer.
This case may be illustrated by the following figure:

![Diagram showing time as stationary landscape]

**Figure 5.4 Case 2: Time as stationary landscape**  
(after Yu 1996: 113)

It accounts for a different range of expressions. For example:

走过四季 (zouguo siji, walk through four season, to go through a year)  
脚下的路还很长 (jiaoxia de lu hai hen chang, foot-under road very long, at present there is still a long way to go)  
前程 (qiancheng, front journey, future/ prospect)  
前景 (qianjing, front view, future/ prospect)  
前路 (qianlu, front road, future)

Together, special cases 1 and 2 form a coherent picture because in both cases future is in front of the observer and past is behind the observer\(^4\). The two cases can

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\(^4\) In saying "future is in front of the observer/ past is behind the observer", the reference point is the observer. If the reference point shifts from the observer to another time, then "an earlier time is before a later time/ a later time is after an earlier time". This is reflected in expressions as follows:

- 前天 (qiantian, front day, the day before yesterday)  
- 后天 (houtian, back day, the day after tomorrow)  
- 晚饭前 (wanfan qian, late meal front, before the dinner time)  
- 晚饭后 (wanfan hou, late meal back, after the dinner time)

The seeming contradiction between "future is in front of (the observer)/ past is behind (the observer)" and "an earlier time is before (a later time)/ a later time is after (an earlier time)" is a result of the different reference points adopted on the one hand, and the special anthropocentric feature of front-back organization on the other: moving objects generally receive a front-back orientation so that the front is in the actual direction of motion or in the canonical direction of motion.
be combined into one figure as follows:

![Diagram showing the timeline with future in front and past behind]

**Figure 5.5 Cases 1 & 2: Future in front & past behind**

5.1.3.2 TIME PASSING IS MOTION ALONG VERTICAL AXIS

In the previous sub-section, we have examined two special cases involved in the horizontal version of the linear model of TIME. In what follows we shall see that two different special cases can be observed with the vertical version of the model:

**Special case 1:**

Times are fixed locations arranged along a vertical landscape. An earlier time is above a later time.

It is reflected in expressions like the ones listed below:

- 上一代 (**shang yi dai**, up a generation, the older generation)
- 下一代 (**xia yi dai**, down a generation, the younger generation)
- 上次 (**shangci**, up time, last time)
- 下次 (**xiaci**, down time, next time)
- 上半年 (**shang ban nian**, up half year, the first six months of a year)
- 下半年 (**xia ban nian**, down half year, the second six months of a year)
- 上旬 (**shangxun**, up ten days, the first ten days of a month)
- 下旬 (**xiaxun**, down ten days, the last ten days of a month)
- 上半夜 (**shang ban ye**, up half night, the first half of a night)
- 下半夜 (**xia ban ye**, down half night, the second half of a night)
- 上半辈子 (**shangban beizi**, up half life, the first half of one's life span)
下半辈子 (xiaban beizi, down half life, the second half of one's life span)
上元 (shang yuan, up yuan, 15th January)
下元 (xia yuan, down yuan, 15th October)

Special case 2:

Human beings (with their belongings) are moving downwards along the vertical landscape towards future. They can nevertheless go upwards to revisit an earlier time. Future is down and past is up.

It is reflected in expressions like:

由此上溯到汉朝 (youci shangsu dao hanchao, from here up trace to han dynasty, trace to the Han Dynasty from this point)
沿着历史的长河逆流而上 (yanzhe lishi de changhe niliu er shang, along history long river against stream up, to go up stream against the river of history)
坚持下去 (jianchi xiaqu, insist down go, carry on till the future)
一代一代传下来 (yidai yidai chuan xialai, one generation one generation pass down come, to pass down generation after generation)

The two cases are consistent with each other because both entail that AN EARLIER TIME IS SHANG and A LATER TIME IS XIA. They are illustrated by the following figure:
5.1.3.3 Experiential Grounding and Realizations of the TIME-AS-SPACE Metaphor

Experiential grounding:

1. The TIME-AS-MOTION/LOCATION-IN-SPACE metaphor accords with our biological make-up. Human beings have detectors for motion and for objects/locations in their visual systems, yet they have no detectors for time. It thus makes sense from a biological point of view that time should be understood in terms of things and motion (Lakoff 1993: 218).

2. In the history of human evolution, the conceptions of spatial relations are developed much earlier than those of temporal relations. One proposal has it that "temporal relations do not begin to 'organize' events in the human consciousness"
until the 13th century. Until then, time was to a significant degree perceived spatially" (from Akhundov 1986: 171, n. 32).

3. In the process of individual growth, the conception of spatial relations is acquired before those of temporal relations. According to Akhundov (1986: 21-22),

Although there are a great many... temporal aspects in the life of the newborn, the child is late in acquiring a concept of time. This may be due to features of the evolutionary process, in which a sense of space precedes one of time. It can also be observed that, as the child attempts to conceptualize time, he or she actually operates with spatial relations for a considerable period.

Realizations of the Metaphor:

Man-made objects: The calendars we have are a vivid way the TIME-AS-SPACE metaphor is realized in real life. In a typical calendar, an earlier time is usually put either in front of or above a later time.

Rituals: Ancestor worship is an outstanding feature of the Chinese culture. In Shang Dynasty, the Shang Kings already began to make offerings of grain and wine to assuage the hunger of the ancestral spirits. These offerings were always placed on top of the sacrificial altar which was raised above the ground level. For centuries, many families would keep a牌位 (p'aiwei), i.e. a memorial tablet, for their ancestors. P'aiwei again was always placed on top of an altar. People not only kowtow in front of the emperor and the officials, they also kowtow in front of their ancestors or in front of the p'aiwei of their ancestors.

Social practices: When drawing a family tree, one always puts the oldest generation at the top of the page, and then traces down to the youngest generation, rather than vice versa.
5.1.4 STATES

The general metaphorical extensions observed for this target domain are:

AT/TOWARDS A MORE DESIRABLE STATE IS SHANG.

AT/TOWARDS A LESS DESIRABLE STATE IS XIA.

With this pair of metaphors, the image schematic structures of SHANG/XIA are mapped onto that of the target domain STATES. This is actually a special case of the huge system of the Event Structure Metaphor (its existence in English is first noticed by Lakoff 1993 and its existence in Chinese is first noticed by Yu 1996). The main idea of the Event Structure Metaphor is that "various aspects of event structure, including notions like states, changes, processes, actions, causes, purposes, and means are characterized cognitively via metaphors in terms of space, motion, and force" (Lakoff 1993: 220). The following three metaphorical mappings are observed, among others, within this huge system:

a. STATES ARE LOCATIONS (BOUNDARY REGIONS IN SPACE).

b. CHANGE OF STATES IS CHANGE OF LOCATIONS.

c. PURPOSES ARE DESTINATIONS (DESIRABLE LOCATIONS) (Yu 1996: 169).

These three metaphorical mappings generalize over an extremely wide range of expressions, such as

境地 (jingdi, territory-land, situation)
处境 (chujing, located-place, unfavorable situation)
地步 (dibu, land-step, wretched situation)
投入运行 (touru yunxing, project into motion, get started)
步入佳境 (buru jiajing, step into good place, step into a good state)
陷入困境 (xianru kunjing, sink into encircled place, sink into a plight)
达到最高境界 (dadao zuigao jingjie, reach highest territory-boundary, to reach the most desirable situation)
My observation of SHANG/XIA being mapped onto the domain of STATES adds another piece of evidence for the existence of the Event Structure Metaphor in Chinese. It demonstrates that not only are states locations, i.e. bounded regions in space, but also a more desirable state is considered as being located at a higher place while a less desirable state is considered as being located at a lower place, so that changes towards a more desirable state are oriented upwards and changes towards a less desirable state are oriented downwards.

**Experiential grounding:**

Human body stands upright, with the head at the top and the feet at the bottom. Humans and most other mammals lie down when they sleep and stand up when they awaken. Normal healthy people carry out their daily routines standing or sitting upright. Seriously sick people are forced to lie down in bed, and dead people are physically down.

**Realizations of the Metaphor:**

*Physical symptoms:* Drooping posture is typically linked with sadness and depression, both are considered as less desirable emotional states; erect posture is typically linked with more positive emotional states like happiness and cheerfulness.

*Religious beliefs:* Both Buddhism and Taoism believe in a higher world located above this physical world where life is better.

*Literary works:* In novels and poems it is common for the course of pursuing a desirable purpose to take the form of an actual upward journey, such as mount climbing.

The following specific metaphorical extensions are identified within the target domain of STATES:
Consciousness

Subconscious Is Xia.

Morality

Of/Towards Higher Morality Is Shang.

上德 (shangde, up virtue, grand virtue)

Of/Towards Lower Morality Is Xia.

上士 (shangshi, up gentleman, gentleman with high morality)

下贱 (xiajian, down humble, of low morality)

上士 (xiashi, down gentleman, gentleman with low morality)

Quality

Of/Towards Better Quality Is Shang.

上品 (shangpin, up rank, of the best quality)

Of/Towards Worse Quality Is Xia.

Publicity

In Public Is Shang.

上市 (shangshi, up market, be on sale)

In Private Is Xia.

上市 (xiashi, down market, be off sale)

Intensity

Of/Towards A State Of Greater Intensity Is Shang.

上班 (shangban, up office, to go to work)

Of/Towards A State Of Lesser Intensity Is Xia.

上课 (shangke, up class, to have class)

下班 (xiaban, down office, to go off work)

Fulfillment Of An Action

Fulfillment Of A (Positive) Action Is Shang.

考上大学 (kaoshang daxue, test up university, got to be enrolled by a university)

Fulfillment Of A (Negative) Action Is Xia.

当上经理 (dangshang jingli, be up manager, get to the post of manager)

丢下孩子 (dixia haizi, drop down child, leave the child behind)

考上佳绩 (chuangxia jiaji, make down good achievements, make good achievements)
Two points are immediately eye-catching. First, while 'Subconscious Is Xia', there is no counterpart for it with SHANG. The reason for this might be that between conscious and subconscious, the former is the normal state of the mind, hence there is no need to mark it with shang; the latter is a temporary state of the mind, hence it is marked with xia.

Second, 'Fulfillment Of An Action' can be both shang and xia. Although when it is oriented as shang, it is almost always the fulfillment of a positive action (e.g. 当上经理, 考上大学), when it is oriented as xia, it is sometimes of a negative action (e.g. 丢下孩子), but sometimes of a positive action (e.g. 创下佳绩). This might be a result of the duality of the Event Structure Metaphor recognized by Lakoff (1993) and Yu (1996). According to them, the Event Structure Metaphor has a location-dual and an object-dual. The location-dual considers states as locations, changes as movements towards locations, and changes for the better as upward movements towards higher locations. When the fulfillment of a positive action is oriented shang, as in 考上大学 (kaoshang daxue, test up university), it is an instance of this location-dual. The object-dual of the Event Structure Metaphor considers attributes as possessions and changes as movements of possessions, that is, as acquisitions (grasping into hands) or losses (throwing away) of possessions. When the fulfillment of a positive action is oriented xia, as in 创下佳绩 (chuangxia jiaji, make down good achievements), it is a special instance of this object-dual, for what it conveys is that the object of the action, in this case the achievements, which used to be floating somewhere up in the air, has as a result of the action, been safely grasped down into somebody's hands and become his/her possession.
The two points noticed above do not harm the overall coherence among the metaphorical extensions with the target domain of STATES. This coherence is reflected through the following three points: First, there is an overall correspondence between those states which are considered shang and those states which are considered xia, so that while Higher Morality is Shang, Lower Morality is Xia; while Better Quality is Shang, Poorer Quality is Xia. Second, there is general consistency among the different specific metaphorical extensions uncovered for the various sub-domains of STATES. For example, to be in public is usually to be in a more intensive state and both are shang. Morality, in a sense, is also a kind of quality, only it is quality of people (in Chinese, morality is sometimes referred to as 道德品质, daode pinzhi, 'morality quality'). Higher morality is linked with better quality and both are shang. Third, there is also coherence between the metaphorical extensions observed for the target domain of STATES and those observed for the other target domains discussed in the previous sections, such as SOCIAL HIERARCHY and QUANTITY. For example, Higher Morality Is Shang/ Lower Morality Is Xia is consistent with A HIGHER STATUS IS SHANG/ A LOWER STATUS IS XIA because a person of higher morality is considered to have a higher status than a person of lower morality in the Chinese culture.

Some people might argue that A MORE DESIRABLE STATE IS SHANG is not always consistent with A LARGER QUANTITY IS SHANG, because though it is more desirable to have more money and more properties, it is certainly not desirable to have higher inflation rate, yet 'Increase In Inflation Rate Is Shang'. This inconsistency arises because there are sometimes competitions between the cultural values associated with conceptual metaphors, and whichever value has higher priority
wins in the competition\textsuperscript{5}. In the case under concern, the competition is between MORE IS GOOD and HIGH INFLATION RATE IS BAD. Because the former is more fundamental and enjoys higher priority over the latter, it wins in the competition. This is reflected in expressions like 通货膨胀膨胀率上升 (tonghuo pengzhang lù shangsheng, inflation is rising). Overall, we can claim that our abstract thinking of the domain of STATES is metaphorically structured by the image-schematic structures of SHANG and XIA in a coherent and systematic way rather than in an arbitrary manner. The domain of STATES as structured by the SHANG/XIA schema is illustrated as follows:

\begin{center}
\includegraphics[width=0.8\textwidth]{figure5.7.png}
\end{center}

Figure 5.7 The domain of STATES structured by SHANG-XIA

\textsuperscript{5} As Lakoff & Johnson (1980: 22-23) point out, the most fundamental values in a culture are coherent with the metaphorical structure of the most fundamental concepts in the culture. In real life, there are often conflicts among these values. Hence conflicts among the metaphors associated with them.
One more point to be raised is that although our focus is on SHANG and XIA, we might as well notice that in Chinese there also seems to be a set of mappings between the QIAN/HOU schema and the domain of STATES. This is captured in the metaphor Towards A More Desirable State Is Forward Movement/ Towards A Less Desirable State Is Backward Movement. For example:

进步 (jinbu, forward step, make progress)
前进 (qianjin, forward move, make progress)
退步 (tuibu, retrieve step, retrogress)
后退 (houtui, backward retrieve, retrogress)

We shall notice in the following section, where the elaboration from vertical axis to horizontal axis is discussed, that the mapping of QIAN/HOU onto the domain of STATES is actually coherent with the mapping of SHANG/XIA onto STATES.

5.1.5 ELABORATION from VERTICALITY to HORIZONTALITY

Apart from the four metaphorical extensions for SHANG and XIA examined in the previous four sections, it is found that in Chinese there also exists an elaboration from vertical dimension to horizontal dimension, by which I mean that people sometimes use changes in the position along vertical dimension to construct and to talk about changes in the position along horizontal dimension. For example it can be said that 我们南下广州 (women nanxia guangzhou, we south down Guanzhou, we go down to Guanzhou) even though Guanzhou may be about the same elevation as our starting point. However, since both vertical movements and horizontal movements belong to the SPACE domain, this is not considered as an instance of a metaphorical
extension. Rather it is put down as an elaboration from one spatial dimension to another.

The elaboration from verticality to horizontality observed among the Chinese lexicographical data can be worded as follows:

TOWARDS A CERTAIN HORIZONTAL DIRECTION IS SHANG.
TOWARDS A CERTAIN HORIZONTAL DIRECTION IS XIA.

Three special cases have been found for this elaboration, which are:

1. Forward Is Shang  Backward Is Xia
2. Approaching The Observer Is Shang  Departing From The Observer Is Xia
3. North Is Shang  South Is Xia

**Special case 1**: Forward Is Shang. / Backward Is Xia.

For example:

上 前 (shangqian, up front, go up to the front)
上 到 前 台 (shangdao qiantai, up to front stage, go up to the front stage)
下 到 后 台 (xiadao houtai, down to back stage, go down to the back stage)
退 下 (tuixia, retrieve down, go backwards)

**Experiential grounding**:

As humans, we have upright bodies, with our heads up and feet down. When we lie down on stomach and crawl, we typically move in the direction of our head rather than in the direction of our feet. In this way, our heads become like fronts just like the fronts of many other moving objects, such as cars, trains, planes, etc.. On the other hand, four-legged animals with horizontal bodies like dogs also typically move in the direction of their heads rather than their bottoms. Yet when they try to stand up vertically, they normally stand on their hind legs with their heads up rather than the
other way round. It is from bodily and physical experiences like these that we derive a
pattern of cognitive correlations between horizontal and vertical dimensions.

Another explanation for 'Forward Is Shang/ Backward Is Xia' is provided by
Shepard & Hurwitz (1985: 106-107) from the perspective of the nature of our vision.
As a result of our upright posture, our standard viewpoint is somewhat elevated above
the generally horizontal surface of the ground. When we look at two points, A and B,
on a path leading away in front of us, the two points are projected onto an intervening
vertical plane with the farther point, B, above the nearer point, A, by the projections B'
and A'. Correspondingly, when we try to visually fixate and/or point first to A and
then to B on the horizontal path ahead, we must move our eyes and/or arm upward.
Thus from a viewer's perspective, there is "a natural correspondence between the
forward direction in the horizontal plane, which is orthogonal to gravitationally
defined upright, and the upward direction aligned with that upright". This natural
correspondence is illustrated in the following figure:
Figure 5.8 A schematic illustration that a point B that is further ahead of another point A on the horizontal ground is also 'higher' than that point A from the perspective of the canonically above-the-ground viewer (after Shepard & Hurwitz 1985: 107).

'Forward Is Shang/ Backward Is Xia' is consistent with a metaphorical extension observed with the target domain of STATES, namely 'In Public Is Shang/ In Private Is Xia'. This is because to be in public is usually to be in front of a group of people and to be in private is usually to be behind a group of people. 'Forward Is Shang/ Backward Is Xia' also serves as a kind of bridge between 'A More Desirable State Is Shang/ A Less Desirable State Is Xia' and 'A More Desirable State Is Qian (Front) / A Less Desirable State Is Hou (Back)'. The correlation between the horizontal and vertical dimensions is demonstrated by the following figure, where the correspondence relationships between various concepts are indicated by the curve lines.
Special case 2: Approaching The Observer Is Shang. /Departing from The Observer Is Xia.

For example:

他走上前来对我说 (ta zou shang qian lai dui wo shuo, he walk up front come to me say, he walked up to me and said)

沿着这条路走下去 (yanzhe zhetaiolu zou xiaqu, along this road walk down go, walk down this road)

Experiential grounding:

When an object is approaching us, it appears larger in our eyes; when it is departing from us, it appears smaller. Since the ground is perceived as being fixed, the top of the object appears to be moving upward or downward respectively in our field of vision.

Special case 3: Northward Is Shang. / Southward Is Xia.

For example:

北上 (beishang, north up, to go up to the north)

南下 (nanxia, south down, to go down to the south)
Experiential grounding:

According to Shepard & Hurwitz (1985: 165-166), a lot of evidence shows that early maps were generally oriented in such a way that the upward direction in the map pointed toward some culturally significant or perceptually salient location (e.g., Mecca, Jerusalem, or the eastward point at which the sun was seen to rise). Later, with the growing importance of global navigation and the invention of the magnetic compass, the north pole and the south pole conferred by the earth's rotation become more appropriate and invariant reference points for map drawing. Moreover, since global navigators and map makers were predominantly from the northern hemisphere, the north pole was favored over the south pole as the reference point for shang. This shows that North Is Shang/ South Is Xia is consistent with another conceptual metaphor A HIGHER STATUS IS SHANG/ A LOWER STATUS IS XIA.

The three special cases of the elaboration from vertical dimension to horizontal dimension can be put together and illustrated by the following figure. The correspondence relationships between various concepts are indicated by the curve lines.
5.1.6 Summary

Through the analyses of SHANG and XIA as represented in the Chinese lexicon, it has been found that the two image-schematic concepts are mainly used to talk about and to structure the following four target domains: QUANTITY, SOCIAL HIERARCHY, TIME, and STATES. An elaboration from VERTICALITY to HORIZONTALITY has also been observed for both SHANG and XIA.

As we have emphasized with each of the target domains, the image schematic structures of SHANG and XIA are mapped onto those abstract domains in a coherent and systematic way. Furthermore, between the metaphorical extensions into different target domains there is also overall coherence. In a word, the mappings of the image-schematic structures of SHANG and XIA onto the four target domains QUANTITY,
SOCIAL HIERARCHY, TIME and STATES characterize a huge coherent system. This system is roughly captured by Figure 5.11 on the next page.

The figure shows that the image-schematic structures of SHANG and XIA emerge directly from our everyday bodily experience. These image-schematic structures are then mapped onto the four target domains through metaphorical projections. As a result, the four target domains receive a spatial structure and become indirectly meaningful to us. The metaphorical mappings, once established, then impose their structures on real life and become realized in various ways.
Figure 5.11 The network of the metaphorical extensions of SHANG-XIA
5.2 UP and DOWN

The image schema UP and the image schema DOWN, in their prototypical dynamic and static models, as we described in 3.5, are used to denote the physical position or the changes in the physical position of an animate being or a concrete object along vertical axis. Extended from these two prototypical models, UP and DOWN are also used to talk about and to construct a certain stage or changes over a period of time in many other abstract domains.

Evidence in the English lexicon shows that the concept UP as tagged by the word *up* and the concept DOWN as tagged by the word *down* are mainly used for the conceptualization of changes in all and only the same four target domains as SHANG and XIA, namely, QUANTITY of something, SOCIAL HIERARCHY of people or organizations, TIME, and STATES of people, objects or events. The metaphorical extensions identified are:

1. TOWARDS A LARGER QUANTITY IS UP  
   TOWARDS A SMALLER QUANTITY IS DOWN

2. TOWARDS A HIGHER STATUS IS UP  
   TOWARDS A LOWER STATUS IS DOWN

3. TOWARDS A LATER TIME IS UP  
   TOWARDS A LATER TIME IS DOWN

4. TOWARDS A MORE DESIRABLE STATE IS UP  
   TOWARDS A LESS DESIRABLE STATE IS DOWN

Three points are worth noticing. First, there is an obvious correspondence between the metaphorical extensions of UP and DOWN and the metaphorical extensions of SHANG and XIA. Those things which are oriented as *xia* in Chinese are also oriented as *down* in English, and those things which are oriented as *shang* in Chinese are also oriented as *up* in English (except for TOWARDS A LATER TIME IS UP, which will be discussed below).
Second, with the domains of QUANTITY, SOCIAL HIERARCHY and STATES, as in Chinese, there are apparent agreements between the metaphorical extensions of UP and DOWN so that if something is oriented as up, then its opposite is oriented as down.

Third, with the target domain of TIME, different from Chinese, in English there exists an obvious contradiction: one would expect that if towards a later time is up, then towards an earlier time should be down; or if towards a later time is down, then towards an earlier time should be up. However, what has been found is that towards a later time is in some circumstances up and in some other circumstances down. We shall try to offer an explanation for this in Section 5.2.3.

The following sections will discuss the metaphorical mappings of UP/DOWN onto the four target domains separately. Since those metaphorical mappings share largely the same experiential grounding as their Chinese counterparts, we will not repeat their experiential bases in the following descriptions. As for the realizations of those metaphorical mappings, notes will be taken only when a distinctively English way of realizing a particular metaphor has been detected.

5.2.1 QUANTITY

The general metaphorical extensions observed for this target domain are:

TOWARDS A LARGER QUANTITY IS UP.

TOWARDS A SMALLER QUANTITY IS DOWN.
With this pair of metaphorical extensions, the image-schematic structures of UP and DOWN are mapped onto that of the target domain of QUANTITY, giving the latter a vertical scale.

To be more specific, this pair of metaphors is used to talk about changes in numbers or amounts in the following sub-domains:

**Increase In Salary Is Up.**
The football star can expect up to 300,000 pounds a week.

**Decrease In Salary Is Down.**
The nurses have offered to scale down their pay demands to a lower figure.

**Increase In Costs Is Up.**
The costs have been multiplied up many times.

**Decrease In costs Is Down.**
Is there any way we can prune the costs down still further?

**Increase In Price Is Up.**
The dealers bid up all the good pieces, to keep out private buyers.

**Decrease In Price Is Down.**
The price of milk should be down next week.

**Increase In Inflation Rate Is Up.**
The inflation rate is going up again.

**Decrease In Inflation Rate Is Down.**
The new government promised to bring the inflation rate down.

**Increase In Temperature Is Up.**
The sun warmed up the seat nicely.

**Decrease In Temperature Is Down.**
After a warm and sunny day, the temperature will be down to 10 degrees tomorrow.

**Increase In Speed Is Up.**
Keep your heart rate up for 40 minutes.

**Decrease In Speed Is Down.**
Loosen some sails to ease down the speed of the boat.

**Increase In Volume Of Voice Is Up.**
You'll have to talk up a bit, we can't hear you above the noise of the traffic.

**Decrease In Volume Of Voice Is Down.**
The radio station faded the music down to give a special news broadcast.

**Increase In Number Is Up.**
The order lasts for up to 28 days.

**Decrease In Number Is Down.**
The government promised to bring the number of students in each class down to 30 by the year 2002.

**Increase In Size Is Up.**
She has blown up the pictures she took with her mum.

**Decrease In Size Is Down.**
You've slimmed down such a lot since we last met!
As in the Chinese case, there is correspondence between the specific metaphorical extensions for UP and DOWN on the one hand and overall coherence among different metaphorical extensions observed on the other. This is evidence that the general metaphor TOWARDS A LARGER QUANTITY IS UP/ TOWARDS A SMALLER QUANTITY IS DOWN characterizes a coherent system which structures the target domain of QUANTITY in a systematic way. Figure 5.2 which roughly captures the system in Chinese can be applied to this English case as well.

5.2.2 SOCIAL HIERARCHY

The general metaphorical extensions observed for this target domain are:

TOWARDS A HIGHER STATUS IS UP.

TOWARDS A LOWER STATUS IS DOWN.

With this pair of metaphorical extensions, the image-schematic structures of UP and DOWN are mapped onto that of the target domain of SOCIAL HIERARCHY. As with the Chinese data, the point of view of an observer within the mainstream culture is assumed.

Some special ways of realizing this pair of metaphors have been noted in English:

Rituals: In the English culture there is the ritual in which a newborn baby is carried upstairs to ensure his or her success.

Religious beliefs: In Christianity, God and Jesus are up in Heaven, Satan and the other evils are down in Hell.

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Social practices: The Queen always has her hand pointing downwards when shaking hands with others. In a typical old house the master and his family live upstairs and the servants live downstairs in the kitchen or in the basement.

No special metaphorical extensions are distinguished within the domain of SOCIAL HIERARCHY. Below are a few examples:

(1) The upper strata of society  
(2) Paleo is an upmarket resort.  
(3) Your request will be handed up to the board of directors.  
(4) The Upper House  
(5) Her upper crust admirers  
(6) The upper class still send their children to Eton or Harrow.  
(7) They were being frightfully uppish and rude.  
(8) Are the citizens still refusing to yield up the town?  
(9) He has moved up the social ladder quite a lot since we last met.

(10) The downfall of a dictator  
(11) We sell a lot of down-market books.  
(12) A national strike would bring the government down.  
(13) Why do the English look down on everything foreign?  
(14) families that move up or down the social scale

Example (1), the upper strata of society, refers to the group of people near the top of the social hierarchy. In example (2), an upmarket resort is a resort visited by people near the top of the hierarchy who have sophisticated and expensive tastes. In example (3) your request will be handed up instead of down to the board of directors because the board is considered to be of higher status than you. In (10) the downfall of a dictator refers to the dictator's dropping from a more important status down to a less important status. In (11) down-market books refers to popular and cheap and not very good books bought by people from the lower strata of society. In (12) to bring the government down means to drive the government out of office hence to a lower status.

Similar explanations can be applied to the rest of the examples listed above.
Example (4), the Upper House, stands out as an interesting case, for it refers to the House of Lords, which in reality has less power than the Lower House, i.e. the House of Commons. This is perhaps because when Britain was still a feudal society, the Lords, who belonged to the aristocracy, were certainly of more power and of higher status than the common people. This idea is kept to a certain degree till now and is recorded in fixed expressions like the Upper House and the Lower House. We might as well point out that this is somewhat similar to upper-middle class and lower-middle class peasants in China discussed in Section 5.1.2.

5.2.3 TIME

The general metaphorical extensions observed for this target domain are:

TOWARDS A LATER TIME IS UP.

TOWARDS A LATER TIME IS DOWN.

As in the Chinese case, this fits into the larger system of TIME-AS-SPACE metaphor noticed by Lakoff & Johnson (1980), Lakoff (1993), Alverson (1994), Svorou (1994), Allan (1995) among others. However, there is an apparent contradiction between TOWARDS A LATER TIME IS UP and TOWARDS A LATER TIME IS DOWN. This will be accounted for later in the section.

As noted in Section 5.1.3, there are three spatial models in which the conceptualization of time is cast, namely time as linear, time as cyclic, and time as spiral (cf. p. 117). In English, as in Chinese, it is mainly the linear model, rather than the cyclic or the spiral model, that has been chosen for the conceptualization of TIME.
Lakoff (1993a: 216-217) captures the linear model in English by the general metaphor TIME PASSING IS MOTION. A detailed pattern of inferences is worked out by him:

Ontology:
Time is understood in terms of things (that is, entities and locations) and motion.

Background condition:
The present time is at the same location as a canonical observer.

Mappings:
Times are things.
The passing of time is motion.
Future times are in front of the observer; past times are behind the observer.
One thing is moving, the other is stationary; the stationary entity is the deictic center.

Entailment:
Since motion is continuous and one-dimensional, the passage of time is continuous and one-dimensional.

5.2.3.1 TIME PASSING IS MOTION ALONG HORIZONTAL AXIS

TIME PASSING IS MOTION, as we have argued in the Chinese case, actually offers two possibilities, one is TIME PASSING IS MOTION ALONG HORIZONTAL AXIS, and the other is TIME PASSING IS MOTION ALONG VERTICAL AXIS. However, unlike in Chinese, where the two possibilities seem to enjoy more or less the same level of popularity, in English, the first possibility, i.e. the horizontal version of the metaphor, appears to be dominant and has been taken for granted as the only possibility by many researchers. This is reflected in the above inference pattern quoted from Lakoff (1993), where it is stated under 'Mappings' "Future times are in front of the observer; past times are behind the observer" (see also Reichenbach 1956, Lakoff & Johnson 1980, Alverson 1994). The same two special cases as noted in Chinese (cf. pp. 118-120) have been observed with TIME PASSING

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IS MOTION ALONG HORIZONTAL AXIS in English as well (Lakoff 1993: 217-218):

**Special case 1:** TIME PASSING IS MOTION OF AN OBJECT ALONG HORIZONTAL AXIS.

The observer is fixed; times are entities moving with respect to the observer. Times are oriented with their fronts in their direction of motion.

**Entailments:**

If time 2 follows time 1, then time 2 is in the future relative to time 1.
The time passing the observer is the present time.
Time has a velocity relative to the observer.

This case covers a wide range of data in English. For example:

The time will come when...
The time has long since gone when...
The time for action has arrived.
That time is here.
In the weeks following next Tuesday...
On the preceding day...
I'm looking ahead to Christmas.
Let's put all that behind us.
I can't face the future.
Time is flying by.
The time has passed when...

**Special case 2:** TIME PASSING IS MOTION OF AN OBSERVER OVER A HORIZONTAL LANDSCAPE.

Times are fixed locations; the observer is moving towards future with respect to time.

**Entailments:**

Time has extension, and can be measured.
An extended time, like a spatial area, may be conceived of as a bounded region.

This case characterizes the general principle behind the following expressions:

He stayed there for ten years.
He stayed there a long time.
His stay in Russia extended over many years.
He passed the time happily.
He arrived on time.
We're getting close to Christmas.
He'll have his degree within two years.
I'll be there in a minute.

The two cases, although rather different, are consistent with one another in that in both cases future is in front of the observer and past is behind the observer. Figure 5.5, which captures the two special cases in Chinese, also applies here.

5.2.3.2 TIME PASSING IS MOTION ALONG VERTICAL AXIS

Although it cannot be denied that TIME PASSING IS MOTION ALONG HORIZONTAL AXIS is the dominant metaphor for TIME in English, in the meantime we must not neglect that in some cases the English also project a vertical axis onto their TIME concept, which suggests the existence of the second possibility, namely TIME PASSING IS MOTION ALONG VERTICAL AXIS.

In Section 5.1.3.2 we argued that with the Chinese data, two special cases are found with TIME PASSING IS MOTION ALONG VERTICAL AXIS: (1) Times are fixed locations arranged along a vertical axis; an earlier time is above a later time; and (2) human beings (with their belongings) are moving downwards towards the future. These two cases are consistent with each other and can be combined into one picture. It follows from them that in Chinese AT/TOWARDS AN EARLIER TIME IS SHANG// AT/TOWARDS A LATER TIME IS XIA.

In English, two special cases have also been found with TIME PASSING IS MOTION ALONG VERTICAL AXIS. Look at the following examples:
(1) from 1918 up to 1945
(2) from the Middle Ages up to the present day
(3) They were using charcoal right up to my day.
(4) Up until the early sixties there was no shortage…
(5) Up to now they’ve had very little to say.

Examples like the above suggest the existence of Special Case 1: TIME IS MOVING UPWARD FROM PAST TOWARDS PRESENT (AND FUTURE). This is different from special case 1 noted in Chinese. It is represented by the following figure:

![Diagram showing time moving from past to present with an arrow indicating upward movement.]

Figure 5.12 Case 1: Time is moving upward toward future

Now look at some other examples:

(6) It had been occupied as a palace by all our kings and queens down to James I.
(7) There has been a chapel here down all the years my family has lived in this house.
(8) The custom has been carried down from the 18th century.
(9) Stories his father had passed down to him

Expressions like these suggest the existence of Special Case 2: HUMAN BEINGS (WITH THEIR BELONGINGS) ARE MOVING DOWNWARD FROM PAST TOWARD PRESENT (AND FUTURE). This is the same as special case 2 noted in Chinese. It is captured by the following figure:
Figure 5.13 Case 2: Human beings are moving downward to present and future

Unlike in Chinese, the two special cases in English are not consistent with each other because in Case 1 a later time is above an earlier time and in Case 2 a later time is below an earlier time. As a result they cannot be put into one coherent picture. This inconsistency between the two cases results in the contradiction we noticed at the beginning of this section: on the one hand, TOWARDS A LATER TIME IS UP; on the other hand, TOWARDS A LATER TIME IS DOWN. This contradiction between the mappings of the image-schematic structures of UP and DOWN onto the domain of TIME is roughly captured by the following figure:
The question now is why there is harmony between AN EARLIER TIME IS SHANG and A LATER TIME IS XIA in Chinese, but contradiction between A LATER TIME IS UP and A LATER TIME IS DOWN in English. To offer a convincing and systematic answer for this and other discrepancies (cf. Chapter 6)
observed between Chinese and English lies beyond the scope of the present thesis. However, one of the possible answers might be sought from the cultural values associated with these metaphors. In both cultures, there exist two conflicting values: one is "the future will be better" (Lakoff & Johnson 1980: 22), the other is "The past was better". The ancient Chinese society seems to associate more importance with the latter than with the former (see, e.g. Lin 1979). Their conceptual metaphors AN EARLIER TIME IS SHANG and A LATER TIME IS XIA are coherent with this. However, in English, although "The future will be better" seems to have higher priority, which is reflected in the ready acceptance of A LATER TIME IS UP, "The past was better" has not lost the battle completely, and this is recorded in A LATER TIME IS DOWN.

5.2.4 STATES

The general metaphorical extensions observed for this target domain are:

TOWARDS A MORE DESIRABLE STATE IS UP.
TOWARDS A LESS DESIRABLE STATE IS DOWN.

With this pair of metaphors, the image-schematic structures of UP and DOWN are mapped onto that of the target domain of STATES. This is a special case of the Event Structure Metaphor (Lakoff 1990, 1993, 1994), which characterizes various aspects of event structure via metaphors in terms of space, motion, and force. According to Lakoff (1993: 219), the Event Structure Metaphor in English is made up of the following mappings:

States are locations (bounded regions in space).
Changes are movements (into or out of locations).

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Causes are forces (controlling movement to or from locations).
Actions are self-propelled movements.
Purposes are destinations (desired locations).
Means are paths (to destinations).
Difficulties are impediments to motion.
Expected progress is a travel schedule; a schedule is a virtual traveler, who reaches pre-arranged destinations at pre-arranged times.
External events are large, moving objects.
Long term, purposeful activities are journeys.

The Event Structure Metaphor generalizes over an extremely wide range of expressions. For example, when talking about states and changes, "we speak of being in or out of a state, of going into or out of it, of entering or leaving it, of getting to a state or emerging from it" (ibid.: 220).

As in the Chinese case, my observation of UP and DOWN being mapped onto the domain of STATES adds another piece of evidence for the existence of the Event Structure Metaphor in English, for it demonstrates that states can be locations arranged along a vertical landscape; furthermore, a more desirable state is located at a higher place than a less desirable state, hence changes towards a more desirable state are upward movements and changes towards a less desirable state are downward movements.

The domain of STATES can be roughly divided into four sub-domains: mental states of human beings, emotional states of human beings, physical states of human beings or concrete objects, and states of events. In each sub-domain, special metaphorical extensions are observed. Below are some examples:

**Mental states**

Into Consciousness Is Up.
*When did you wake up this morning?*

Into A More Active State Is Up.
*Now that I'm the mother of two children I'm up at 6 every morning.*

Into Unconsciousness (or Death) Is Down.
*One of the brothers was gunned down outside his home in London.*

Into A Less Active State Is Down.
*Jane was down with a cold last week, so she didn't come to work.*
*My aunt brought up four children.*

Virtue Is Up.
*She is an upstanding citizen.*

Depravity Is Down.
*That was a low-down thing to do.*

Emotional States
Into A State Of Cheerfulness Is Up.
*You need a holiday to cheer you up.*

Into A State Of Depression Is Down.
*The young man seemed to be loaded down with the worries of fatherhood.*

Physical States
Improvement In Appearances Is Up.
*Are we going to dress up for the wedding, or is it informal?*

Worsening In Appearances Is Down.
*The model dressed down so that nobody could recognize her on the streets.*

Increase in brightness is up.
*The new paint will brighten up the house.*

Decrease in brightness is down.
*Dim the stage lights down during scene 3.*

Increase in tastiness is up.
*What can I use to spice up this dull meal?*

Increase in tightness is up.
*Have you tightened all the screws up properly?*

Increase in force is up.
*The wind is up.*

Decrease in force is down.
*I hope the wind keeps down, or the sea will be too rough for sailing.*

Increase in stiffness is up.
*My leg has stiffened up again, just when I thought it was getting better.*

Increase in thickness is up.
*The mist has thickened up since this morning, I don't think it's safe to go out now.*

Decrease in thickness is down.
*The paint has been thinned down too much.*

Increase in softness is up.
*The special cream will help to soften up your skin.*

States Of Events
Into Existence Is Up.
*New towns are sprouting up all over the country as part of the government's plan to find homes for the increasing population.*

*She waited until the laughter had died down.*
Into View Is Up.
Be careful how you walk in this field, there are lots of rocks cropping up.

Into A State Of Operation Is Up.
I hated that old car, I had to crank it up every morning to get it started.

Out Of A State Of Operation Is Down.
Make sure you shut down the computer before leaving the room.

Towards Completeness Is Up.
I'm sorry, the hotel is booked up.

Towards Finality Is Down.
The shop will be closing down for good on Saturday, so everything is half price.

Towards A Public State Is Up.
After Christmas we leave the cards up till the 6 January, which is called Twelfth Night.

Towards A Private State Is Down.
Deep down I know he must be very proud of himself.

As in the Chinese case, three points are worth noticing. First, there is an overall correspondence between those states which are considered 'up' and those states which are considered 'down', so that while 'Into Consciousness Is Up', 'Into Unconsciousness Is Down', and while 'Into A More Active State Is Up', 'Into A Less Active State Is Down', etc... Second, there is coherence among the different metaphorical extensions uncovered. For example, we have both 'Improvement In Appearances Is Up' and 'Into A State Of Cheerfulness Is Up', and there is a natural link between 'A State Of Cheerfulness' and 'Improvement In Appearances': one usually looks better when one is in a cheerful state. Third, there is also coherence between the domain of STATES and the other domains discussed in the previous sections. For example, TOWARDS A MORE DESIRABLE STATE IS UP is consistent with TOWARDS A HIGHER STATUS IS UP and with TOWARDS A LARGER QUANTITY IS UP on most occasions.

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6 Similar discrepancies between A MORE DESIRABLE STATE IS UP and Higher Inflation Rate Is Up are observed in English as in Chinese, to which the same account can be applied.
Together these three points characterize a coherent system at work which enables us to structure the domain of STATES through the image-schematic structures of UP and DOWN. Of course there also exists some incoherence within the system as well. The incoherence exhibits itself in two ways. First, there are six cases where there is an absence of the downward dimension for the upward dimension observed: we have 'Into A More Mature State Is Up', 'Increase In Tastiness Is Up', 'Increase In Tightness Is Up', 'Increase In Stiffness Is Up', 'Increase in Softness Is Up' and 'Into View Is Up'; yet no examples among the lexical entries of down have been found which can suggest the existence of 'Into A Less Mature State Is Down', 'Decrease In Tastiness Is Down', 'Decrease In Tightness Is Down', 'Decrease In Stiffness Is Down', 'Decrease in Softness Is Down' and 'Out Of View Is Down'. This finding is in agreement with the Pollyanna Principle put forward by Leech (1983: 147-8), which postulates that people usually prefer pleasant topics of conversation to unpleasant ones. Since TOWARDS A MORE DESIRABLE STATE IS UP and TOWARDS A LESS DESIRABLE STATE IS DOWN, it is understandable that more specific metaphorical extensions are found with the former than with the latter.\footnote{There may also be the possibility that the absence of 'Into A Less Mature State Is Down', 'Decrease In Brightness Is Down', etc. in the lexical entries of down does not necessarily suggest that there is a real absence of them in English, because it may be the case that these metaphorical extensions are recorded in other ways in the lexicon.}

The second way in which the incoherence exhibits itself is that not all of the states oriented 'up' are really desirable. For example, in "My leg has stiffened up again, just when I thought it was getting better", the situation of my leg is certainly deteriorating rather than improving. This may be explained as follows: the metaphor TOWARDS A MORE DESIRABLE STATE IS UP does not operate alone. Rather it operates within
a huge system of numerous conceptual metaphors which are associated with the most fundamental values in a culture. Conflicts among those values result in conflicts among different conceptual metaphors. Which metaphor overrides which others depends on which value enjoys the highest priority in the culture. With the example we are considering, there seem to be two competing conceptual metaphors at work: one is TOWARDS A MORE DESIRABLE STATE IS UP, the other is TOWARDS A LARGER QUANTITY (in the case under concern, 'towards more stiffness') IS UP. Since, as Lakoff & Johnson (1980: 23) observe, in the English mainstream culture "More Is Better" is a value which seems always to have top priority, the competition between the two metaphors ends up in a kind of compromise which might be termed as "Towards A State With More Of A Property (in the case under concern, 'a state with more stiffness') Is Up", regardless of the property being desirable or not.

On the whole, there is a remarkable degree of coherence between those more desirable states oriented as up and those less desirable states oriented as down, and among the various specific metaphorical extensions detected for different sub-domains as well. Hence it can be concluded that the domain of STATES is structured by the image-schematic structures of UP and DOWN in a systematic and coherent way. This is roughly captured in the following figure:
As a final remark, it might also be pointed out that besides mapping the image-schematic structures of UP and DOWN onto the domain of STATES, in English there are alternative ways to structure the domain of STATES as well. For example, as in Chinese, there is a set of metaphorical mappings between the FRONT/BACK schemas and the domain of STATES. This is captured by the metaphor Making Progress Is Forward Movement/ Undoing Progress Is Backward Movement (Lakoff 1993: 221). For example:

\begin{itemize}
    \item We are moving ahead.
    \item Let's forge ahead.
    \item Let's keep moving forward.
    \item We made lots of forward movement.
    \item We are sliding backward.
    \item We are backsliding.
    \item We need to backtrack.
    \item It's time to turn around and retrace our steps.
  \end{itemize}

(Lakoff 1993: 221)
We shall notice in the following section that this is actually coherent with the UP/DOWN metaphor we have observed, because there exists an elaboration from UP/DOWN to FRONT/BACK, so that FORWARD IS UP and BACKWARD IS DOWN.

5.2.5 Elaboration from Verticality to Horizontality

As in Chinese, apart from the four metaphorical extensions examined in the previous four sections, the English lexicon also carries evidence for the elaboration from vertical dimension to horizontal dimension, so that it can be said that "We drove up to M6" even if M6 is about the same elevation as our starting point. Again as in Chinese, this is not treated as a metaphorical extension but as an elaboration from one space dimension to another space dimension. This elaboration can be worded as follows:

TOWARDS A CERTAIN HORIZONTAL DIRECTION IS UP.

TOWARDS A CERTAIN HORIZONTAL DIRECTION IS DOWN.

The same three special cases as observed in Chinese are observed in English as well, which are:

Forward Is Up.
*Move up, there's plenty of room at the front.*

[Backward Is Down]
*They refused to back down.*

Approaching The Observer Is Up.
*She walked right up to me.*

Departing From The Observer Is Down.
*Walk down the street, take the second turn on your right.*

Northward Is Up.
*It must be very cold now up in Canada.*

Southward Is Down.
*my cousin from down under*

*Why did you come up to Edinburgh?*

*flew down to Florida*

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'Backward Is Down' is put in brackets because no real evidence has been found in the lexicon which can prove its existence. Yet the existence of the phrasal verb back down suggests that it used to be an active elaboration because back down literally means to move backward and downward, although it has by now dropped that meaning and only means to withdraw. 8

5.3 Summary

In this chapter we have had a discussion of the metaphorical extensions of SHANG/XIA and UP/DOWN as reflected in the Chinese and the English lexicon. Special attention has been paid to the experiential grounding of those metaphorical extensions and to their realizations in real life. This is because the cognitive approach to metaphor postulates that all conventional conceptual metaphors are grounded in our bodily and physical experience, and once a metaphorical mapping is set up, it will impose its structure on real life through the creation of new correspondences in experience.

Through the analysis of 190 lexical items of shang, 115 lexical items of xia, 626 lexical items of up, and 328 lexical items of down obtained from three Chinese dictionaries and three English dictionaries, it has been found that the two languages exhibit remarkable similarities in the following respects: (1) Both SHANG/XIA and UP/DOWN are used to structure all and only the same four target domains, namely QUANTITY, SOCIAL HIERARCHY, TIME and STATES; (2) with those four

8 The existence of another phrasal verb back up cannot really be counted as a counter example, because back up does not mean to move backward and upward. It normally means to support from back.
domains, what is oriented 'xia' is also oriented 'down', and what is oriented 'shang' is also oriented 'up' (except that AN EARLIER TIME IS SHANG, but A LATER TIME IS UP); and (3) the same three special cases for the elaboration from vertical dimension to horizontal dimension have been observed with both SHANG/XIA and UP/DOWN.

This agreement between the two languages is a natural result of the experiential grounding of conceptual metaphors. As humans, the Chinese and the English share more or less the same bodily and physical experience, from which more or less the same image-schematic structures will directly emerge and become directly meaningful. It is expected that no contradictory conceptual metaphors should arise from similar experiential bases and similar preconceptual image-schematic structures.

The metaphorical mappings of SHANG/XIA and UP/DOWN onto the domain of TIME and STATES have been highlighted as special cases of the TIME-AS-SPACE metaphor and the Event Structure Metaphor respectively. Lakoff (1993: 245) claims that "metaphorical mappings vary in universality; some seem to be universal, others are widespread, and some seem to be culture specific". He has also predicted that the TIME-AS-SPACE metaphor and the Event Structure Metaphor are strong candidates for universal metaphorical mappings. The findings of this research add a piece of evidence to his prediction.

According to the lexicographical data, the main discrepancy between SHANG/XIA and UP/DOWN lies in the target domain of TIME, where we have seen that there is consistency between AT/TOWARDS AN EARLIER TIME IS SHANG and AT/TOWARDS A LATER TIME IS XIA, but contradiction between TOWARDS A LATER TIME IS UP and TOWARDS A LATER TIME IS DOWN.
As a final remark, it is worth noticing that a common trend emerges from the metaphorical extensions of SHANG/XIA and UP/DOWN, which is that, in both Chinese and English, upward trajectories are typically linked with things considered to be desirable in the culture and downward trajectories are typically linked with things considered to be undesirable in the culture. There is also evidence from other cross-cultural research which seems to suggest that this tendency might not be specific to English or Chinese, but might be a reflex of a universal pattern. For example, Bickel (1997), in describing spatial orientation in Belhare (a language spoken by a subgroup of the Kiranti people living in Eastern Nepal), notices that this pattern is also reflected in the Tibeto-Burman culture of the Himalayas. He observes that within that culture, spatial relations, structured in parallel with the semantics of TU-(UP) terms, pervade cultural phenomena ranging from ritual action and architectural procedures to emotion and dreaming patterns. For example, according to the rule cited by experts in the community, the hearth, which is considered as the ritual center and most 'pure' and protected place in a household, is placed in the TU-side of a house. This may be the uphill corner in some houses and the north side in some other houses. Another example is after having eaten sacrificial food, people are supposed to throw the used leaf plates downwards. Depending on where the ritual takes place, the plates are thrown downhill or south or both. Whenever a woman weaves a straw mat for a religious ceremony, she should install the loom in such a way that the warp is directed upwards, i.e. uphill or north or both. The most astonishing example is found in the formal structure of a symbolic dream expression of age. If you dream that you lose a tooth, this indicates that somebody of your clan will die. If it is an upper tooth, somebody older than you will die; if it is a lower tooth, a younger person will die.
Bickel (1997) emphasizes that the formal structure of upward trajectories found in this Belhare symbolism replicates to a large degree the spatial operations found in the TU-terms of the environmental-space vocabulary in the language.

However, caution is needed at this stage: although the present study of English and Chinese and Bickel's study of Belhare both suggest that in the three different cultures under investigation, there can be observed the pattern of linking desirable things with upward trajectories and undesirable things with downward trajectories, more cross-cultural research is needed before we can make the claim that this is actually a universal pattern.
Chapter 6 SHANG/XIA and UP/DOWN in the Corpora

This chapter is about SHANG, XIA, UP and DOWN and their metaphorical extensions as reflected in the corpora data. While dealing with the lexicographical data obtained from dictionaries, only qualitative analysis has been carried out. With the corpora data, more emphasis will be put on quantitative analysis, although this always rests upon qualitative analysis in the first place. The rationale for this shift of focus from qualitative to quantitative analysis is as follows: as we have noticed in the previous chapter, qualitative analysis of the lexicographical data of the two languages does not present substantial differences in terms of the metaphorical extensions generated by SHANG/XIA and UP/DOWN. However, we do not yet know if a common metaphorical extension enjoys the same or different degrees of popularity in real life Chinese and English. This, of course, can only be found out from statistical analysis of the metaphorical extensions of SHANG/XIA and UP/DOWN as recorded in a Chinese corpus and an English corpus.

This chapter consists of five sections. The first four sections present the findings of the corpora data for SHANG, XIA, UP, and DOWN respectively. Each section is divided into two parts: Part 1 gives a general picture of the concept under concern; Part 2 gives a brief description of each metaphorical extension detected for the concept. Section 6.5 summarizes the whole chapter and compares the findings between Chinese and English and between the corpora data and the lexicographical data as presented in Chapter 5.
6.1 SHANG

6.1.1 The General Picture of SHANG

Altogether 750 randomly selected instances of *shang* out of the 8079\(^1\) records in the 1.8 million character corpus are put into a database and analyzed one by one along the following parameters: *sense, prototype model, trajector, landmark, path, vertical axis*, and *metaphorical extensions*. It has been pointed out in Chapter 3 that SHANG has three prototypical models: the dynamic SHANG denotes the orientation of the moving trajector; the static SHANG denotes the location of the stationary trajector; the contact SHANG, as a special case of the static SHANG, denotes the contact between the trajector and the landmark. The parameter *prototype model* captures this distinction between the three models.

Among the 750 occurrences of *shang* analyzed, 356 are found to be cases of the contact model, which is about 47.43% of all the data. 134 are found to be cases of the static model, which is about 17.9% of all the data. Adding up these figures, we get the result that in 65.33% of the cases SHANG is used in its non-dynamic model. The rest 260 occurrences of *shang* belong to the dynamic model, which is about 34.67% of all the data. Together these figures show that, literally or metaphorically, SHANG is more often used to depict the location of a stationary trajector than the trajectory followed by a moving trajector. This explains why, when describing the metaphorical extensions of SHANG in Chapter 5, I have consistently used AT/TOWARDS A LARGER QUANTITY IS SHANG, AT/TOWARDS A HIGHER STATUS IS SHANG, etc., rather than simply putting down TOWARDS A LARGER QUANTITY

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\(^1\) Among the 8079 records, 458 are of 上海 and have been left out before random sampling.
IS SHANG, TOWARDS A HIGHER STATUS IS SHANG, etc.. This point is emphasized here because as we shall notice in section 6.3, when presenting the findings of UP, that an important distinction between SHANG and UP lies in the former being more static and the latter being more dynamic.

An overwhelming majority of the 750 instances analyzed carry a certain type of metaphorical meanings, the exact figure being 543 out of 750, which makes up 72.4% of the total. Only 207 instances keep the literal meanings of shang, which is about 27.6% of the total. This demonstrates from a purely statistical point of view how heavily SHANG is used metaphorically.

The same four target domains found with the lexicographical data, namely STATES, QUANTITY, TIME and SOCIAL HIERARCHY, have been found in the corpus data for SHANG as well, the metaphorical extensions detected being AT/TOWARDS A MORE DESIRABLE STATE IS SHANG, AT/TOWARDS A LARGER QUANTITY IS SHANG, AT/TOWARDS AN EARLIER TIME IS SHANG, and AT/TOWARDS A HIGHER STATUS IS SHANG, respectively. A small number of cases have also been found which suggests the existence of the elaboration from vertical dimension to horizontal dimension in the corpus data.

The percentages of the three models of SHANG, the distribution of the metaphorical extensions detected, and the percentage of the elaboration among the data, are presented in the following three tables:
<table>
<thead>
<tr>
<th>Prototype model</th>
<th>Number</th>
<th>Percentage out of 750</th>
</tr>
</thead>
<tbody>
<tr>
<td>non-dynamic SHANG</td>
<td>356</td>
<td>47.43%</td>
</tr>
<tr>
<td>static SHANG</td>
<td>134</td>
<td>17.9%</td>
</tr>
<tr>
<td>dynamic SHANG</td>
<td>260</td>
<td>34.67%</td>
</tr>
</tbody>
</table>

Table 6.1 The three prototypical models of SHANG

<table>
<thead>
<tr>
<th>Target domain</th>
<th>Metaphorical extension</th>
<th>Number</th>
<th>Percentage out of 543</th>
<th>Percentage out of 750</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATES</td>
<td>AT/TOWARDS A MORE DESIRABLE STATE IS SHANG</td>
<td>328</td>
<td>60.41%</td>
<td>43.73%</td>
</tr>
<tr>
<td>QUANTITY</td>
<td>AT/TOWARDS A LARGER QUANTITY IS SHANG</td>
<td>88</td>
<td>16.21%</td>
<td>11.73%</td>
</tr>
<tr>
<td>TIME</td>
<td>AT/TOWARDS AN EARLIER TIME IS SHANG</td>
<td>78</td>
<td>14.36%</td>
<td>10.4%</td>
</tr>
<tr>
<td>HIERARCHY</td>
<td>AT/TOWARDS A HIGHER STATUS IS SHANG</td>
<td>49</td>
<td>9.02%</td>
<td>6.53%</td>
</tr>
</tbody>
</table>

Total: 543 cases, 100% out of 750

* The total number of all the cases found with metaphorical extensions.

Table 6.2 The metaphorical extensions detected for SHANG

<table>
<thead>
<tr>
<th>Number</th>
<th>Percentage out of 207</th>
<th>Percentage out of 750</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elaboration</td>
<td>10</td>
<td>4.83%</td>
</tr>
<tr>
<td>Others</td>
<td>197</td>
<td>95.17%</td>
</tr>
<tr>
<td>Total</td>
<td>207</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 6.3 SHANG without metaphorical extensions

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Some general observations can be made at this point:

(1) The four target domains for SHANG can be arranged in order of frequencies as STATES, QUANTITY, TIME and SOCIAL HIERARCHY. AT/TOWARDS A MORE DESIRABLE STATE IS SHANG claims 43.73% of all the data and appears to be the most actively used metaphorical extension for SHANG. It is followed by AT/TOWARDS A LARGER QUANTITY IS SHANG, which takes up 11.73% of the data. Ranked as number three is AT/TOWARDS AN EARLIER TIME IS SHANG, which takes up 10.4% of the data. The least actively used metaphorical extension for SHANG is AT/TOWARDS A HIGHER STATUS IS SHANG, which claims only 6.53% of all the data.

(2) Only 10 cases have been found which carry the elaboration from shang being used to depict vertical movements to depict horizontal movements. This is only about 1.33% of all the data, suggesting that in the corpus, the elaboration occurs extremely rarely.

(3) There is a high degree of correspondence between the results yielded by the corpus data and that yielded by the lexicographical data. The same four target domains with the same general metaphorical extensions have been found in both cases. This correspondence between the two types of data strengthens the validity of my findings.

In the following sections, I shall mainly present some examples extracted from the corpus data for each general and specific metaphorical extension identified. Accounts will be given if a specific metaphorical extension found with the lexicographical data
is missing in the corpus data\(^2\). Compared with the lexicographical data, the corpus data yields more up-to-date and more authentic examples with richer contexts.

6.1.2 The Metaphorical Extensions of SHANG

6.1.2.1 STATES: AT/TOWARDS A MORE DESIRABLE STATE IS SHANG

As many as 328 instances out of the 750 lexical entries are found to carry this metaphorical extension. The percentage is 43.73% out of all the data and 60.41% out of that part of the data with metaphorical extensions. The dominance of this metaphorical extension over the others is obvious.

We may recall from the results of the lexicographical data analysis presented in 5.1.4, that there five specific metaphorical extensions concerning Morality, Quality, Publicity, Intensity and Fulfillment of Action are listed. With the corpus data, only the latter four specific metaphorical extensions are identified. No instances have been found which carry the extension Higher Morality Is Shang. The reason for this might be twofold: on the one hand it suggests that this metaphorical extension is not in frequent use in modern everyday Chinese, hence it is not recorded in the corpus. On the other hand, it might also be that after random sampling, the database built upon the 1.8 million character corpus is not large enough to embrace this particular extension. Below are some examples taken from the corpus:

**Quality**

<table>
<thead>
<tr>
<th>Of Better Quality Is</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) 抓住經濟重整的契機才是上上之策。</td>
<td>(zhuazhu jingji chongzheng de qiji caishi shangshang zhi ce)</td>
</tr>
</tbody>
</table>

\(^2\) The corpus data does not yield any specific metaphorical extensions not recorded in the lexicographical data. This is understandable given the fact that the lexicographical data is based upon three authoritative dictionaries compiled on the basis of a very wide range of materials. One of them, *Dictionary of Contemporary Chinese Words Frequencies*, for example, is built upon a 20 million character corpus.
SHANG.
(catch economy again adjust opportunity be up up strategy)
(The best strategy is to grasp the opportunity of the
readjustment of the economy.)
(2) 喜歡聯考的人仍以擠進上段班 磨練考試本領較為有利。
(xihuan liankan de ren reng yi jijin shangduanban molian
kaoshi benling jiao wei youli)
(like associated exam people still squeeze in up level course
train test skill more be profitable)
(For those who prefer taking the exams, it is still better to
manage to get enrolled on the most advanced courses.)

Publicity
Towards
Publicity Is
SHANG.
(3) 勞動力也不可能擺脫作為商品上市出售的局面。
(laodongli ye bu keneng baituo zuowei shangpin shangshi
chushou de junian)
(labor either not able get away be commodities up market sell
situation)
(Labor force can't get away from the situation of being sold at
market as a kind of commodity.)
(4) 国外话剧争先恐后上演
(guowai huaju zhengxian konghou shangyan)
(foreign drama strive for first afraid late up play)
(Foreign dramas are put on the stage one after another.)

States Of
Events
Fulfillment Of
An Action
Towards
Fulfillment Of
An Action Is
SHANG.
(5) 为她十年的演艺生涯画上了一个圆满的句号。
(wei ta shinian de yanyi shengya huashang le yige yuanman de
juhao)
(for her ten years acting life draw up a perfect full stop)
(adding a perfect full stop to her ten years of career in the
acting world)
(6) 如果他当上书记，很可能 是造福百姓的 好书记。
(ruguo ta dangshang shuji, hen keneng shi zaofu baixing de
hao shuji)
(if he take up secretary, very possibly be make happiness
public good secretary)
(If he could get the post of the secretary, he was very likely to
be a good secretary who would benefit the public.)

Intensity
Towards A
State Of Greater
Intensity Is
SHANG.
(7) 希望一旦企業好起來再回原單位上崗。
(xiwang yidan qiye hao qilai zai hui yuan danwei shanggang)
(hope once company good rise again return original institution
up post)
(They hope they can return to their old institutions to take up
posts once the economy becomes better.)
(8) 令南韓總統面臨上台以來最大的一次考驗。

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6.1.2.2 QUANTITY: AT/TOWARDS A LARGER QUANTITY IS SHANG

88 instances are found from the corpus data for this metaphorical extension. That is 11.73% out of all the data and 16.21% out of that part of the data with metaphorical extensions. Compared with that of AT/TOWARDS A MORE DESIRABLE STATE IS SHANG, the frequency of this metaphorical extension is significantly lower. It is, nevertheless, higher than that of AT/TOWARDS AN EARLIER TIME IS SHANG and of AT/TOWARDS A HIGHER STATUS IS SHANG.

Below are a few examples:

(1) 赤道圈的雨林已减少了三十%以上。
(chidaoquan de yulin yi jianshao le 30% yishang.)
(There has already been a reduction of above 30% rain forest along the equator.)

(2) 此套電視劇播出後，其收視率迅速上升。
(citao dianshuju bochu hou, qi shoushihu xunsu shangsheng.)
(Since the broadcasting of this TV series, there has been a rapid increase in the number of audiences.)

(3) 民眾普遍過度樂觀，消費水平迅速上升。
(minzhong pubian guodu leguan, xiaofei shuiping xunsu shangsheng.)
(The public was over optimistic and their consumption rose rapidly.)

(4) 营业额在两千五百万马克以上的大约有一百家。
(yingye'e zai 2.5 million mark yishang de dayue you yibai jia.)
(There are about one hundred shopping centers with a turnover over 2.5 million marks.)
6.1.2.3 TIME: AT/TOWARDS AN EARLIER TIME IS SHANG

78 instances are found which carry this metaphorical extension. This number takes up 10.4% of all the data and 14.36% of that part of the data with metaphorical extensions. This is only slightly lower than that of the metaphorical extension AT/TOWARDS A LARGER QUANTITY IS SHANG, suggesting that TIME and QUANTITY stand on a more or less equal footing as target domain for the image-schematic concept SHANG.

We may recall from Section 5.1.3.2 (cf. pp. 121-122) that among the lexicographical data, two special cases are observed with the metaphorical extension TIME PASSING IS MOTION ALONG VERTICAL AXIS. One is "times are fixed locations arranged along a vertical landscape; an earlier time is above a later time". The other is "human beings are moving downwards along the vertical landscape towards the future". However, all the 78 instances found for this metaphorical extension within the corpus data are realizations of special case 1. No instance has been found for special case 2. This seems to suggest that the Chinese language puts more emphasis on the static locations of times along a vertical landscape than on the movements of the observer along this landscape. This agrees with the general observation that SHANG is more often used in its non-dynamic model than in its dynamic model (cf. pp. 165-166).

Below are some examples:

(1) 中国球队上届也被公认是最强的队伍。
(zhongguodui shangjie ye bei gongren shi zuiqiang de duiwu.)
(Chinese team last term also be regarded as strongest team.)
(At the last game the Chinese team was also regarded as the strongest.)
(2) 新一批負責人不承認上一手簽下的合約。
(xin yípí fùzěrén bù chéngrén shāngyìshòu qiánxià de hēyúe.)
(new one group in charge people not admit up one hand sign down agreement.)
(The new group of leaders do not recognize the agreements signed by their predecessors.)

(3) 整體營收已經連續十一個月低於上年同月。
(zhěngtǐ yíngshòu yíjīng liánxù 11 yuè yuè di yì shāngnián tōngyuè.)
(overall income already continuously 11 month lower than up year same month.)
(For 11 months the overall income was lower than the same month of last year.)

(4) 兒子又骨折了，仍是上次的部位。
(érzǐ yòu guózhé le, rēng shì shāngcì de bùwéi.)
(My son broke his arm again, at the same place as last time.)

6.1.2.4 SOCIAL HIERARCHY: AT/TOWARDS A HIGHER STATUS IS SHANG

49 instances out of the 750 lexical items of shang are found to carry this
metaphorical extension. With a percentage of 6.53% out of 750 and 9.02% out of 543
(i.e. that part of the data with metaphorical extensions), this metaphorical extension
turns out to be at the bottom of the list in terms of its frequency, suggesting that it is
the least frequently used metaphorical extension for the concept SHANG compared
with the other three metaphorical extensions discussed in the previous sections.

Below are some examples taken from the corpus:

(1) 首先，是多少年前去寧波上墳。
(shǒuxiān shì duō nián qián qu níngbō shāngfén)
(first be many years ago go Ningbo go up grave)
(Many years ago when we went to Ningbo to visit the graves there)

(2) 如何可憐無奈，百般承受來自上層人士的欺壓宰制。
(rúhé kělián wúnài, bǎishān chéngshèng láizì shānghèng cèng rénshì de qiá yà zàizhì.)
(how poor helpless, hundred accept from upper class people bully control)
(How the poor remained helpless and tolerated ill treatments from the upper class.)
(3) 性騷擾案上訴，瓊斯周四決定
(xingsaorao an shangsu, qiongsi zhousi joueding.)
(sexual harassment case appeal, Jones Thursday decide.)
(Jones will make her decision on Thursday whether to appeal for the sexual harassment case.)

(4) 將決議逐級上報到中央待批。
(jiang jueyi zhuj shangbao dao zhongyang daipei.)
(jiang decision step after step up report to central government wait endorse.)
(The decision will be sent to the Central Government for their endorsement.)

Examples (2) and (4) are self explanatory. Why (1) is considered as an instance of the AT/TOWARDS A HIGHER STATUS IS SHANG metaphor is that though the graves of one's ancestors are not necessarily located at a higher place, to visit the graves is nevertheless referred to as 'shang graves' because the ancestors buried there are considered to be of higher status than the still living visitors. Why (3) is considered as an example of the metaphor is because to appeal to a higher court is described as 'shang appeal', recognizing the more important status of the higher court.

6.1.2.5 ELABORATION from VERTICALITY to HORIZONTALITY:

TOWARDS A CERTAIN HORIZONTAL DIRECTION IS SHANG

Altogether only 10 instances have been found out of the corpus data which carry this elaboration from vertical dimension to horizontal dimension. This is only about 1.33% of the total, which suggests that this elaboration occurs rarely with the concept SHANG. However, all the three special cases found with the lexicographical data have been found with the corpus data: 7 instances fall under 'Forward Is Shang', 1 instance falls under 'Approaching The Observer Is Shang', and 2 instances fall under 'Northward Is Shang'. They are presented with examples as follows:
6.2 XIA

6.2.1 The General Picture of XIA

434 randomly selected instances of *xia* out of the 4387 records sorted out from the Chinese corpus are put into a database and analyzed one by one. Like SHANG, XIA also has three prototypical models: the static XIA, the contact XIA, and the dynamic XIA. Statistical analysis of the corpus data shows that among the 434 occurrences of *xia* analyzed, 89 are instances of the contact model; 146 are instances of the static model; together they take up 54.15% of the total. The rest 199 occurrences are instantiation of the dynamic model, which is about 45.85% of the total. These figures show that XIA is quite well balanced between its non-dynamic side and its dynamic side, although the former occurs slightly more often than the latter. This is similar
with SHANG, which is in 65.33% of the cases used in its non-dynamic model. In brief, both XIA and SHANG are more often used to denote a particular location of a static trajector rather than the orientation of a dynamic trajector.

As with SHANG, an overwhelming majority of the 434 instances of xia carry a certain type of metaphorical meanings, the exact figure being 337 out of 434, which makes up 77.65% of the total. The same four target domains, namely STATES, TIME, SOCIAL HIERARCHY, and QUANTITY, with the same four general metaphorical extensions, as found in the lexicographical data, are found for XIA in the corpus data as well. The metaphorical extension AT/TOWARDS A LESS DESIRABLE STATE IS XIA claims 174 instances, which is about 40.09% of all the data and turns out to be at the top of the list. The second place goes to AT/TOWARDS A LATER TIME IS XIA, which takes up 23.27% of the data. Following these two, 7.83% of the data carries the metaphorical extension AT/TOWARDS A LOWER STATUS IS XIA. At the bottom of the list is AT/TOWARDS A SMALLER QUANTITY IS XIA, which applies to 6.45% of the data.

In contrast with the findings from the lexicographical data of XIA, no examples have been found which can serve as evidence for the existence of the elaboration from vertical dimension to horizontal dimension among the corpus data.

The above findings are presented more straightforwardly in the following tables:

<table>
<thead>
<tr>
<th>Prototype model</th>
<th>Number</th>
<th>Percentage out of 434</th>
</tr>
</thead>
<tbody>
<tr>
<td>non-dynamic XIA</td>
<td>contact XIA</td>
<td>89</td>
</tr>
<tr>
<td>static XIA</td>
<td>146</td>
<td>33.64%</td>
</tr>
<tr>
<td>dynamic XIA</td>
<td>199</td>
<td>45.85%</td>
</tr>
</tbody>
</table>

Table 6.4 The three prototypical models of XIA
<table>
<thead>
<tr>
<th>Target domain</th>
<th>Metaphorical extension</th>
<th>Number</th>
<th>Percentage out of 337*</th>
<th>Percentage out of 434</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATES</td>
<td>AT/TOWARDS A LESS DESIRABLE STATE IS XIA</td>
<td>174</td>
<td>51.63%</td>
<td>40.09%</td>
</tr>
<tr>
<td>TIME</td>
<td>AT/TOWARDS A LATER TIME IS XIA</td>
<td>101</td>
<td>29.97%</td>
<td>23.27%</td>
</tr>
<tr>
<td>HIERARCHY</td>
<td>AT/TOWARDS A LOWER STATUS IS XIA</td>
<td>34</td>
<td>10.09%</td>
<td>7.83%</td>
</tr>
<tr>
<td>QUANTITY</td>
<td>AT/TOWARDS A SMALLER QUANTITY IS XIA</td>
<td>28</td>
<td>8.31%</td>
<td>6.45%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>337</strong></td>
<td><strong>100%</strong></td>
<td><strong>77.65%</strong></td>
</tr>
</tbody>
</table>

* The total number of all the cases found with metaphorical extensions.

Table 6.5 The metaphorical extensions of XIA

<table>
<thead>
<tr>
<th>Cases without metaphorical extensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>97</td>
</tr>
</tbody>
</table>

Table 6.6 XIA without metaphorical extensions

Compared with SHANG and compared with the findings of the lexicographical data, the following points are worth special emphasis:

(1) As in the case of SHANG, XIA is also predominantly used in its metaphorical sense rather than in its literal sense. This demonstrates that both SHANG and XIA, as image-schematic structures, play a very active role in organizing our abstract domains and our abstract thinking.

(2) SHANG and XIA share the same four target domains, yet those domains are arranged in somewhat different orders in terms of frequencies. With SHANG, the order is STATES, QUANTITY, TIME and SOCIAL HIERARCHY. With XIA, 178
the order is STATES, TIME, SOCIAH HIERARCHY and QUANTITY.

QUANTITY, which takes up the second place with SHANG, turns out to be at the bottom of the list with XIA\textsuperscript{3}.

(3) Except for the elaboration from verticality to horizontality, which is not found in the corpus data, the two groups of data show a high degree of correspondence. This, as we have observed with SHANG, strengthens the validity of my findings.

(4) Despite the minor difference noted in (2), the correspondence between SHANG and XIA as shown in both the lexicographical data and the corpus data is significant. This is a piece of evidence that our abstract thinking of those four target domains is organized by a coherent system of SHANG/XIA metaphors. The following chart presents the correspondence and the discrepancy between the metaphorical extensions of SHANG and XIA as found in the corpus data more straightforwardly:

\textsuperscript{3} If this is not an accidental phenomenon with the sampled corpus data, then it seems to suggest that SHANG is used to talk about the increase in quantity much more often than XIA being used to talk about the decrease in quantity.
6.2.2 The Metaphorical Extensions of XIA

6.2.2.1 STATES: AT/TOWARDS A LESS DESIRABLE STATE IS XIA

This is the most frequently used metaphorical extension for the concept XIA, claiming 40.09% of all the data and 51.63% of that part of the data with metaphorical extensions.

With this metaphorical extension, similar discrepancy noted between the lexicographical data and the corpus data of SHANG is found with XIA. Six special metaphorical extensions concerning Morality, Subconscious, Quality, Publicity, Intensity and Fulfillment of an action are found within the lexicographical data of XIA. With the corpus data, only the latter five special metaphorical extensions are
identified. The absence of 'Lower Morality Is Xia' suggests that it is not an extension in frequent use in modern everyday Chinese.

Mental States
Subconscious Is XIA.

(1) 如果說還有什么失望的話，那只是因為下意識 里在和芝加哥、巴黎和倫敦比較。
(ruguo shuo haiyou shenme shiwang de hua, na zhishi yinwei xia yishi li zai he zhijia ge, bali he lundun bijiao)
(if say still have what regret word, that only because down consciousness in with Chicago, Paris and London compare)
(If there was still dissatisfaction, that was only because subconsciously I was comparing Shanghai with Chicago, Paris and London.)

Quality
Of/Towards
Worse Quality Is XIA.

(2) 久而久之，学习成绩下降。
(jiu er jiu zhi, xuexi chengji xiajiang)
(long and long, studies score down drop)
(After a long while, my scores at school began to drop.)

(3) 家庭装修队多为散兵游勇且操作水平低下。
(jiating zhuangxiudui duo wei sanbing youyong qie caozuo shuiping dixia)
(family decoration team mostly be stragglers and disbanded soldiers and operation standard low down)
(Most indoor decoration teams were like stragglers with very low standards.)

Publicity
At/Towards A
Private State Is XIA.

(4) 那些在定存利率中居冠的银行全数被从榜上撤下
(naxie zai dingcun lili zhong juguan de yinhang quanshu bei cong bangshang chexia)
(those at fixed deposit interest rate stay top bank all bei list on withdraw down)
(Those banks with the highest interest rates for timely deposit have all got their names removed from the list.)

(5) 四强会议已在私下层面作过讨论。
(siqiang huiyi yi zai sixia cengmian zuoguo taolun)
(four power meeting already at private down level do discussion)
(This has already been discussed privately at the meeting of the four nations.)

States Of
Events
Fulfillment Of
An Action
Towards
Fulfillment Of
An Action Is

(6) 去年裕隆创下多项公司成立以来的最高纪录。
(qunian yulong changxia duoxiang gongsi chengli yilai de zuigao jilu)
6.2.2.2 TIME: AT/TOWARDS A LATER TIME IS XIA

As many as 101 instances are found for this metaphorical extension. This takes up 23.27% of all the data and 29.97% of that part of the data with metaphorical extensions. These figures suggest that the image-schematic structure of XIA is quite frequently mapped onto the target domain of TIME.

Among the 101 instances, 80 are realizations of special case 1 "times are fixed locations arranged along a vertical landscape; a later time is below an earlier time"; 21 are realizations of special case 2 "human beings are moving downwards towards future". This is consistent with the findings of SHANG, and suggests that while projecting the image-schematic structure of XIA onto the domain of TIME, the Chinese language puts more emphasis on the static arrangements of times along the vertical axis than on the downward movement of human beings along the axis. This is
also in agreement with the general observation that XIA is more often used in its non-
dynamic prototypical model than in its dynamic prototypical model (cf. pp. 173-174).

In the following examples taken from the corpus data, (1) to (3) entail the fixed
locations of times; (4) entails the downward movement of people (with their
belongings, in this case, the worsening of social security).

(1) 克林顿下月访北爱
(kelindun xiayue fang beiai.)
(Clinton next month visit north Ire.)
(Clinton is going to visit North Ireland next month.)

(2) “打工仔经济”主要有以下几种形式
(dagongzai jingji zhuyao you yixia jizhong xingshi.)
(employee economy mainly have down several way)
(This employee economy mainly has the following forms.)

(3) 有助于为瑞士联邦委员会主席下周访以营造友好气氛。
(youzhuyu wei ruishi lianbang weiyuanhui zhuxi xiazhou fangyi yingzao youhao
qifen.)
(have help to for Switzerland committee chairman next week visit Israel make
friendly atmosphere.)
(This will help to create a friendly atmosphere for the coming visit to Israel of the
Swiss Federal Committee Chairman next week.)

(4) 社会治安恶化的趋势势必持续下去。
(shehui zhi'an chua de qushi shibi chixu xiaqu.)
(society security worsen tendency will continue down go.)
(Social security will continue worsening.)

6.2.2.3 SOCIAL HIERARCHY: AT/TOWARDS A LOWER STATUS IS XIA

34 instances are found for this metaphorical extension. This is about 7.83% of all
the data and 10.09% of that part of the data with metaphorical extensions. This is
significantly lower than that of the two metaphorical extensions discussed in the
previous sections.

Four examples are presented below:

183
(1) 到俱乐部球场看球的球迷主要来自下等阶层。
(dao julebu zuichuang kanqiu de qiumi zhuyao laizi xiadeng jieceng.)
(Those who go to the club's playground to watch football are mainly from lower class.)

(2) 上至帝王将相，下至贩夫走卒，三教九流
(shangzhi diwang jiangxiang, daguan guiren, xiazhi fanfu zouzu, sanjiao jiuliu.)
(up to emperor king general minister, important official important people, down to peddler, soldier, three religion nine stream.)
(from up to those of the highest status down to those of the lowest status)

(3) 他們都在貝克的麾下接受指導。
(tamen dou zai beike de huixia jieshou zhidao)
(they all at Baker flag under receive guide.)
(They are all under the supervision of Baker.)

(4) 几百名下放干部中有的头戴著"右派分子"的帽子
(jibaiming xiafang ganbu zhong youde toudai zhe youpai fenzi de maozi.)
(several hundred down send cadre some head wear rightist cap.)
(Among the several hundred cadres sent to the countryside some were labeled the rightist.)

Example (3) needs a bit explanation: to be under Baker's supervision is referred to as
zai ... huixia (to be under his flag). The supervisor is ascribed a higher status than the supervised.

6.2.2.4 QUANTITY: AT/TOWARDS A SMALLER QUANTITY IS XIA

According to the corpus data, this metaphorical extension is the least frequently
used one for the concept XIA. Only 28 instances have been found for it, which is
about 6.45% of all the data and 8.31% of that part of the data with metaphorical
extensions. The examples bearing this metaphorical extension are fairly
straightforward.

(1) 規模上去，成本下來，价格也就有了回旋的余地。
(guimo shangqu, chengben xialai, jiage ye jiu youle huixuan de yudi.)
(scale up go, cost down come, price thus have maneuver room.)
(When the scale of production has gone up and the cost has come down, the prices can then be negotiated.)

(2) 印尼盾比昨天下跌百分之十。
(yinni dün bi zuòtiān xià di 10%.)
(Indonesian currency compare yesterday down drop 10%.)
(The Indonesian currency has dropped 10% compared with yesterday.)

(3) 其中鯉景湾的叫价下调约百分之五至八。
(qízhōng lǐjǐng wān de jiàojià xiàdiăo yuē fén zhī wǔ zhī bā)
(among Lijing Bay price down adjust about 5% to 8%.)
(The price for housing at Lijing Bay has dropped 5% to 8%.)

(4) 在人口出生率不断下降的芬兰
(zài rénkǒu chūshēng lǜ bù duàn xià jiàng de fénlán)
(at people birth rate continuously down drop Finland)
(In Finland where the birth rate has been going down)

(5) 报考这一培训班的学员中，20岁以下的占87%。
(bào kào zhè yī tùi xùn bān de xuéyuàn zhōng, ěrshíshí yī xià jī ài bāi fén zhī bāshì qí)
(apply this one training course candidate among, twenty years down take 87%.)
(Among the candidates who applied for this training course, those who are below twenty years' of age takes up 87%.)

(6) 小学文化程度的比率，应降至三十％以下
(xǐoxué wén huà chéng dù de bǐ lǜ, yìng jiāng zhí bāi fén zhī shí sān zhī yī xià)
(primary school education degree ratio, should drop to 30% down.)
(The ratio of those with only primary school education should drop to below 30%.)

6.3 UP

6.3.1 The General Picture of UP

The database of UP is made up of 529 instances of up randomly selected from the 5728 records sorted out from the 5 million word English corpus. These records were analyzed one by one along the parameters sense, trajector, landmark, path, vertical axis and metaphorical extensions.
UP has two prototypical models: the dynamic UP and the static UP. The parameter \textit{path} captures the distinction between the two. For in the case of a static UP, the value for \textit{path} is 'zero'. With the lexicographical data, it is difficult to tell which model is more active than the other one. Now that quantitative analysis has been carried out with the corpus data, the question can be answered. It is found that UP is predominantly used in its prototypical dynamic model. Though instances can also be found for the static model, the number is extremely low. Among the 529 instances of \textit{up} analyzed, only 12 are found to be with a 'zero' path. That is to say, only 12 instances fall under the static model, which is only about 2.27\% of the total. With the rest 97.73\% of the data, UP is used in the dynamic model. This is certainly different from SHANG, which, we may recall from Section 6.1, is in 65.33\% of the cases used in its non-dynamic model. These figures show that while SHANG is used to structure both a certain stage of its target domains and a certain change taking place in its target domains (with a bias towards the former), UP is almost always used to denote the changes going on in its target domains.

Out of the 529 records of \textit{up} analyzed, 463 are found with metaphorical extensions, which is about 87.52\% of the total number. The rest 66 instances are found to be without metaphorical extensions. That is about 12.48\% of the total number, among them 16 carry the elaboration from vertical dimension to horizontal dimension. Tables 6.7, 6.8 and 6.9 present the above figures together with the frequency of each metaphorical extension detected and the frequency of the elaboration.
<table>
<thead>
<tr>
<th>Prototype Model</th>
<th>Number</th>
<th>Percentage Out of 529</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic UP</td>
<td>517</td>
<td>97.73%</td>
</tr>
<tr>
<td>Static UP</td>
<td>12</td>
<td>2.27%</td>
</tr>
</tbody>
</table>

Table 6.7: The two prototypical models of UP

<table>
<thead>
<tr>
<th>Target Domains</th>
<th>Metaphorical Extension</th>
<th>Number</th>
<th>Percentage out of 463*</th>
<th>Percentage out of 529</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATES</td>
<td>TOWARDS A MORE DESIRABLE STATE IS UP</td>
<td>313</td>
<td>67.6%</td>
<td>59.17%</td>
</tr>
<tr>
<td>QUANTITY</td>
<td>TOWARDS A LARGER QUANTITY IS UP</td>
<td>126</td>
<td>27.21%</td>
<td>23.82%</td>
</tr>
<tr>
<td>HIERARCHY</td>
<td>TOWARDS A HIGHER STATUS IS UP</td>
<td>13</td>
<td>2.81%</td>
<td>2.46%</td>
</tr>
<tr>
<td>TIME</td>
<td>TOWARDS A LATER TIME IS UP</td>
<td>11</td>
<td>2.38%</td>
<td>2.08%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>463</td>
<td>100%</td>
<td>87.52%</td>
</tr>
</tbody>
</table>

* The number of those data found with metaphorical extensions.

Table 6.8: The metaphorical extensions of UP

<table>
<thead>
<tr>
<th>Number</th>
<th>Percentage out of 66</th>
<th>Percentage out of 529</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elaboration</td>
<td>16</td>
<td>24.24%</td>
</tr>
<tr>
<td>Others</td>
<td>50</td>
<td>75.76%</td>
</tr>
<tr>
<td>Total</td>
<td>66</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 6.9: UP without metaphorical extensions

If we compare the above findings with the facts of SHANG, some general observations can be made at this point:

(1) The percentage of that part of data found with metaphorical extensions is as high as 87.52%. This figure is even higher than the 72.4% with SHANG. This
demonstrates from a statistical perspective that as SHANG in Chinese, UP is also mainly used metaphorically in English.

(2) Not only is it found that the image-schematic structure of UP is mapped onto the same four target domains as SHANG, but statistical analysis shows that in terms of frequencies, those four target domains are arranged in largely comparable order. With UP, the order is STATES, QUANTITY, SOCIAL HIERARCHY, and TIME. With SHANG, the order is STATES, QUANTITY, TIME and SOCIAL HIERARCHY.

(3) In both English and Chinese, the metaphorical extension TOWARDS A MORE DESIRABLE STATE IS UP/SHANG enjoys the highest frequency among all the extensions uncovered. It is especially dominant in English, where its percentage is as high as 59.17% out of all the data and 67.6% out of that part of the data with metaphorical extensions. In Chinese its dominance over the other three metaphorical extensions is less significant, with a percentage of 43.73% out of all the data and 60.41% out of that part of the data with metaphorical extensions.

(4) In both languages, the metaphorical extension which ranks the second in terms of frequency is TOWARDS A LARGER QUANTITY IS UP/SHANG. However, this extension appears to be used more often in English than in Chinese. With UP, its percentage is 23.82% out of all the data and 27.21% out of that part of the data with metaphorical extensions. With SHANG, its percentage is 11.73% out of all the data and 16.21% out of that part of the data with metaphorical extensions.

(5) The other two extensions, namely TOWARDS A HIGHER STATUS IS UP and TOWARDS A LATER TIME IS UP, only occur sparingly in English, the percentage being 2.46% and 2.08% respectively out of all the data, and 2.81% and 2.38% out of the part of data with metaphorical extensions. Their Chinese
counterparts, although also ranked after STATES and QUANTITY, nevertheless enjoy higher frequencies. The percentage for TOWARDS A HIGHER STATUS IS SHANG is 6.53% out of all the data and 9.02% out of that part of the data with metaphorical extensions, and that for TOWARDS AN EARLIER TIME IS SHANG is 10.4% out of all the data and 14.36% out of that part of the data with metaphorical extensions. Together these figures show that while UP is only occasionally used to structure the target domain SOCIAL HIERARCHY and even more rarely TIME, SHANG is more often used to structure these two domains.

(6) As observed with SHANG and XIA, there is a high degree of parallelism between the results yielded by the corpus data and that yielded by the lexicographical data with UP. The same four target domains with the same four general metaphorical extensions are found in both cases. Again this correspondence between the two types of data strengthens my findings.

In the following chart, the frequencies of the four general metaphorical extensions found with SHANG and UP are put together for comparison. It gives us a clearer picture of the contrast between the two concepts.

![Chart showing frequencies of SHANG and UP across different domains]
6.3.2 The Metaphorical Extensions of UP

6.3.2.1 STATES: TOWARDS A MORE DESIRABLE STATE IS UP.

Altogether 313 instances have been found out of the 529 lexical items of *up*
which carry this metaphorical extension. The following special metaphorical
extensions are detected among those instances:

<table>
<thead>
<tr>
<th>Mental States</th>
<th>Emotional States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Join in with a delightful Nativity</td>
<td>I have a friend who's manic depressive and</td>
</tr>
<tr>
<td>story in our old stables, then</td>
<td>when she's in one of her manic, 'up' phrases,</td>
</tr>
<tr>
<td>wake <em>up</em> Father Christmas by</td>
<td>she seemed to be drawn to all those old rock</td>
</tr>
<tr>
<td>singing Jingle Bells.</td>
<td>cliches.</td>
</tr>
<tr>
<td>LEX Services will have been <em>up</em></td>
<td></td>
</tr>
<tr>
<td>at the crack of dawn today waiting</td>
<td></td>
</tr>
<tr>
<td>on the forecourt to herald K-day.</td>
<td></td>
</tr>
<tr>
<td>Young people growing <em>up</em> in make-</td>
<td></td>
</tr>
<tr>
<td>shift homes and overcrowded shanty</td>
<td></td>
</tr>
<tr>
<td>areas often resort to crime just to</td>
<td></td>
</tr>
<tr>
<td>stay alive, stealing food or</td>
<td></td>
</tr>
<tr>
<td>money, dealing in drugs and</td>
<td></td>
</tr>
<tr>
<td>breaking in to houses or cars.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical States</th>
<th>States Of Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement In Appearances Is Up.</td>
<td>Drawn <em>up</em> by Richard Caborn, a trade and</td>
</tr>
<tr>
<td>So her approach is more understated;</td>
<td>industry spokesman, the document says</td>
</tr>
<tr>
<td>when she dresses <em>up</em> for the even-</td>
<td>focusing the relief on first time buyers would</td>
</tr>
<tr>
<td>ing she puts on very little makeup,</td>
<td>release billions of pounds for productive</td>
</tr>
<tr>
<td>maybe just some mascara and</td>
<td>investment in the northern economy.</td>
</tr>
<tr>
<td>eyeliner.</td>
<td>Mr. Nadir, who popped <em>up</em> on ITV last night</td>
</tr>
<tr>
<td></td>
<td>with new information on the solicitation of</td>
</tr>
<tr>
<td></td>
<td>funds, is weaving a damaging web from his</td>
</tr>
<tr>
<td></td>
<td>northern Cyprus hideout.</td>
</tr>
</tbody>
</table>
Into A Functioning State Is Up. The Wickham car was started up and we were immediately conveyed to the pierhead. The conference, sponsored by the UN, examined ways to clean up manufacturing industry in Asia and the Pacific. The loss is blamed on the continuing difficulties at Oldham, the neon sign manufacturer, which has been up for sale since June.

Towards Completeness Is Up.

Towards A Public State Is Up.

Comparing the above results with the findings yielded by the lexicographical data, we see that all the four sub-domains of STATES covered by the lexicographical data, namely Mental States, Emotional States, Physical States and States Of Events are also found in the corpus data. However, within the sub-domain of Physical States, more varieties are found in the lexicographical data than in the corpus data. This may be due to the limited size of the corpus and the sample on the one hand, and to the reality of modern English on the other hand: some specific metaphorical extensions, although recorded in dictionaries, only show up rarely in everyday language.

6.3.2.2 QUANTITY: TOWARDS A LARGER QUANTITY IS UP.

This is the second most frequently used metaphorical extension for the concept UP. 126 instances have been found carrying this metaphorical extension. This is significantly lower than that of the extension TOWARDS A MORE DESIRABLE STATE IS UP.

With this metaphorical extension, the corpus data and the lexicographical data are in close parallel. All the specific metaphorical extensions uncovered from the lexicographical data are also found in the corpus data.
Increase In Salary Is Up. This is one of the few professions in which women can earn more than men: £e250 to £e500 a day for a soft-core film, but up to £e10,000 for a hard-core or S&M film. When you take out a Marks & Spencer Personal Loan you need never worry about your repayments going up.

Increase In Costs Is Up. Unfortunately, however, any action along those lines is bound to put up prices and the inflation problem is already quite bad enough.

Increase In Price Is Up. The other night I was trying to heat myself up a defrosted lean Cuisine, ah, such are the joys of single living, when my cooker started to tremble like a recovering alcoholic and then proceeded to belch out great clouds of smoke. In addition, Boots Corn Paint can be applied directly onto corns to speed up their removal.

Increase In Temperature Is Up. Now you're ready for action. Pump up the volume to club music, whatever you love to dance to.

Increase In Speed Is Up. I smoked about 10 to 15 a day, or up to 20 if I went to the pub.

Increase In Volume Of Voice Is Up. 'Pictures need an environment. Fashion's about living it,' she says, in her office high above Madison Avenue, a room full of pictures she has styled, each one blown up, framed and stacked nonchalantly against the wall.

Increase In Number Is Up.

Increase In Size Is Up.

6.3.2.3 SOCIAL HIERARCHY: TOWARDS A HIGHER STATUS IS UP.

Only 13 instances out of all the 529 lexical items of up analyzed carry this metaphorical extension. This is much lower than the 313 of TOWARDS A MORE DESIRABLE STATE IS UP and the 126 of TOWARDS A LARGER QUANTITY IS UP, suggesting that the image-schematic structure of UP is only occasionally mapped onto the target domain of SOCIAL HIERARCHY.

Below are a few examples:
(1) Looking back now, Charlie says he supposes he is up there with the greats, but he never considered himself a great star; he talks star-talk about an obligation to exploit his talent, but Charlie is not so much cocky, as eager.

(2) "They are just toadying up to the Serbs," he growls.

(3) I probably work more hours now than I did before and I do go up to London at least once a week and go to conferences.

(4) SADDAM Hussein may not know it yet, but he is going to give up to those UN resolutions. George Bush

**6.3.2.4 TIME: TOWARDS A LATER TIME IS UP.**

Only 11 instances are found for this particular metaphorical extension, suggesting that following SOCIAL HIERARCHY, TIME is another target domain which is only occasionally constructed by the image-schematic structure of UP.

In Section 5.2.3.2, two special cases have been observed with the vertical version of the TIME-AS-SPACE metaphor in English (cf. pp. 147-148). Special case 1 is TIME IS MOVING UPWARD FROM PAST TOWARDS FUTURE. Special case 2 is HUMAN BEINGS (WITH THEIR BELONGINGS) ARE MOVING DOWNWARD FROM PAST TOWARDS FUTURE. It is not surprising that all the 11 instances found among the corpus data of UP belong to special case 1 (instances for special case 2 are expected to be found among the corpus data of DOWN).

(1) The author has cleverly chosen examples of passmenterie around the world, from its ethnic origins in Africa and Asia right up to the present day.

(2) "We've basically modernized him, brought him more up to date!" bubbles Danny Daniels, chief press officer at the Royal Society for the Prevention of Accidents.

(3) Indeed, up to Victorian times and before the age of meddlesome regulation, whisky was sold in Scotland at 70 per cent (alcohol by volume) which would certainly do unspeakable things to my own lily-livered tissues.
(4) Were cuckoos to build their own nests, the youngsters in them would be in contact with their parents up to and beyond leaving the nest and would probably have evolved a more complicated repertoire of songs than the restricted (but strikingly memorable) set they use.

(5) Your time's up, Neil. And the next contestant is John Major from Huntigdon. John, are you planning to privatize the NHS?

6.3.2.5 ELABORATION: TOWARDS A HORIZONTAL DIRECTION IS UP.

16 instances are found which carry this elaboration from vertical dimension to horizontal dimension. This is only about 3.02% of the 529 lexical items of up analyzed, suggesting that the elaboration from vertical dimension to horizontal dimension occurs rather rarely with the concept UP.

Among the 16 instances identified, 10 belong to special case 1 "Forward Is Up"; 1 belongs to special case 2 "Approaching The Observer Is Up"; 3 belong to special case 3 "Northward Is Up". Below are some examples:

**Special case 1**
Forward Is Up.

Last week in the Coventry Stakes at Royal Ascot Wajiba Riva was fancied to beat the hot favorite Stonehatch, but was simply not good enough, though he was up there with a chance with a furlong to go.

**Special case 2**
Approaching The Observer Is Up.

The Old Bailey heard that the 27-year-old victim, who married only three months before his death, had been waiting for a train with his brother when Mr Clunis walked up from behind and stabbed him in the eye.

**Special case 3**
Northward Is Up.

You will then understand why the Romans, as they extended the frontier of the Empire up the north west side of Britain, chose to fortify this site before penetrating the hill country of the Lake District.
6.4 DOWN

6.4.1 The General Picture of DOWN

The 5 million word English corpus produces 4781 records of *down* altogether, from which about 10% are randomly selected. After those few cases lacking sufficient contexts for analysis have been deleted, 431 instances enter the final database of DOWN.

As in the case of UP, the dynamic model of DOWN is found to be dominant over the static model. Among the 431 instances analyzed, only 24 are found to be with a 'zero' path, which is about 5.57% of the total number. In the rest 94.43% of the instances, DOWN is used to depict the downward movement (literally or metaphorically) of the trajector. Comparing this with XIA, we notice a sharp contrast. As pointed out in Section 6.2, XIA is well balanced between its static side and its dynamic side, the proportion between the two being 54.15%: 45.85%, suggesting that XIA is slightly more often used to denote the location of a stationary trajector. This explains why the metaphorical extensions of XIA have consistently been put down as AT/TOWARDS A SMALLER QUANTITY IS XIA, or AT/TOWARDS A LATER TIME IS XIA, etc., while the metaphorical extensions of DOWN have consistently been put down as TOWARDS A SMALLER QUANTITY IS DOWN, or TOWARDS A LATER TIME IS DOWN, etc.

Among all the 431 records of *down* analyzed, 45.48% are found to be with metaphorical extensions; the rest 54.52% are found to be without metaphorical extensions. 61 instances are found to carry the elaboration from vertical dimension to horizontal dimension. Tables 6.10, 6.11, and 6.12 present the above figures together.
with the frequency of each metaphorical extension detected and the frequency of the elaboration.

<table>
<thead>
<tr>
<th>Prototype model</th>
<th>Number</th>
<th>Percentage out of 431</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic DOWN</td>
<td>407</td>
<td>94.43%</td>
</tr>
<tr>
<td>Static DOWN</td>
<td>24</td>
<td>5.57%</td>
</tr>
</tbody>
</table>

Table 6.10 The two prototypical models of DOWN

<table>
<thead>
<tr>
<th>Target Domain</th>
<th>Metaphorical extension</th>
<th>Number</th>
<th>Percentage out of 196*</th>
<th>Percentage out of 431</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATES</td>
<td>TOWARDS A LESS DESIRABLE STATE IS DOWN</td>
<td>113</td>
<td>57.65%</td>
<td>26.22%</td>
</tr>
<tr>
<td>QUANTITY</td>
<td>TOWARDS A SMALLER QUANTITY IS DOWN</td>
<td>54</td>
<td>27.55%</td>
<td>12.53%</td>
</tr>
<tr>
<td>HIERARCHY</td>
<td>TOWARDS A LOWER STATUS IS DOWN</td>
<td>25</td>
<td>12.76%</td>
<td>5.8%</td>
</tr>
<tr>
<td>TIME</td>
<td>TOWARDS A LATER TIME IS DOWN</td>
<td>4</td>
<td>2.04%</td>
<td>0.93%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>196</td>
<td>100%</td>
<td>45.48%</td>
</tr>
</tbody>
</table>

* The number of data found with metaphorical extensions

Table 6.11 The metaphorical extensions of DOWN

<table>
<thead>
<tr>
<th>Number</th>
<th>Percentage out of 235</th>
<th>Percentage out of 431</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elaboration</td>
<td>61</td>
<td>25.96%</td>
</tr>
<tr>
<td>Others</td>
<td>174</td>
<td>74.04%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>235</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 6.12 DOWN without metaphorical extensions
Comparing the above figures with that of UP on the one hand, and with that of XIA on the other, we can make the following observations:

(1) Less than half of all the 431 instances of down carry metaphorical extensions, the percentage being 45.48%. This figure is much lower than the 87.52% of UP, 72.4% of SHANG, and 77.65% of XIA. This seems to show that among all the four concepts examined, DOWN is least often used metaphorically.

(2) The four target domains for DOWN are arranged in the same order of frequencies as in the case of UP. The metaphorical extension TOWARDS A LESS DESIRABLE STATE IS DOWN, with a percentage of 26.22%, enjoys the highest frequency among all the four extensions uncovered. Ranked number two is the metaphorical extension TOWARDS A SMALLER QUANTITY IS DOWN with a percentage of 12.53%. The other two extensions, namely TOWARDS A LOWER STATUS IS DOWN and TOWARDS A LATER TIME IS DOWN, like their counterparts in UP, only occur sparingly, the percentages being 5.8% and 0.93% respectively. This shows that like UP, DOWN is also mainly used to structure the target domain STATES and secondly the target domain QUANTITY. Only occasionally is DOWN used to structure the domain SOCIAL HIERARCHY, and on very rare occasions it is also found to be used to construct changes in TIME.

(3) 14.15% of the data is found to carry the elaboration from vertical dimension to horizontal dimension. This figure is more significant than the 3.02% with UP and the 1.33% with SHANG (with XIA no instances have been found for the elaboration), which seems to suggest that, among all the four concepts, DOWN is most often given a horizontal meaning.

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4 Since after random sampling, the size of the data for this research might not be comprehensive enough, we are not, at this stage, in a position to make any strong claims about how significant this finding is. It is, nevertheless, a point worth pursuing in future research.
(4) The sharpest contrast between DOWN and XIA lies in the different frequencies given to the domain of TIME. With XIA, as many as 23.27% of the data carries the extension AT/TOWARDS A LATER TIME IS XIA. Yet with DOWN, only less than 1% of the data is found to carry the extension TOWARDS A LATER TIME IS DOWN.

(5) As in the case of SHANG, XIA, and UP, with DOWN, there is also a high degree of parallelism between the results yielded by the corpus data and by the lexicographical data, which again strengthens my findings.

Chart 6.3 below presents the contrasts between UP and DOWN, and chart 6.4 presents the contrasts between DOWN and XIA.

Chart 6.3: UP and DOWN
6.4.2 The Metaphorical Extensions of DOWN

6.4.2.1 STATES: TOWARDS A LESS DESIRABLE STATE IS DOWN

As in the case of SHANG, XIA and UP, the image-schematic structure of DOWN is also most often mapped onto the target domain of STATES, resulting in the highest frequency of the metaphorical extension TOWARDS A LESS DESIRABLE STATE IS DOWN. Altogether 113 instances out of the 431 lexical items of down analyzed are found to carry this particular metaphorical extension. The percentage is 26.22% out of all the data and 57.65% out of that part of the data with metaphorical extensions.

The following special metaphorical extensions are detected among the corpus data:

![Chart 6.4: XIA and DOWN]
Mental States
Into A State Of Inactivity Is Down.

Emotional States
Into A State Of Depression Is Down.

Physical States
Worsening In Appearances Is Down.

States Of Events
Out Of A State Of Operation Is Down.
Towards Total Destruction Is Down.
Towards A Private State Is Down.

It is a good idea to start winding down some hours before trying to sleep.

Having a mother who has never failed to give me masses of encouragement, has taken pride in all my achievements (from joining the Puffin club to becoming editor of Company magazine), hugged and supported me when I was down, and celebrated with me when I was up, I found this month's special news report, 'UK throwaways', particularly distressing.

(Photograph) SEXY Basic Instinct star Sharon Stone, above, dresses down nowadays in dark glasses and baggy clothes to avoid hordes of admirers.

Yet the school's dean and founder, Dolphi Drimer, said he feared the parliament, dominated by the National Salvation Front, may close his school down.

Rioting has not just hit LA's poor areas. On trendy Rodeo Drive many of the shops closed after threats to burn them down. Deep down I know he must be very proud of himself.

This result is largely in agreement with the findings yielded by the lexicographical data presented in the last chapter. All the four sub-domains of STATES covered by the lexicographical data, namely Mental States, Emotional States, Physical States and States of Events, are also found in the corpus data. However, as with UP, more specific metaphorical extensions are found in the lexicographical data of DOWN than in the corpus data. This suggests that although some special metaphorical extensions are recorded in dictionaries, they show up only rarely in everyday language, hence not
easily tracked down within corpora data. Of course, it might also result from the limited size of the corpus and of the sample data.

6.4.2.2 QUANTITY: TOWARDS A SMALLER QUANTITY IS DOWN.

This is the second most frequently occurring metaphorical extension for the concept DOWN. 54 instances are found for it, which is 12.53% of all the data and 27.55% of that part of the data with metaphorical extensions.

With the target domain of QUANTITY, all the special metaphorical extensions uncovered from the lexicographical data are also found in the corpus data. Below are some examples:

Decrease In Salary Is Down.  
Decrease In Costs Is Down.  
Decrease In Price Is Down.  
Decrease In Inflation Rate Is Down.  
Decrease In Temperature Is Down.  
Decrease In Speed Is Down.  
Decrease In Volume Of Voice Is Down.  
Decrease In Number Is Down.  
Decrease In Size Is Down.

The nurses have offered to scale down their pay demands to a lower figure. Is there any way we can prune the costs down still further? The price of milk should be down next week. The new government promised to bring the inflation rate down. After a warm and sunny day, the temperature will be down to 10 degrees tomorrow. Loosen some sails to ease down the speed of the boat. The radio station faded the music down to give a special news broadcast. The government promised to bring the number of students in each class down to 30 by the year 2002. You've slimmed down such a lot since we last met!
6.4.2.3 SOCIAL HIERARCHY: TOWARDS A LOWER STATUS IS DOWN.

Ranking after TOWARDS A LESS DESIRABLE STATE IS DOWN and TOWARDS A SMALLER QUANTITY IS DOWN, this metaphorical extension has a percentage of 5.8% out of all the data and 12.76% out of that part of the data with metaphorical extensions. 25 instances are found for it. Below are some examples taken from the corpus data.

(1) Take her down to hell and see if she comes back. Go down with her if you have to.

(2) But similarly gloomy predictions were made when the French national assembly voted down the European Defense Community in 1954.

(3) It might mean that he would have to step down as a player for one match, but that's something he should consider seriously.

(4) I was better on 'Frankenstein'. But I ended by clarifying Jesus' role in the scheme of things by quoting, as far as I could remember, from a hymn, 'He came down on earth from Heaven, he died to save us all.'

(5) Mrs. Thatcher would doubtlessly also point out that her hero Winston Churchill, at 5ft 6in, was probably looked down on - if only physically - by many of his peers.

(6) Jack Lynch, Lemass's preferred successor, was the first to be told that Lemass was in fact stepping down and indicated, in return, that he would not be a contender.

(7) It's this other thing, dragging someone down because they've risen a fraction above you.

6.4.2.4 TIME: TOWARDS A LATER TIME IS DOWN

Only 4 instances have been found which carry this particular metaphorical extension. The percentage is as low as 0.93% out of all the data and 2.04% out of that part of the data with metaphorical extensions. This is evidence that the image-
schematic structure of DOWN is very rarely projected onto the target domain of TIME.

As we predicted in Section 6.3.2.4, all the four instances found for this metaphorical extension belong to special case 2 of the vertical version of the TIME-AS-SPACE metaphor, i.e. HUMAN BEINGS (WITH THEIR BELONGINGS) ARE MOVING DOWNWARD TOWARD FUTURE. The examples are listed as follows:

(1) And when Aamer Sohail attempted to slog his way out of trouble, Pringle produced a low reflex catch in his follow-through that will surely go down as the best of the tournament.

(2) Dotted around the living room are various pieces of English silverware, passed down through Howard's family.

(3) This story was handed down to Michael Roberts by his father, a Methodist minister of 'formidable narrative powers and unshakable standards of truthfulness'.

(4) For the problems of an overvalued currency - balance of payment deficits and the risk of devaluation - will sure go down the line, perhaps for years to come.

6.4.2.5 Elaboration: TOWARDS A HORIZONTAL DIRECTION IS DOWN

61 instances are found which carry this elaboration from vertical dimension to horizontal dimension. This takes up 14.15% of all the data. However, only special cases 2 and 3 of the elaboration have been found in the corpus data, namely 'Departing From The Observer Is Down' and 'Southward Is Down'. 59 instances fall under special case 2 and 2 instances fall under special case 3. No example has been found for special case 1: 'Backward Is Down'. This is in agreement with the lexicographical data, for there only the phrasal verb back down suggests the possible existence of this special case in the past. Following are some examples for special cases 2 and 3:
Special case 2: Departing from The Observer Is Down.

(1) He yawned and walked down to his truck, squinting against the sun, the new snow crunching underfoot.

(2) Making a hissing sound in the back of his throat, Do Duc padded in his bare feet down the hall, through the kitchen and the living-room to open the front door.

(3) Taj didn't answer. He was watching as the old man wound his way down into the last of the sunlight, stopping now and again to try out a half-remembered dance step.

Special case 3: Southward Is Down.

(4) Recent news from Down Under is quite encouraging.

(5) Sally said she and her husband are going down to Australia for Christmas.

6.5 Summary

At the end of Chapter 5, we concluded that evidence in the Chinese lexicon and the English lexicon suggests that there is a close correspondence between the metaphorical extensions found for SHANG and XIA on the one hand, and for UP and DOWN on the other. This correspondence is reflected in two respects: The first is that the same four target domains, namely QUANTITY, SOCIAL HIERARCHY, STATES and TIME, are found for all the four concepts under concern. The second is that with the first three target domains, the same general metaphorical extensions are detected for both Chinese and English.

Another point which exhibits the correspondence between the four image-schematic concepts SHANG, XIA, UP and DOWN is that for all the four, there exists an elaboration from vertical dimension to horizontal dimension, and this elaboration consists of the same three special cases with SHANG/XIA and with UP/DOWN.
According to the lexicographical data, the only significant discrepancy between Chinese and English lies in the target domain of TIME, where it is found that there is consistency between AT/TOWARDS AN EARLIER TIME IS SHANG and AT/TOWARDS A LATER TIME IS XIA, but contradiction between TOWARDS A LATER TIME IS UP and TOWARDS A LATER TIME IS DOWN. We have argued that the contradiction noted with TIME in English possibly arises as a result of the conflict between two cultural values: "The future will be better" and "The past was better".

In the present chapter, the focus has been shifted from qualitative analysis of the lexicographical data to quantitative analysis of the two corpora data. The purposes for this shift are (1) to check the findings from the lexicographical data against the corpora data, (2) to find out which particular metaphorical extension enjoys the highest frequency in everyday Chinese and English, and (3) to see whether there are any differences between Chinese and English in their distributions of different metaphorical extensions.

From quantitative analysis of 750 records of shang, 434 records of xia, 529 records of up and 431 records of down randomly selected out of the Chinese corpus and the English corpus, the following conclusions can be made:

1. The common trend found with the lexicographical data is confirmed, namely in both languages, upward trajectories are linked with things considered to be desirable in the culture and downward trajectories are linked with things considered to be undesirable in the culture.

2. It has been found that UP and DOWN are fundamentally dynamic concepts rather than static ones. With UP, only about 2.27% of all the cases analyzed carry the static meaning; with DOWN, the figure is 5.53%. On the other hand, SHANG and
XIA are found to be well balanced between their static side and their dynamic side. With SHANG, the proportion between the two is 65.34% : 34.66%; with XIA, it is 54.15% : 45.85%. These figures demonstrate that while SHANG and XIA are used to denote both the location of a stationary trajector and the orientation of a moving trajector (with a bias towards the former), UP and DOWN are predominantly used to capture the latter rather than the former.

3. The same four target domains with the same general metaphorical extensions are found for SHANG, XIA, UP and DOWN from the corpora data as from the lexicographical data. As we have repeatedly pointed out, this agreement between the two groups of data adds strength to the claims made by this research.

4. With all the four concepts, the metaphorical extension that enjoys the highest frequency is A MORE DESIRABLE STATE IS SHANG/UP // A LESS DESIRABLE STATE IS XIA/DOWN, suggesting that all the four concepts are most actively used to structure the domain of STATES.

5. With SHANG, UP, and DOWN, the metaphorical extension that ranks the second in terms of frequency is A LARGER QUANTITY IS SHANG/UP // A SMALLER QUANTITY IS XIA/DOWN, suggesting that these three concepts are also quite actively used to structure the target domain of QUANTITY. An interesting finding is that the metaphorical extension AT/TOWARDS A SMALLER QUANTITY IS XIA ranks the fourth in terms of frequency with the concept XIA.

6. There is a tendency that while UP and DOWN are very rarely used to conceptualize TIME and SOCIAL HIERARCHY, these two domains play a

\[5\] Analysis of larger and more comprehensive corpus data is needed before we can actually make the claim that among the four concepts, DOWN is least often used to structure the domain of QUANTITY.
relatively more important role with SHANG and XIA. For better clarity, the
distribution of the metaphorical extensions with each of the four concepts is put into
one chart as follows:

![Chart 6.5 The distribution of the metaphorical extensions
Of SHANG, XIA, UP and DOWN](chart.png)

1. STATES 2. QUANTITY 3. TIME 4. HIERARCHY

7. Besides the metaphorical extensions discovered, for UP, DOWN and SHANG,
there have also been found cases among the corpora data which suggest the
existence of an elaboration from vertical dimension to horizontal dimension. This
elaboration occurs very rarely with UP and SHANG and notably more frequently
with DOWN. With XIA, no evidence for the elaboration has been found with the
corpus data⁶.

⁶ Again analysis of larger and more comprehensive corpus data is required before we can claim that
this is not an accidental phenomenon arising out of the data used for this research.
To sum up, both the lexicographical data and the corpora data suggest that, despite some discrepancies, the correspondence between the metaphorical extensions of SHANG and XIA on the one hand, and of UP and DOWN on the other, is remarkable. This correspondence seems to suggest that there might exist a common spatial metaphorical system across Chinese and English. Since Chinese and English belong to two different language families and are from two different geographical areas, the fact that they exhibit remarkable similarities between their spatial metaphors might be taken as offering support for the possible existence of a universal spatial metaphor system. While making the prediction that "given the nature of our bodies and brains, and given the kinds of physical and cultural interactions we engage in because of the kinds of interest and purposes we have, there may well be universal image schemas, metaphorical concepts, or cognitive structures", Johnson (1992) cautiously emphasizes that the conclusion remains tentative at the stage because the cross-linguistic and cross-cultural studies that could identify possible empirical universals have simply not been carried out extensively enough at the present time. Now with the results of this contrastive study of spatial metaphors in English and Chinese, one piece of evidence has been provided for Johnson's prediction. However, this does not prohibit variations from language to language and from culture to culture, for, as we have seen, differences between the metaphorical extensions for UP/DOWN and SHANG/XIA also exist.
Chapter 7 Conclusions and Reflections

This is a contrastive study of four image-schematic concepts, i.e. SHANG, XIA, UP and DOWN, within a cognitive linguistic framework. The main objective of this research is to find out the metaphorical extensions these four concepts have generated, thus to provide evidence from a cross-linguistic perspective for the cognitive linguist's claim that our abstract reasoning is largely metaphorical and that there should exist common metaphorical concepts across different languages and cultures.

In Chapter 2 we had a quick review of four pre-cognitive approaches to metaphor, namely (1) the Aristotelian approach which treats metaphor as a transference of names, (2) the deviance theory and the controversy theory within the traditional linguistic paradigm which take metaphor as producing ungrammatical sentence or false statement, (3) the pragmatic approach which considers metaphor as a special speech act and attempts to establish a set of special principles to account for it, and (4) the interaction view which recognizes the two components of metaphor, i.e. the principal subject system and the subsidiary subject system, and pays special attention to the interaction between the two. At the end of the chapter we pointed out that although these different approaches have been able to shed light on various aspects of the metaphorical phenomenon, they have all failed to recognize the fundamental conceptual nature of metaphor and the indispensable role metaphor plays in human conceptualization.

Chapter 3 set up the theoretical framework underlying the cognitive approach to metaphor by putting it into the larger cognitive linguistic paradigm. Cognitive linguistics departs from generative linguistics in both commitments and background assumptions. It maintains an experiential realistic view towards cognition as against
the objectivist view assumed by generative linguistics. The basic claims of
experiential realism are that thought is embodied, thought is largely metaphorical and
categorization is organized by idealized cognitive models. In addition to these claims,
experiential realism also takes basic-level categories and image schemas as two
preconceptual structures directly meaningful to us. These two preconceptual
structures give rise to more abstract conceptual structures either through metaphorical
projections or through projections from basic-level categories to superordinate or
subordinate categories. It follows from these claims that experiential realism ascribes
an especially important role to image schematic structures on the one hand, and to
metaphorical projections on the other.

The cognitive approach to metaphor is an integral part of cognitive linguistic
research in general. This approach claims that metaphor is a prevalent phenomenon in
ordinary language, that it is a conceptual organization expressed by the linguistic
object, that it is a mapping of the schematic structure of the source domain onto that
of the target domain, and that it is systematic in organizing our conceptualization. On
the one hand, conceptual metaphors are grounded in our bodily and physical
experience; on the other hand, once established, a conceptual metaphor will impose its
structure on real life and will be made real in various ways.

Chapter 3 also examined the image-schematic structures of SHANG, XIA, UP and
DOWN. With SHANG and UP, the trajector is depicted as moving away from the
landmark in the direction opposite to gravity (the dynamic SHANG/UP) or as being
located above the landmark (the non-dynamic SHANG and the static UP). With XIA
and DOWN, the trajector is depicted as moving away from the landmark in the
direction of gravity (the dynamic XIA/DOWN) or as being located below the
landmark (the non-dynamic XIA and the static DOWN). It was also pointed out that
spatial metaphors, i.e. those metaphors which have space as their source domain and map image schematic structures like SHANG, XIA, UP and DOWN onto non-spatial abstract domains, are particularly indispensible to our thinking.

At the end of Chapter 3, we briefly reviewed two major problems faced by the cognitive approach to metaphor at the moment. One is that more cross-linguistic and cross-cultural research needs to be carried out to prove the cognitive linguistic claim that abstract reasoning is indeed partially metaphorical. The second is whether there in fact exists a universal conceptual metaphorical system remains to be explored.

Chapter 4 discussed briefly the research methodology of this study. The traditional dictionary-based approach is adopted so that evidence in the lexicons of the two languages can be brought to light concerning the conventionalized metaphorical extensions of SHANG/XIA and UP/DOWN. This is combined with the increasingly popular corpus-based approach so that evidence can also be provided from real life Chinese and English concerning the different frequencies of various metaphorical extensions uncovered.

In Chapter 5 and Chapter 6, we saw that both qualitative analysis of the lexicographical data and quantitative analysis of the corpora data demonstrate that remarkable similarities mark the metaphorical extensions detected for SHANG/XIA and UP/DOWN. Both types of data reveal that SHANG/XIA and UP/DOWN are mainly used to structure the same four target domains, namely STATES, QUANTITY, SOCIAL HIERARCHY and TIME. On the one hand, the metaphorical mapping of the image schematic structure of SHANG/XIA or UP/DOWN onto each of the target domains forms a coherent system of itself. On the other hand, remarkable consistency is also observed among the different metaphorical extensions detected, suggesting that there is a huge system of SHANG/XIA metaphors in Chinese and UP/DOWN
metaphors in English organizing our conceptualization and our abstract thinking of the four target domains.

The main discrepancies between Chinese and English lie in four respects: one is that SHANG and XIA are found to be quite well-balanced between their non-dynamic model and their dynamic model, with a slight bias towards the former; UP and DOWN, on the other hand, are found to be predominantly used in their dynamic model. This suggests that while SHANG and XIA are used to depict both the location of a stationary trajector and the orientation of a moving trajector, UP and DOWN are nearly always used to depict the latter.

The second discrepancy is that SHANG carries a special prototypical model called the contact SHANG and XIA carries a special prototypical model called the contact XIA. The contact SHANG and XIA denote a special relationship between the trajector and the landmark: with the former, the trajector rests upon and is supported by the landmark; with the latter, the trajector stays below and is covered by the landmark. However, no such special case has been found with UP or DOWN.

The third dissimilarity between Chinese and English is that within the domain of TIME, the Chinese have a pair of conceptual metaphors in agreement with each other, namely AT/TOWARDS AN EARLIER TIME IS SHANG// AT/TOWARDS A LATER TIME IS XIA; yet the English have a pair of metaphors in contradiction, namely TOWARDS A LATER TIME IS UP/ TOWARDS A LATER TIME IS DOWN. Admitting the impossibility of offering an in-depth account for this and other dissimilarities observed between Chinese and English within the scope of this thesis, we have nevertheless made a tentative suggestion that there might be two reasons for this: (1) in Chinese, TIME PASSING IS MOTION ALONG VERTICAL AXIS carries two special cases consistent with each other. One is "times are fixed locations
arranged along a vertical landscape; an earlier time is above a later time”. The other is "human beings are moving downwards along the vertical landscape towards future". However, in English two contradictory special cases have been observed. One is "time is moving upward towards future", which results in TOWARDS A LATER TIME IS UP. The other is "human beings are moving downward towards future", which results in TOWARDS A LATER TIME IS DOWN. (2) Trying to associate the metaphorical extensions observed with the cultural values they reflect, we could say that the agreement between AN EARLIER TIME IS SHANG and A LATER TIME IS XIA in Chinese reflects the ready acceptance of the traditional cultural value that "the past was better". The conflict between A LATER TIME IS UP and A LATER TIME IS DOWN in English, on the other hand, reflects the conflict between two cultural values "the future will be better" vs. "the past was better".

The fourth discrepancy is that the four target domains are arranged in largely comparable but somewhat different orders of frequencies in the two languages. The two languages differ especially in the places given to SOCIAL HIERARCHY and TIME. SHANG and XIA are found to be significantly more often used to structure these two abstract domains than UP and DOWN.

These discrepancies observed do not deteriorate the overall remarkable similarities between the metaphorical extensions found for SHANG and XIA and for UP and DOWN. Coming back to the two major questions faced by the cognitive approach to metaphor raised in Chapter 3, we can conclude:

1. Since STATES, QUANTITY, SOCIAL HIERARCHY and TIME are all basic abstract domains important to our thinking, the fact that in both Chinese and English they are organized by the metaphorical mappings of the image-schematic structures of SHANG/XIA and UP/DOWN illustrates that our abstract reasoning
is at least partially a metaphorical version of image-schematic reasoning based on our bodily experience in the physical world.

2. Chinese and English belong to two different genetic language families and are from two different geographical areas. The fact that they are found to exhibit remarkable similarities in the metaphorical extensions of SHANG/XIA and UP/DOWN seems to suggest that there exists a common spatial metaphorical system across the two unrelated languages. To pursue a step further, we might also suggest with caution that this can be reasonably taken as a piece of evidence that there may indeed exist a universal spatial metaphorical system as predicted by Johnson (1992), Lakoff (1993) and Sinha (1995). We have pointed out in particular, when discussing the target domains of STATES and TIME, that the metaphorical extensions we have discovered concerning these two domains are actually special cases of the Event Structure Metaphor and the TIME-AS-SPACE metaphor respectively. This may be taken as evidence that these two metaphorical systems are shared by Chinese and English and hence stand a chance of being candidates for universal conceptual metaphors.

3. The present study has also reinforced some other findings of the cognitive approach to metaphor. With regard to the nature of metaphor, this research supports the claim that metaphor is one of the main mechanisms which enables us to understand abstract concepts and to carry out abstract reasoning. With regard to the structure of metaphor, this research supports the view that a metaphor is in essence a mapping of the image-schematic structure of the source domain onto that of the target domain and that the inference pattern of the source domain is kept during the mapping. With respect to the bodily bases of metaphor, this study
reinforces the claim that metaphorical mappings are not arbitrary, but are
grounded in our bodily experience and daily knowledge.

At the end of the thesis, it must be pointed out that in terms of both breadth and
depth, this study is still very limited. It is but one small step of a long journey of
cross-linguistic investigation into human conceptualization. On reflection, I think the
following topics which this thesis has not addressed may prove to be interesting for
future investigation:

1. The present study adopts Lakoff's cognitive approach to metaphor as its
   theoretical framework. Although scepticism has been raised about the Invariance
   Principle, on the whole the findings of the study reinforce the basic claims of the
   cognitive approach. In future research, it would be interesting to see if a more
critical and skeptical attitude towards this approach to metaphor can help shed
light on some of its inherent weak points and even disprove some of its basic
claims.

2. The main strength of the present study lies in its down-to-earth analysis of a large
   quantity of both lexicographical and corpora data, through which remarkable
   similarities and minor differences between the metaphorical extensions of
   UP/DOWN and SHANG/XIA have been found. The study has also made some
   rudimentary attempts at several places to try to account for those similarities and
differences observed from a cross-cultural perspective, but at best the explanations
offered remain tentative and undeveloped. It is hoped that future cross-linguistic
and cross-cultural studies may come up with a more convincing and systematic
account for their findings.

3. Because of having no access to corpora of spoken English and spoken Chinese at
   the time of writing, this study has only utilized written materials as its data. Now
that there are a number of corpora of spoken English available and a huge corpus of spoken Chinese is also being built, it would be worthwhile carrying out a contrastive study of spatial metaphors as encoded in modern spoken English and modern spoken Chinese and see if the results are largely comparable with that of written English and Chinese.

4. At a very early stage of planning, this study aimed at a systematic comparison between UP/DOWN and SHANG/XIA, FRONT/BACK and QIAN/HOU, LEFT/RIGHT and ZUO/YOU, MIDDLE-CENTRE and ZHONG. This initial plan was later given up as being too ambitious. However, FRONT/BACK and QIAN/HOU, LEFT/RIGHT and ZUO/YOU, MIDDLE-CENTRE and ZHONG remain interesting subjects for future research. In addition, it would also be interesting to carry out investigations into the correlations between UP and DOWN, SHANG and XIA, FRONT and BACK, QIAN and HOU, etc. and see if Chinese and English show more similarities than differences in this respect as well.
### Appendix 1

Table 1: The 54 English words* which encode the concepts UP and DOWN and their frequencies among the 5 million word COBUILD corpus

<table>
<thead>
<tr>
<th>Term</th>
<th>Frequency</th>
<th>Term</th>
<th>Frequency</th>
<th>Term</th>
<th>Frequency</th>
<th>Term</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>above</td>
<td>1093</td>
<td>abysmal</td>
<td>5</td>
<td>abyss</td>
<td>7</td>
<td>altitude</td>
<td>40</td>
</tr>
<tr>
<td>ascend</td>
<td>23</td>
<td>ascendant</td>
<td>3</td>
<td>ascent</td>
<td>10</td>
<td>below</td>
<td>436</td>
</tr>
<tr>
<td>beneath</td>
<td>261</td>
<td>boost</td>
<td>231</td>
<td>bottom</td>
<td>398</td>
<td>climb</td>
<td>351</td>
</tr>
<tr>
<td>decline</td>
<td>288</td>
<td>deep</td>
<td>767</td>
<td>depress</td>
<td>138</td>
<td>descend</td>
<td>128</td>
</tr>
<tr>
<td>dip</td>
<td>118</td>
<td>down</td>
<td>4781</td>
<td>downward</td>
<td>35</td>
<td>droop</td>
<td>28</td>
</tr>
<tr>
<td>drop</td>
<td>852</td>
<td>elevate</td>
<td>26</td>
<td>fall</td>
<td>1689</td>
<td>high</td>
<td>2614</td>
</tr>
<tr>
<td>jump</td>
<td>436</td>
<td>lift</td>
<td>558</td>
<td>lofty</td>
<td>23</td>
<td>low</td>
<td>1230</td>
</tr>
<tr>
<td>mount</td>
<td>286</td>
<td>peak</td>
<td>157</td>
<td>pinnacle</td>
<td>27</td>
<td>plateau</td>
<td>32</td>
</tr>
<tr>
<td>plummet</td>
<td>23</td>
<td>plunge</td>
<td>142</td>
<td>profound</td>
<td>22</td>
<td>raise</td>
<td>954</td>
</tr>
<tr>
<td>shallow</td>
<td>91</td>
<td>short</td>
<td>1159</td>
<td>sink</td>
<td>262</td>
<td>soar</td>
<td>105</td>
</tr>
<tr>
<td>stoop</td>
<td>39</td>
<td>subside</td>
<td>32</td>
<td>summit</td>
<td>131</td>
<td>suspend</td>
<td>137</td>
</tr>
<tr>
<td>tall</td>
<td>356</td>
<td>top</td>
<td>1785</td>
<td>towering</td>
<td>30</td>
<td>under</td>
<td>2641</td>
</tr>
<tr>
<td>underneath</td>
<td>92</td>
<td>up</td>
<td>5728</td>
<td>uplift</td>
<td>19</td>
<td>upper</td>
<td>247</td>
</tr>
</tbody>
</table>

* The 54 words are taken from Nagy (1974: 185).
Table 2: The 58 Chinese words which encode the concepts SHANG and XIA and their frequencies sorted out from *《现代汉语常用词词频词典》*

| 矮 (ai, short)  | 283 | 坡 (kua, collapse) | 172 | 涨 (zhang, rise) | 220 |
| 昂 (ang, rising) | 113 | 立 (li, stand up) | 3409 | 垩 (zhui, hang low) | 99 |
| 抽 (ba, pull)   | 638 | 落 (luo, drop)    | 2643 |               |    |
| 簌 (beng, jump) | 79  | 端 (mo, bottom)  | 3263 |               |    |
| 踩 (cai, step on) | 160 | 没 (mo, buried by water) | 141 |               |    |
| 沉 (chen, fall) | 551 | 爬 (pa, climb up) | 662  |               |    |
| 承(cheng, receive from up) | 1044 | 飘 (piao, hung in the sky) | 275 |               |    |
| 垂 (chui, hanging down) | 428 | 漂 (piao, float) | 237  |               |    |
| 蹦 (cuan, jump) | 6   | 启 (qi, open)    | 307  |               |    |
| 倒 (dao, fall)  | 2503 | 起 (qi, upwards) | 13202 |               |    |
| 登 (deng, climb) | 702 | 浅 (qian, shallow) | 673  |               |    |
| 底 (di, bottom) | 4702 | 上 (shang, up)   | 72545 |               |    |
| 低 (di, low)    | 5735 | 深 (shen, deep)  | 3522  |               |    |
| 顶 (dian, top)  | 57  | 升 (sheng, rise) | 1623  |               |    |
| 跌 (die, fall)  | 221  | 首 (shou, head)  | 1313  |               |    |
| 顶 (ding, top)  | 2186 | 路 (ta, step on) | 649  |               |    |
| 塌 (duo, drop)  | 56  | 塌 (ta, collapse) | 125  |               |    |
| 伏 (fu, lie down) | 736 | 坟 (tan, collapse) | 31   |               |    |
| 浮 (fu, rise)   | 724  | 提 (ti, pull)    | 3177  |               |    |
| 跌 (fu, lie down) | 164 | 跌 (tiao, jump)  | 1612  |               |    |
| 高 (gao, tall)  | 13619 | 头 (tou, head)   | 5768  |               |    |
| 谷 (gu, valley) | 986  | 尾 (wei, tail)   | 1070  |               |    |
| 希 (gua, hang)  | 1190 | 下 (xia, down)   | 28622 |               |    |
| 潎 (hua, slip)  | 853  | 悬 (xuan, hang)  | 374   |               |    |
| 尖 (jian, sharp top) | 863 | 压 (ya, press)   | 3689  |               |    |
| 冀 (jiao, foot) | 1764 | 振 (ya, pull)    | <5    |               |    |
| 降温 (jiang, fall) | 1194 | 淹 (yan, buried by water) | 96 |               |    |
| 涸 (jin, deep in water) | 697 | 仰 (yang, look upward) | 264 |               |    |

* This dictionary is based on a 20 million character corpus not yet available for public use.
Appendix 2

The Word Bank of the Collins Cobuild English Language Dictionary (1996, CD version) is 5 million words in size. It is mainly made up of written materials taken from three sources, i.e. newspapers (about 40%), magazines (about 30%) and books (about 30%) published in UK after 1990.

The 1.8 million character Chinese corpus is built up by downloading newspapers and magazines published between 1 April and 30 June 1998 from their web-sites and by downloading books of contemporary writers which can be read from the internet. Following is a list of the newspapers, magazines and books included:

(1) 人民日报 (People's Daily), 文汇报 (Wenhui Daily), and 大地 (Dadi, a monthly magazine) from Mainland China;
(2) 中央日报 (Central Daily) and 联合报 (United Daily) from Taiwan;
(3) 明报 (Ming Daily) and 亚洲周刊 (Asia Weekly) from Hong Kong;
(4) 华夏文摘 (Huaxia Digest), a weekly magazine edited by overseas Chinese in the United States (mainly from Mainland China).
(5) 《方方文选》 (A Collection of Fang Fang), 《亦舒文选》 (A Collection of Yi Shu) and 《席娟文选》 (A Collection of Xi Juan).

Following the structure of the English corpus, with the Chinese corpus, the proportion between the three components, i.e. materials from newspapers, magazines and books, is also roughly 40%: 30%: 30%.
<table>
<thead>
<tr>
<th>ID</th>
<th>sample text</th>
<th>sense</th>
<th>prototype</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>邮票上的坦克车与真实的型号明显不同</td>
<td>on the surface of sth</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>半数以上的票房收入来自北美以外的市场。</td>
<td>towards a higher point on a scale</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>刘启兴拼命抓住东西往上攀。</td>
<td>towards a higher place</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>指挥船员拿出救生衣，帮助乘客穿上。</td>
<td>(fulfillment of an action)</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>他们在珠海有名的情侣路上散步。</td>
<td>on the surface of sth</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>眼看就要把巨石推上山巅了。</td>
<td>towards a higher place</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>近来北京的话剧舞台上刮起一股上演外国剧的热潮。</td>
<td>on the surface of sth</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>国外话剧争先恐后上演</td>
<td>to put on the stage</td>
<td>3</td>
</tr>
<tr>
<td>13</td>
<td>食物中的铁质含量过高可使男性患上一种血色症。</td>
<td>(fulfillment of an action)</td>
<td>3</td>
</tr>
<tr>
<td>15</td>
<td>营业额在两千五百万马克以上的大约有一百家。</td>
<td>at a higher point on a scale</td>
<td>2</td>
</tr>
<tr>
<td>trajector</td>
<td>landmark</td>
<td>path</td>
<td>vertical axis</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------------------------------</td>
<td>-------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>the tank</td>
<td>the stamp</td>
<td>zero</td>
<td>literal vertical axis</td>
</tr>
<tr>
<td>the income of box offices</td>
<td>50% of the income of box offices</td>
<td>zero</td>
<td>vertical axis of amounts of money</td>
</tr>
<tr>
<td>Liu Qixing</td>
<td>not mentioned</td>
<td>towards a higher place</td>
<td>literal vertical axis</td>
</tr>
<tr>
<td>lifejackets</td>
<td>not mentioned</td>
<td>onto one's body</td>
<td>literal vertical axis; vertical axis of states</td>
</tr>
<tr>
<td>they</td>
<td>the street</td>
<td>zero</td>
<td>literal vertical axis</td>
</tr>
<tr>
<td>the huge stone</td>
<td>the top of the mountain</td>
<td>up onto the top of the mountain</td>
<td>literal vertical axis</td>
</tr>
<tr>
<td>the upsurge for performing foreign dramas</td>
<td>on the stages of the theatres in Beijing</td>
<td>zero</td>
<td>literal vertical axis; vertical axis of states</td>
</tr>
<tr>
<td>foreign dramas</td>
<td>not mentioned</td>
<td>up onto the stage; towards publicity; vertical axis of states</td>
<td>yes: towards publicity is shang; towards a more active</td>
</tr>
<tr>
<td>the blood disease</td>
<td>not mentioned</td>
<td>onto one's body -- towards fulfillment</td>
<td>vertical axis of states</td>
</tr>
<tr>
<td>the volume of business</td>
<td>25 million marks</td>
<td>zero</td>
<td>vertical axis of amounts of money</td>
</tr>
<tr>
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<td>Sample Text</td>
<td>Sense</td>
<td>Prototype</td>
</tr>
<tr>
<td>----</td>
<td>----------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>16</td>
<td>成千上万的信件飞进编辑部。</td>
<td>towards a higher point on a scale</td>
<td>3</td>
</tr>
<tr>
<td>17</td>
<td>街上流行着该剧的主题歌。</td>
<td>on the surface of sth</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>这一出色成绩再次证明了她头上那顶短跑女皇的皇冠非她莫属。</td>
<td>on top of sth</td>
<td>1</td>
</tr>
<tr>
<td>19</td>
<td>她在大阪的比赛上也同样跑出了好成绩。</td>
<td>at a certain abstract location</td>
<td>1</td>
</tr>
<tr>
<td>21</td>
<td>亚洲电影近来在欧洲电影节上行情不断看好。</td>
<td>at a certain abstract location</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>综合上述四大因素</td>
<td>at an earlier time</td>
<td>2</td>
</tr>
<tr>
<td>25</td>
<td>如果他当上书记，很可能是造福百姓的好书记。</td>
<td>(the fulfillment of an action)</td>
<td>3</td>
</tr>
<tr>
<td>26</td>
<td>上海足球也在重复前述情形。</td>
<td>at an earlier time</td>
<td>2</td>
</tr>
<tr>
<td>27</td>
<td>我会让年轻队员尽可能多上场。</td>
<td>to take part in the competition</td>
<td>3</td>
</tr>
<tr>
<td>29</td>
<td>地方政府为了扶持上市公司给予各种优惠。</td>
<td>to go on the stock market</td>
<td>3</td>
</tr>
<tr>
<td>trajector</td>
<td>landmark</td>
<td>path</td>
<td>vertical axis</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------</td>
<td>-----------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>the number of letters</td>
<td>10 thousand</td>
<td>towards a larger number</td>
<td>vertical axis of numbers</td>
</tr>
<tr>
<td>the theme song</td>
<td>the streets</td>
<td>zero</td>
<td>literal</td>
</tr>
<tr>
<td>the crown</td>
<td>her head</td>
<td>zero</td>
<td>literal</td>
</tr>
<tr>
<td>achieving good scores</td>
<td>the competition</td>
<td>zero</td>
<td>-</td>
</tr>
<tr>
<td>Asian films being well received</td>
<td>European film festivals</td>
<td>zero</td>
<td>-</td>
</tr>
<tr>
<td>the four elements</td>
<td>(the present context)</td>
<td>zero</td>
<td>vertical axis of time</td>
</tr>
<tr>
<td>he</td>
<td>(the post of secretary)</td>
<td>onto the position; towards the fulfillment</td>
<td>vertical axis of states</td>
</tr>
<tr>
<td>the situation</td>
<td>the present context</td>
<td>zero</td>
<td>vertical axis of time</td>
</tr>
<tr>
<td>young team members</td>
<td>(the court)</td>
<td>onto the court; towards a more active</td>
<td>vertical axis of states</td>
</tr>
<tr>
<td>the companies</td>
<td>the stock market</td>
<td>onto the stock market</td>
<td>vertical axis of states</td>
</tr>
<tr>
<td>ID</td>
<td>sample text</td>
<td>sense</td>
<td>prototype</td>
</tr>
<tr>
<td>----</td>
<td>----------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>30</td>
<td>国内上市公司的股本结构与众不同。</td>
<td>to go on the stock market</td>
<td>3</td>
</tr>
<tr>
<td>31</td>
<td>发行量连续七周上涨。</td>
<td>towards a higher point on a scale</td>
<td>3</td>
</tr>
<tr>
<td>32</td>
<td>在某些比赛上放烟幕弹。</td>
<td>at a certain abstract location</td>
<td>1</td>
</tr>
<tr>
<td>34</td>
<td>中国队上届也被公认是最强的队伍。</td>
<td>the previous term</td>
<td>2</td>
</tr>
<tr>
<td>36</td>
<td>在曲末加上所谓笔名。</td>
<td>(fulfillment of an action)</td>
<td>3</td>
</tr>
<tr>
<td>37</td>
<td>他在球场上有种目空一切的劲儿。</td>
<td>on the surface of sth</td>
<td>1</td>
</tr>
<tr>
<td>40</td>
<td>鼻子上挂着一圈蝙蝠骨做的饰物。</td>
<td>attached to sth</td>
<td>1</td>
</tr>
<tr>
<td>41</td>
<td>从阳台上垂下来一根木杆。</td>
<td>at a higher place</td>
<td>1</td>
</tr>
<tr>
<td>42</td>
<td>在树干上凿了一些洞。</td>
<td>on the surface of sth</td>
<td>1</td>
</tr>
<tr>
<td>44</td>
<td>照片上的孙某与疑犯极为相似。</td>
<td>on the surface of sth</td>
<td>1</td>
</tr>
<tr>
<td>trajector</td>
<td>landmark</td>
<td>path</td>
<td>vertical axis</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------</td>
<td>----------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>the companies</td>
<td>the stock market</td>
<td>onto the stock market</td>
<td>vertical axis of states</td>
</tr>
<tr>
<td>the circulation</td>
<td>not mentioned</td>
<td>towards a higher point on a scale</td>
<td>vertical axis of quantity</td>
</tr>
<tr>
<td>letting off smoke shess</td>
<td>some games</td>
<td>zero</td>
<td>-</td>
</tr>
<tr>
<td>the previous term</td>
<td>the present term</td>
<td>zero</td>
<td>vertical axis of time</td>
</tr>
<tr>
<td>the penname</td>
<td>not mentioned</td>
<td>onto the paper; towards fulfillment of an</td>
<td>vertical axis of states</td>
</tr>
<tr>
<td>he</td>
<td>the court</td>
<td>zero</td>
<td>literal vertical axis</td>
</tr>
<tr>
<td>the decoration</td>
<td>the nose</td>
<td>zero</td>
<td>literal vertical axis</td>
</tr>
<tr>
<td>a wooden pole</td>
<td>the balcony</td>
<td>zero</td>
<td>literal vertical axis</td>
</tr>
<tr>
<td>the holes</td>
<td>the trunk</td>
<td>zero</td>
<td>literal vertical axis</td>
</tr>
<tr>
<td>Mr Sun</td>
<td>the photo</td>
<td>zero</td>
<td>literal vertical axis</td>
</tr>
<tr>
<td>ID</td>
<td>sample text</td>
<td>sense</td>
<td>pro</td>
</tr>
<tr>
<td>----</td>
<td>----------------------------------------------------------------------------</td>
<td>---------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>1</td>
<td>下图为彭丹。</td>
<td>at a lower place</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>他脱下外套。</td>
<td>to take off; (fulfillment of an action)</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>在裁判相对公道的情况下，中国队往往发挥正常。</td>
<td>under the situation...</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>在那颗行星上登陆，在那里定居下来。</td>
<td>to settle down; (fulfillment of an action)</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>6份员们在特别急迫的情况下，心理压力又特别大。</td>
<td>under the situation...</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>久而久之，学习成绩下降。</td>
<td>to fall to a lower point on a scale</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>本人认为有可能出自于以下原因：</td>
<td>the following</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>双侧睾丸比正常人睾丸偏小及下垂感属手术后并发症。</td>
<td>towards a lower place</td>
<td>3</td>
</tr>
<tr>
<td>14</td>
<td>为马队打进决赛立下大功。</td>
<td>to contribute a lot; (fulfillment of an action)</td>
<td>3</td>
</tr>
<tr>
<td>landmark</td>
<td>path</td>
<td>vertical axis</td>
<td>meta ext</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------------------------------</td>
<td>-----------------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>(the present place)</td>
<td>zero</td>
<td>literal vertical axis</td>
<td>no</td>
</tr>
<tr>
<td>(his body)</td>
<td>off his body; (towards fulfillment of the action)</td>
<td>literal vertical axis; vertical axis of states</td>
<td>yes: towards fulfillment of an action is xia. FULFILLMENT/STATES</td>
</tr>
<tr>
<td>the judge being fair</td>
<td>zero</td>
<td>-</td>
<td>yes: under the control of a situation is xia. HIERARCHY</td>
</tr>
<tr>
<td>(the previous state)</td>
<td>down from a more active state</td>
<td>vertical axis of states</td>
<td>yes: towards a less active state is xia. ACTIVENESS/STATES</td>
</tr>
<tr>
<td>the players anxious to win</td>
<td>zero</td>
<td>-</td>
<td>yes: under the control of a situation is xia. HIERARCHY</td>
</tr>
<tr>
<td>not mentioned</td>
<td>down to a lower point</td>
<td>vertical axis of levels</td>
<td>yes: towards a lower level is xia. LEVELS/QUALITY/STATES</td>
</tr>
<tr>
<td>(the present context)</td>
<td>zero</td>
<td>vertical axis of time</td>
<td>yes: at a later time is xia. TIME</td>
</tr>
<tr>
<td>(the normal place)</td>
<td>down to a lower place</td>
<td>literal vertical axis</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>towards fulfillment of the action</td>
<td>vertical axis of states</td>
<td>yes: towards fulfillment of an action is xia. FULFILLMENT/STATES</td>
</tr>
<tr>
<td>ID</td>
<td>sample text</td>
<td>sense</td>
<td>pro</td>
</tr>
<tr>
<td>----</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------------</td>
<td>-----------</td>
</tr>
<tr>
<td>16</td>
<td>强悍的新郎这天下午就要来接她走了</td>
<td>in the afternoon</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>记者见到了侥幸留下 的几张照片</td>
<td>left behind</td>
<td>3</td>
</tr>
<tr>
<td>18</td>
<td>脸上的横肉瘦下去 了一圈。</td>
<td>towards a lower point</td>
<td>3</td>
</tr>
<tr>
<td>19</td>
<td>他们宁愿有一件事可以使皇室存在下去的理由充分一些</td>
<td>(continuation)</td>
<td>3</td>
</tr>
<tr>
<td>21</td>
<td>主场对卡塔尔都不敢言胜的情况下，先失一球而后追平德国、巴西两队</td>
<td>under the situation...</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>无耻收买冠军称号或者收买对方败下阵来</td>
<td>to retreat</td>
<td>3</td>
</tr>
<tr>
<td>23</td>
<td>到俱乐部足球场看球的球迷</td>
<td>the lower class</td>
<td>2</td>
</tr>
<tr>
<td>24</td>
<td>想用手拦住它，可它一纵身，跳下去</td>
<td>towards a lower place</td>
<td>3</td>
</tr>
<tr>
<td>25</td>
<td>年月日下午，</td>
<td>in the afternoon</td>
<td>2</td>
</tr>
<tr>
<td>landmark</td>
<td>path</td>
<td>vertical axis</td>
<td>meta ext</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------------------------</td>
<td>--------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>the noon</td>
<td>zero</td>
<td>vertical axis of time</td>
<td>yes: at a later time is xia. TIME</td>
</tr>
<tr>
<td></td>
<td>down to a later time</td>
<td>vertical axis of time</td>
<td>yes: towards a later time is xia. TIME</td>
</tr>
<tr>
<td>(the original amount)</td>
<td>down from the original amount</td>
<td>vertical axis of amounts</td>
<td>yes: towards a smaller size is xia. SIZE/QUANTITY</td>
</tr>
<tr>
<td>(the present time)</td>
<td>down to the future</td>
<td>vertical axis of time</td>
<td>yes: towards a later time is xia. TIME</td>
</tr>
<tr>
<td>not able to defeat the team</td>
<td>zero</td>
<td>-</td>
<td>yes: under the control of a situation is xia. HIERARCHY</td>
</tr>
<tr>
<td>the court</td>
<td>down from a more active state</td>
<td>vertical axis of states</td>
<td>yes: towards a less active state is xia. ACTIVENESS/STATES</td>
</tr>
<tr>
<td>the upper class</td>
<td>zero</td>
<td>vertical axis of social hierarchy</td>
<td>yes: of a lower status is xia.STATUSES/SOCIAL HIERARCHY</td>
</tr>
<tr>
<td>(the present location)</td>
<td>down to a lower place</td>
<td>literal vertical axis</td>
<td>no</td>
</tr>
<tr>
<td>the noon</td>
<td>zero</td>
<td>vertical axis of time</td>
<td>yes: at a later time is xia. TIME</td>
</tr>
<tr>
<td>ID</td>
<td>Sample Text</td>
<td>Sense</td>
<td>Pro</td>
</tr>
<tr>
<td>----</td>
<td>-------------------------------------------------</td>
<td>------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>26</td>
<td>这种强化下体的作用使不谋而合地促进了减肥</td>
<td>at a lower place</td>
<td>2</td>
</tr>
<tr>
<td>27</td>
<td>不知道他和他一度休克，身体每况愈下。</td>
<td>towards a lower point on a scale</td>
<td>3</td>
</tr>
<tr>
<td>28</td>
<td>罪犯在前一日下午被告知将用注射方式执行死刑</td>
<td>in the afternoon</td>
<td>2</td>
</tr>
<tr>
<td>29</td>
<td>逆着两个水下滚翻打到水底。</td>
<td>at a lower place</td>
<td>2</td>
</tr>
<tr>
<td>30</td>
<td>“再这样下去，我们都快被赔昏了。”</td>
<td>(continuation)</td>
<td>3</td>
</tr>
<tr>
<td>31</td>
<td>行保将袁世福被改换为冤杀。其幕下谋士余氏舍家忘死偷葬袁帅首级</td>
<td>under one's command</td>
<td>2</td>
</tr>
<tr>
<td>34</td>
<td>这种彩墨是乾隆年间传下来的。</td>
<td>(continuation)</td>
<td>3</td>
</tr>
<tr>
<td>35</td>
<td>尔冬强在上下两层楼上 摆设了一个台子</td>
<td>at a lower place</td>
<td>2</td>
</tr>
<tr>
<td>36</td>
<td>为广播带来不下一千万元的经济效益。</td>
<td>towards a lower point on a scale</td>
<td>3</td>
</tr>
<tr>
<td>landmark</td>
<td>path</td>
<td>vertical axis</td>
<td>meta ext</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------</td>
<td>---------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>(the waist)</td>
<td>zero</td>
<td>literal vertical</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td></td>
<td>axis</td>
<td></td>
</tr>
<tr>
<td>(a certain degree)</td>
<td>down from the present degree</td>
<td>vertical axis of</td>
<td>yes: towards a lower level is xia. LEVELS/QUALITY/STATES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>levels</td>
<td></td>
</tr>
<tr>
<td>the noon</td>
<td>zero</td>
<td>vertical axis of</td>
<td>yes: at a later time is xia. TIME</td>
</tr>
<tr>
<td></td>
<td></td>
<td>time</td>
<td></td>
</tr>
<tr>
<td>the surface of the</td>
<td>zero</td>
<td>literal vertical</td>
<td>no</td>
</tr>
<tr>
<td>water</td>
<td></td>
<td>axis</td>
<td></td>
</tr>
<tr>
<td>(the present time)</td>
<td>down to the future</td>
<td>vertical axis of</td>
<td>yes: towards a later time is xia. TIME</td>
</tr>
<tr>
<td></td>
<td></td>
<td>time</td>
<td></td>
</tr>
<tr>
<td>the general</td>
<td>zero</td>
<td>vertical axis of</td>
<td>yes: of a lower status is xia. STATUSES/SOCIAL HIERARCHY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>social hierarchy</td>
<td></td>
</tr>
<tr>
<td>the reign of Qianlong</td>
<td>down to the present time</td>
<td>vertical axis of</td>
<td>yes: towards a later time is xia. TIME</td>
</tr>
<tr>
<td></td>
<td></td>
<td>time</td>
<td></td>
</tr>
<tr>
<td>the second floor</td>
<td>zero</td>
<td>literal vertical</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td></td>
<td>axis</td>
<td></td>
</tr>
<tr>
<td>10 million yuan</td>
<td>towards a smaller amount</td>
<td>vertical axis of</td>
<td>yes: towards a smaller amount is xia. AMOUNTS/QUANTITY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>amounts</td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>Sample Text</td>
<td>Sense</td>
<td>Trajector</td>
</tr>
<tr>
<td>----</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>1</td>
<td>I was brought up in a white neighborhood with a white mother and white brothers and sisters.</td>
<td>to look after a child until it is grown up and try to give it particular beliefs and attitudes</td>
<td>the white neighborhood</td>
</tr>
<tr>
<td>3</td>
<td>James, whose multi-million selling hit 'Super Freak' belatedly won him a Grammy Award in 1991 when Hammer sampled it for 'U Can't Touch This', is to be held in custody pending sentencing on October 8th. He faces up to nine years.</td>
<td>how large sth can be below a particular level</td>
<td>his sentence</td>
</tr>
<tr>
<td>4</td>
<td>His first group of grievances concerned the activities of the Serious Fraud Office (SFO), a high-powered special unit of lawyers, accountants and detectives set up in the late 1980s after deregulation in the City and the City.</td>
<td>make the arrangements and preparations that are necessary to start an</td>
<td>SFO</td>
</tr>
<tr>
<td>12</td>
<td>'We decided to look at it properly and place proper cones all the way next time,' said Sergeant Kay, who made up the signs for diverting traffic.</td>
<td>to produce; to invent</td>
<td>the signs</td>
</tr>
<tr>
<td>14</td>
<td>Dave (not his real name) has been taking part in STOP, a new scheme to deal with car crime, set up in the Thameside town of Gravesend. (newspaper)</td>
<td>make the arrangements and preparations that are necessary to start an</td>
<td>STOP</td>
</tr>
<tr>
<td>16</td>
<td>This is one of the few professions in which women can earn more than men: £250 to £500 a day for a soft-core film, but up to £10,000 for a hard-core or S&amp;M film. (magazine)</td>
<td>how large the wage can be below a particular level</td>
<td>women's earnings</td>
</tr>
<tr>
<td>17</td>
<td>Even in shots where the camera is planning up a girl's body, the censor can claim that there is 'undue emphasis' on the area around her genitals and ask for it to be removed. (magazine)</td>
<td>from the lower part of the body to the upper part of the body</td>
<td>the camera</td>
</tr>
<tr>
<td>18</td>
<td>THE NATIONAL Hunt review group, which was set up to recommend comprehensive reforms to the jump race programme, has identified some areas which need urgent action.</td>
<td>make the arrangements and preparations that are necessary to start an</td>
<td>the review group</td>
</tr>
<tr>
<td>vertical axis</td>
<td>meta ext</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vertical axis of maturity</td>
<td>yes: towards a more mature state is up. MATURITY/MENTAL STATES/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vertical axis of numbers</td>
<td>yes: towards a larger number is up. NUMBERS/QUANTITY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vertical axis of states</td>
<td>yes: coming into existence is up. EXISTENCE/STATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vertical axis of states</td>
<td>yes: into existence is up. EXISTENCE/STATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vertical axis of states</td>
<td>yes: into existence is up. EXISTENCE/STATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vertical axis of amounts of money</td>
<td>yes: increase in amount is up. AMOUNTS/QUANTITY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>literal vertical axis</td>
<td>no</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vertical axis of states</td>
<td>yes: into existence is up. EXISTENCE/STATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>sample text</td>
<td>sense</td>
<td>trajectory</td>
</tr>
<tr>
<td>----</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>20</td>
<td>Credit unions, which are essentially self-help savings and loan organisations, are being set up at a rate of one a week.</td>
<td>make the arrangements and preparations that are necessary to start an</td>
<td>Credit unions</td>
</tr>
<tr>
<td>21</td>
<td>The French champions, 5-1 up from the home leg, dominated the first half against the Albanians but appeared uninterested in following Rangers' example and burying modest opposition.</td>
<td>in a winning position by a certain number of points or goals</td>
<td>the French champions</td>
</tr>
<tr>
<td>23</td>
<td>He burst into tears then hopped up and started to trash the surgery.</td>
<td>moving into an upright position</td>
<td>he</td>
</tr>
<tr>
<td>24</td>
<td>The author has cleverly chosen examples of passmengers around the world, from its ethnic origins in Africa and Asia right up to the present day.</td>
<td>until unspecific the ethnic origin</td>
<td>a traveller in time</td>
</tr>
<tr>
<td>27</td>
<td>It is a brilliant place. I felt as though I was reborn when I came out, but it was six weeks of painful tearing down and building up again, and some of it was shattering.</td>
<td>gradually get bigger or higher as a result of sth. being added to not mentioned</td>
<td>not mentioned</td>
</tr>
<tr>
<td>28</td>
<td>Join in with a delightful Nativity story in our old stables, then wake up Father Christmas by singing Jingle Bells.</td>
<td>become conscious again after being asleep</td>
<td>Father Christmas</td>
</tr>
<tr>
<td>29</td>
<td>The firm was set up by three French-speaking men who used London's reputation as the cut-price travel capital of Europe to attract custom from France and Belgium.</td>
<td>make the arrangements and preparations that are necessary to start the firm</td>
<td>the firm</td>
</tr>
<tr>
<td>30</td>
<td>Please note that the future value of PEP depends on the performance of the investments made and that therefore the value of a PEP can go down as well as up.</td>
<td>going toward a higher point or level on a scale</td>
<td>the value of a PEP</td>
</tr>
<tr>
<td>vertical axis</td>
<td>meta ext</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vertical axis of states</td>
<td>yes: into existence is up. EXISTENCE/STATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vertical axis of numbers</td>
<td>yes: a larger number is up. NUMBERS/QUANTITY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>literal vertical axis</td>
<td>no</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vertical axis of time</td>
<td>yes: towards a later time is up. TIME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>literal vertical axis -- vertical axis of states</td>
<td>yes: towards completion is up. COMPLETION/STATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vertical axis of states</td>
<td>yes: into consciousness is up. CONSCIOUSNESS/STATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vertical axis of states</td>
<td>yes: into existence is up. EXISTENCE/STATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vertical axis of amounts</td>
<td>yes: increase in amount is up. AMOUNTS/QUANTITY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>Sample Text</td>
<td>Sense</td>
<td>Trajector</td>
</tr>
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<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>32</td>
<td>Worse still, however, is the programme drawn up for Court One, where Jim Courier will play the South African Wayne Ferreira in between a pair of women’s matches (Martina Navratilova v Nathalie Tauziat and Gabriela</td>
<td>prepare the programme and write it out</td>
<td>the programme</td>
</tr>
<tr>
<td>33</td>
<td>Road-blocks have sprung up around key installations in Kigali.</td>
<td>appear or come into existence quickly</td>
<td>road blocks</td>
</tr>
<tr>
<td>35</td>
<td>Applications must be made to a Justice of the Peace and/or sitting court, and the order lasts for up to 28 days.</td>
<td>how long the order can last within 28 days</td>
<td>the duration of the order</td>
</tr>
<tr>
<td>38</td>
<td>Looking back now, Charlie says he supposes he is up there with the greats, but he never considered himself a great star; he talks star-talk about an obligation to exploit his talent, but Charlie is not so much cocky, as eager.</td>
<td>situated in a high place</td>
<td>Charlie</td>
</tr>
<tr>
<td>41</td>
<td>It’s the prospect of crying into an empty gin glass, more than anything else, that has dragooned the crews into smarting up their act, if not their poncey clothes.</td>
<td>making their act neater and tidier</td>
<td>their act not mentioned</td>
</tr>
<tr>
<td>44</td>
<td>Chris Wilkinson and Paul Hand put up a hard struggle before bowing out of the men’s doubles quarter-finals.</td>
<td>produce</td>
<td>the hard struggle not mentioned</td>
</tr>
<tr>
<td>46</td>
<td>INEM has no special service for graduates but has, in conjunction with the 14 universities concerned set up Centros de Orientacion e Informacion de Empleo (COIE’s). ( ephemera)</td>
<td>make the arrangements and preparations that are necessary to start an</td>
<td>COIE’s not mentioned</td>
</tr>
<tr>
<td>47</td>
<td>He said it was inevitable that men should resent women, given biological and social factors, including the way children are brought up.</td>
<td>look after a child until it is grown up and try to give it particular beliefs and attitudes</td>
<td>children not mentioned</td>
</tr>
<tr>
<td>Vertical Axis</td>
<td>Meta Ext</td>
<td></td>
<td></td>
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<tr>
<td>--------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Vertical axis of states</td>
<td>Yes: into existence is up. EXISTENCE/STATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical axis of states</td>
<td>Yes: into view is up. VISIBILITY/STATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical axis of numbers</td>
<td>Yes: increase in number is up. NUMBERS/QUANTITY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical axis of social hierarchy</td>
<td>Yes: at a higher status is up. STATUSES/SOCIAL HIERARCHY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical axis of states</td>
<td>Yes: towards a state of greater alertness is up. ALERTNESS/STATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical axis of states</td>
<td>Yes: into existence is up. EXISTENCE/STATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical axis of states</td>
<td>Yes: into existence is up. EXISTENCE/STATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical axis of maturity</td>
<td>Yes: towards a more mature state is up. MATURITY/MENTAL STATES/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>sample text</td>
<td>sense</td>
<td>trajeector</td>
</tr>
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</tr>
<tr>
<td>4</td>
<td>You will feel a stretching sensation around your back, providing you keep the left heel down or close to the ground if you are not very flexible.</td>
<td>toward the ground</td>
<td>the heel</td>
</tr>
<tr>
<td>5</td>
<td>Then Wallace started to pull closer and when the bell sounded for the final 250-metre lap, the difference was down to 1.236sec.</td>
<td>toward a smaller number</td>
<td>the difference</td>
</tr>
<tr>
<td>6</td>
<td>He added: 'No-one in football was in favour of taking down the fences.</td>
<td>to take apart; dismantle</td>
<td>the fences</td>
</tr>
<tr>
<td>7</td>
<td>I explained how we shut the reactor down and sheathed the spent fuel cores in boron before winching them out.</td>
<td>stop an operation or activity</td>
<td>the reactor</td>
</tr>
<tr>
<td>9</td>
<td>I had led her to the armchair and she sat down, perching on the edge of it as I squatted in front of her.</td>
<td>to take a seat</td>
<td>she</td>
</tr>
<tr>
<td>13</td>
<td>I was better on 'Frankenstein'. But I ended by clarifying Jesus's role in the scheme of things by quoting, as far as I could remember, from a hymn, 'He came down on earth from Heaven, he died to save us all.'</td>
<td>from a higher to a lower place or position</td>
<td>Jesus</td>
</tr>
<tr>
<td>14</td>
<td>She led him down the hall and into the kitchen, passing a row of hanging coats on the way but making no attempt to take one to cover herself with.</td>
<td>from a higher to a lower place</td>
<td>him</td>
</tr>
<tr>
<td>path</td>
<td>vertical axis</td>
<td>meta ext</td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------------------</td>
<td>-----------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>downwards</td>
<td>literal vertical axis</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>down to 1.236sec</td>
<td>vertical axis of numbers</td>
<td>yes: decrease in number is down.</td>
<td></td>
</tr>
<tr>
<td>from existence to non-existence; from construction to deconstruction</td>
<td>vertical axis of states</td>
<td>yes: towards destruction is down.</td>
<td></td>
</tr>
<tr>
<td>from an operative state to an inoperative state</td>
<td>vertical axis of states</td>
<td>yes: towards an inoperative state is down.</td>
<td></td>
</tr>
<tr>
<td>down to the armchair</td>
<td>literal vertical axis</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>down on earth from Heaven</td>
<td>literal vertical axis; vertical axis of hierarchy</td>
<td>yes: the earth is down.</td>
<td></td>
</tr>
<tr>
<td>down the hall</td>
<td>literal vertical axis</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>Sample Text</td>
<td>Sense</td>
<td>Trajector</td>
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</tr>
<tr>
<td>16</td>
<td>The 60-year-old Secretary for Trade and Industry was said to be cheerful as his air ambulance touched down at Northolt airport.</td>
<td>make contact with the ground; land</td>
<td>his air ambulance</td>
</tr>
<tr>
<td>17</td>
<td>It would not seem beyond the power of schools to get their truancy levels down.</td>
<td>toward or at a low or lower point on a scale</td>
<td>their truancy levels</td>
</tr>
<tr>
<td>19</td>
<td>By keeping the eyes at the same point in the frame, you ensure the person's head doesn't bob up and down.</td>
<td>to a lower place</td>
<td>the person's head</td>
</tr>
<tr>
<td>20</td>
<td>'Markets tend to go both up and down,' I continued aloud, 'and our BBP Fund is no exception.'</td>
<td>to a lower point on a scale</td>
<td>markets</td>
</tr>
<tr>
<td>21</td>
<td>On the level stonework midway down the two sets of steps forming Broad Stairs the Guard took their position, the blood red of their tunics bright even against the dark.</td>
<td>to a lower place</td>
<td>the level stonework</td>
</tr>
<tr>
<td>22</td>
<td>The fact that six states (five until the introduction of Tasmania in 1977) compete for the Sheffield Shield, while 17 counties participate in the Championship, allied to Australia's 101 - 88 advantage in Tests between the old foes, suggests that the edge lies Down Under.</td>
<td>to or in Australia or New Zealand</td>
<td>the edge</td>
</tr>
<tr>
<td>24</td>
<td>Great black guns peered down at me through their embrasures, and when I showed myself too clearly there was a puff of smoke and I heard a hiss as the shot flew over my head; for they had their ranges very well and could drop them very close.</td>
<td>pointing to a lower place</td>
<td>great black guns</td>
</tr>
<tr>
<td>path</td>
<td>vertical axis</td>
<td>meta ext</td>
<td></td>
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<td>-----------------------</td>
<td>--------------------------</td>
<td>-----------------------------------</td>
<td></td>
</tr>
<tr>
<td>down to the ground</td>
<td>literal vertical axis</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>down to a lower level</td>
<td>vertical axis of levels</td>
<td>yes: to a lower level is down. LEVELS/ QUANTITY</td>
<td></td>
</tr>
<tr>
<td>downwards</td>
<td>literal vertical axis</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>to a lower point</td>
<td>vertical axis of prices</td>
<td>yes: decrease in price is down. PRICES/ QUANTITY</td>
<td></td>
</tr>
<tr>
<td>down the two sets of steps</td>
<td>literal vertical axis</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>zero</td>
<td>horizontal axis of cardinal points</td>
<td>no: south is down.</td>
<td></td>
</tr>
<tr>
<td>down at me</td>
<td>literal vertical axis</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>Sample Text</td>
<td>Sense</td>
<td>Trajector</td>
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<tr>
<td>25</td>
<td>Sabiha Kasim cooks what she describes as 'evolved' dishes, which basically means she cuts down on chillies and ghee and Indianises western dishes such as burgers, lamb chops and tuna fish.</td>
<td>to reduce the amount taken or used</td>
<td>the amount of chillies and ghee</td>
</tr>
<tr>
<td>26</td>
<td>It might mean that he would have to step down as a player for one match, but that's something he should consider seriously.</td>
<td>to resign from a high post</td>
<td>he</td>
</tr>
<tr>
<td>31</td>
<td>'When you're naked and angry you excite me,' he said and looked down at his shorts.</td>
<td>to a lower place</td>
<td>he</td>
</tr>
<tr>
<td>32</td>
<td>The drains beside the old school house (now a charming conversion with five beds and three receps, lived in by a lovely young couple from Basildon) were troublesome until the council met its obligations, and Scullions' kennels caused untold acrimony before the health authorities</td>
<td>to stop the operations of permanently or temporarily</td>
<td>Scullion's kennels</td>
</tr>
<tr>
<td>33</td>
<td>'I'll be right down,' I said. I didn't even look at James as I left the room.</td>
<td>to a lower floor</td>
<td>I</td>
</tr>
<tr>
<td>36</td>
<td>When the lights changed to green the driver turned right, down a narrow road bordered on the right by a modern, sand coloured, two-storey brick building, and stopped outside solid steel gates wide enough to let a tank through. Stepaniak leaned back in relief.</td>
<td>along the course of the driver</td>
<td>a narrow road</td>
</tr>
<tr>
<td>38</td>
<td>She reached up to claw down his trousers and pull his shorts away from his growing penis while he shrugged off his shirt.</td>
<td>pull sth downwards as if with claws</td>
<td>his trousers</td>
</tr>
<tr>
<td>Path</td>
<td>Downwards</td>
<td>Literal</td>
<td>Vertical Axis</td>
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<td>------</td>
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<tr>
<td>No</td>
<td>Down to a narrow road</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>No</td>
<td>Down to a tower floor</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>No</td>
<td>Down at his literal height</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>No</td>
<td>Vertical axis</td>
<td>No</td>
<td>No</td>
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<tr>
<td>No</td>
<td>Vertical axis</td>
<td>No</td>
<td>No</td>
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</tbody>
</table>
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