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IMAGES AND EXPRESSIONS:

RESULTATIVE VERB-COMPLEMENT CONSTRUCTIONS IN CHINESE

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ABSTRACT

This dissertation presents the results of an extensive and in-depth investigation of Mandarin Resultative Verbal Compounds (RVCs) carried out to uncover the semantic complexity hidden under their syntactic simplicity. A fresh perspective is adopted to achieve a new and more reasonable account of RVCs, especially with respect to their event aspects and thematic roles. The implications of these theoretic findings for teaching and learning RVCs are also discussed.

In Chapter 1 it is argued that a cognitive approach can shed much fresh light on the study of RVCs. Although several previous works have studied RVCs from both formal and functional perspectives, they tend to be flawed by excessive formalism or functionalism. This study examines RVCs by using Compositional Cognitive Grammar (CCG) to achieve a desired balance between rigid formalism and loose functionalism.

Chapter 2 gives a comprehensive picture of CCG with particular detail given to the level of Semantic Structure representations, which mediates the cognitive content and abstract form of a sentence. Based on this framework, the following two chapters study RVCs from two perspectives: RVCs as the composition of simple events, and RVCs as hosting the thematic roles for all event participants.

Chapter 3 explores Mandarin aspectual types, focusing on those in an RVC. An RVC is analyzed as a composition of two *general-verbs* (*g-verbs*), representing two causally and temporally connected events. I categorize six event types and further classify 1505 Chinese *g-verbs* based on these six types. By employing Aspectual Composition, which captures the lively moment of interaction between two event aspects, an explicit computational method is formulated which rigorously derives the aspect of a

complex event from the aspects of its composing simple events. No ad hoc adjustment rules intervene in obtaining the predicted correct results.

Chapter 4 applies similar rigorous and precise computational rules to the thematic roles in the composing simple events to obtain the thematic roles in the complex event in an RVCs.

The final chapter, chapter 5, discusses the pedagogical implications of these theoretic findings concerning RVCs.

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CHAPTER 1

RESULTATIVE VERB-COMPLEMENTS: A TESTING GROUND

The Resultative Verb-Complement (RVC) construction has been extensively investigated by Chinese linguists. It is therefore necessary to start this study with a call for a more comprehensive approach so that the investigation of this characteristic phenomenon in Mandarin can help to disclose linguistic issues profoundly concerning Chinese linguistic studies. I choose RVC as the central concern of my work because they form a testing ground for grammatical theories and approaches: there are complex thematic roles and semantic meanings involved in this seemingly simple pattern. Thus, the primary aims of this chapter are to give an overall statement of the efficacious properties of cognitive grammarian approaches that I am applying in the current study to account for Chinese data, such as RVCs. Moreover, I am going to provide a general review of the studies of RVCs. My aims are addressed in these perspectives.

In arguing for the necessity and priority of a cognitive view of Chinese linguistic phenomena, I outline certain distinctive perspectives of cognitive approaches. I point out the particular pertinence of these perspectives to analyses of structures with complex images, such as verb-complement constructions (hereafter, verb-complements) in Mandarin Chinese. Then I briefly provide the fundamental significance of studying RVC. I also review representative studies of the complex structures with a focus on Mandarin RVCs. This review provides a sufficient reason for a more comprehensive attempt upon which the study of the current topic is based. For the purpose of a feasible work in our study, I am applying key concepts in Compositional Cognitive Grammar

(CCG) proposed by Hsieh (1992, 1999, 2000), which have been shown to be very revealing in analyzing Chinese data (Wang 1998, 1999, 2000a), especially for complex event structures such as RVCs.

1.1 Adopting a Cognitive Approach

I provide a concise sketch of some influential cognitive grammarian research in representative works, some of which are inspiring to my study. I consider this effort essential because I aim at a more revealing account of RVCs than other former undertakings. For the particular goal of my study, I concentrate on works that manifest originative perspectives of event conceptualizations and their organizations. That is, to speak of imagery in describing the complexity of language forms, to seek a psychologically realistic account of language structure that relates it directly to cognitive processing (Bresan 1978), and to try to equate semantic structure with conceptual structure (Jackendoff 1978, 1983). All of these are of great potential that allow me to address Mandarin RVCs in truly substantive terms and methodology.

1.1.1 The Cognitive Approach: An Innovative Paradigm

As a healthy counteraction to the mainstream formalism, cognitive grammar focuses on solving fundamental linguistic issues – the nature of meanings in language forms – in a simple and original way. Believing that “meaning is a cognitive phenomenon and must eventually be analyzed as such” (Langacker 1987), cognitive grammarians proclaim in their studies the inseparability of syntax and semantics, and seek integrated accounts of linguistic phenomena from various levels of conceptual foundations. Central to these efforts is the assertion that the symbolic language forms are

semantically constrained, and that the semantics of grammatical forms are preserved in conventional imageries reflecting conceptual content and motivations of human cognition (Haiman 1985, Langacker 1987, Talmy 2000).

Distinguishing themselves from other purely formal or functional approaches by enthusiastically striving for the correlation between language forms and human conceptualization of the external world, cognitive linguistic theories tackle traditional linguistic problems in new and productive ways. The research of cognitive grammarians bring us into brand new visions on ordinary language phenomena: Haiman's (1985) work on iconicity and the economic motivation, Langacker's (1987, 1995) illustrations of the courses of verbs, Lakoff's (1987) pursuing the Idealized Cognitive Model, and Talmy's (2000) explorations of organizing principles of language forms, etc. All of their studies, along with others not mentioned here, are enlightening to our study. Besides, some studies have presented various novel and original views on linking semantics to syntactic behaviors, such as Teeny's (1992) Aspectual Interface Hypothesis, Croft's (1990, 1991) Causal Chain, Tai's (1985, 1989) studies of principles and motivations on Chinese grammar, and Talmy's (1985, 1988) original ways of connecting lexical representations with their underlying cognition, etc., just to name a few.

Since cognitive grammar "runs counter to mainstream theory in many fundamental respects" (Langacker 1987: 7), its revolutionary perspective lies in its aspiring to natural linguistic analyses, that is, examines the conceptual realization in grammatical forms. The distinctive undertakings are embodied in postulating of image schemas, and of motivations that underlie the continuum of symbolic structures, as well as of the symbolization of conceptual contents in various language forms. Thus these

undertakings can be generalized as this: languages are used to conceptualize the subjectively projected world, and language forms are thus organizations of either direct or indirect speculations of conceptualization of language speakers. These conceptualizations and organizations are motivated by multiple factors besides pure linguistic elements. Diversities in various language forms are at large determined by different cognitive strategies, which result from the interplay of social, cultural, and historical forces.

1.1.2 The Pertinence of a Cognitive Approach to the Study of Mandarin Chinese and CCG

Mandarin Chinese, as clearly and commonly recognized by most linguists, is a language of which constituents are compounded or connected by their conceptual, or semantic, relations. As a language naturally contrastive to English and other “syntactically-oriented” languages, Zhu (1985) has appropriately suggested that Chinese ought to be studied in a way integrating the cream of Western linguistic theories with the intrinsic nature of Chinese. This integration, if enthusiastically attained, enables us to view various linguistic phenomena in Chinese more effectively and realistically, especially for those studies where the Western approaches are mechanically copied and applied.

It has long been a tradition for Chinese linguists to apply advanced Western linguistic theories to directly solve problems in Chinese. In the current of prominent studies of Chinese employing Western methods, the school of formalism (Cheng 1995; Cole and Sung 1990; Huang 1982, 1984; A. Li 1990; Y. Li 1990, 1995; Tang 1991; and Tsai 1994) centers on the pure syntactic solutions; while the school of functionalism

(Huang 1996; Tai 1985, 1989; Tsao 1990) prefers a contrasting functionalism for the explanations of various linguistic phenomena. Contingent upon whether language forms are organized by exclusively formal rules or entirely cognitive rules, neither school could be said to have offered a satisfactory account, because Chinese is incorporated by both forms and meanings. On the one hand, meaning is what language is all about. As claimed by cognitive grammarians, such as Langacker, etc., any analysis with the meaning ignored but sticking to forms “severely impoverishes the natural and necessary subject matter of the discipline and ultimately distorts the character of the phenomena described” (Langacker 1987: 12). On the other hand, linguistic expressions containing meanings are unavoidably constrained by forms that distort the original meaning combination. Disregarding the formal forces may be easily overwhelmed within numerous and complicated slots of meanings.

Delightfully, the nature of cognitive approaches, which focus on the semantic motivations and constraints on the grammatical forms of language, brings Chinese into great relief for us to study this language by explicating semantic correlation with their language forms. As we have seen, the two lines of research seem to meet on an encouraging ground, where formal and cognitive principles can share an operational domain, such as in the thematic structure (Croft 1991, Dowty 1991, Y. Li 1990, Rappaport and Levin 1988, Teeny 1992).

A theory systematically fusing the partial views of both the school of formalism and the school of functionalism is proposed as Compositional Cognitive Grammar (CCG) (Hsieh 1992, 1999, 2000). CCG devotes itself to the harmony between these two schools by integrating the essence of various Western theories and Chinese functional research.

Briefly, this theory assumes that sentences in a language are compositionally generated, and are constrained by syntactic rules that are motivated by cognitive principles. Aiming at interconnecting the formal and conceptual features of language forms, CCG postulates five levels of grammatical representations. The first level of representations is the most cognitively motivated, and is collectively referred to as “Image Structure representations” (IS_{rr}, whose singular form is IS_r). IS_{rr} are transformed to the second level of representations, that of “Semantic Structure representations” (SS_{rr}, singular SS_r), which are the tangible form of IS_{rr}. SS_{rr} are further transformed to the third level of representations, identified as “Thematic Structure representations” (TS_{rr}, singular TS_r). TS_{rr} are then transformed to the fourth level of representations, “Functional Structure representations” (FS_{rr}, singular FS_r). Finally, FS_{rr} are transformed to the fifth level of representations, “Constituent Structure representations” (CS_{rr}, singular CS_r), which are on the most formally oriented and shallow level of representation. In a chain of mappings, sentences are consecutively transformed from fine-tuned images as IS_{rr} to coarsely textured images as SS_{rr}, and eventually to syntactic expressions as CS_{rr}.

CCG attempts to accumulate advantages from such popular theories as Cognitive Grammar, Categorical Grammar, Government and Binding Theory (GB Theory), Head-driven Phrase Structure Grammar, and Lexical Functional Grammar, etc. The accumulation is embodied in CCG’s accounts of intricate relationships between conceptualization and its symbolic realization into such notions as IS_{rr}, SS_{rr} and their correlations. Wang (1999, 2000a) and others (Hayden 1997, Chang 1998, Gammon 1998, Chiang 2000) have shown CCG in different perspectives to be a viable justification

of various approaches in its reconciliation of the partial orientation of both functionalism and formalism.

I hereafter refer to the new view of CCG with respect to its integrative aspect and feasibility in dealing with Chinese linguistic phenomena and explicate this device and its applications in later chapters.

1.2 The Significance of Studying RVCs

In this section, I first provide the two major reasons for regarding Mandarin RVCs as a testing ground for various theories. Then I specify perspectives in some representative cognitive grammarian works that are enlightening to the current study. Most of these works, although dealing with data largely from English, explore enthusiastically the semantic complexities of event structures, and they are thus quite revealing for our research here. Studies of Mandarin RVCs that are collectively mentioned here also amount to a significant vision. Both are informatively preparative and illuminating for the current study. But problems remain in that there are strong generalizations made either partially formally or purely functionally. Based on this review, I argue in the end of this section for the necessity of a more comprehensive attempt that is to be carried out in the study.

1.2.1 The Fundamental Import of a Cognitive Approach to RVCs

In the previous section I have shown the appropriateness of a cognitive approach to the study of complex event structure. I select RVC constructions because they are of fundamental import lying in the fact that RVCs are formally simple but semantically

complex. Therefore, RVCs form a testing ground for grammatical theories whether they are formally or functionally oriented. And this may be explicated in the following.

RVCs are formally simple because RVCs are expressions consisting of two verb forms, i.e., a verb with another verb, or a verb with an adjective in a traditional sense.¹ For example, *hóng* 'red' in *kū hóng* may be considered as an adjective in a traditional sense. Other expressions (i.e., non-RVCs) with series of verbs may be identified by some elements between these two verbs. For example, the so-called pivotal constructions have noun phrases connecting verbal series, such as (1) 我叫他來我這兒拿書去 *wǒ jiào tā lái wǒ zhèr ná shū qù* 'I told him to come to my place to get the book'. Other verb-complements are identified with *-de-* between the verb and the complement. For instance, (2) 他說得興致勃勃 *tā shuō de xìngzhìbóbó* 'He is talking enthusiastically' is a sentence with the verb complement expressing manner. Whereas the complement in (3) 他疼得死去活來 *tā téng de sǐqùhuólái* 'He felt so painful as if he is half dead' denotes an extent to which the *téng* 'have pain' can be depicted. In contrast, RVCs with two verbal expressions only are recognized as the most condensed verb-complements without any other words in between.

RVCs are, on the other hand, semantically complex for a number of reasons. First, the thematic roles in Mandarin RVCs can be very elusive. Consider sentences (4) through (11):

(4) 張 三 打 傷 了 李 四 .

Zhāng Sān dǎ shāng le Lǐ Sì.

Zhang San beat hurt *asp*² Li Si

'Zhang San injured Li Si.'

- (5) 張 三 喝 醉 了 酒。
 Zhāng Sān hē zuì le jiǔ.
 Zhang San drink drunk *asp* wine
 ‘Zhangsan got drunk.’
- (6) 張 三 喝 光 了 酒。
 Zhāng Sān hē guāng le jiǔ.
 Zhang San drink empty *asp* wine
 ‘Zhang San drank up (all) the wine.’
- (7) 這 壺 酒 醉 倒 了 張 三。
 zhè hú jiǔ zuì dǎo le Zhāng Sān.
 this pot wine drunk fall *asp* Zhang San
 ‘This pot of wine made Zhangsan passed out.’
- (8) 張 三 教 會 了 李 四 英 文。
 Zhāng Sān jiāo huì le Lǐ Sì Yīngwén.
 Zhang San teach understand *asp* Li Si English
 ‘Zhang San taught Li Si (and Lisi knows) English.’
- (9) 張 三 來 早 了。
 Zhāng Sān lái zǎo le.
 Zhang San come early *asp*
 ‘Zhang San came early.’
- (10) 張 三 喜 歡 上 了 李 四。
 Zhāng Sān xǐhuān shàng le Lǐ Sì.
 Zhang San like up *asp* Li Si
 ‘Zhang San fell in love with Li Si.’
- (11) 張 三 又 提 起 這 事 兒 來 了。
 Zhāng Sān yòu tí qǐ zhè shìr lai le.
 Zhang San again raise up this matter come *asp*
 ‘Zhang San brought up this matter again.’

In a traditional way of identifying thematic roles, the one assuming the Agent Role of the beater in (4) is *Zhang San*, and the one who was hurt (Patient Role) is Li Si. In (5), the drinker (Agent) is Zhang San, and the one who becomes drunk (Theme) is also Zhang San. In (6), the drinker is Zhang San (Agent), and that which becomes totally consumed is the wine (Theme). In (7), the one who got drunk (Theme) is Zhang San, and the one who passed out (Theme) is also Zhang San. Meanwhile, what is the Thematic Role of 酒 *jiǔ* ‘wine’ that makes Zhangsan drunk? It would be disputable if one claims that 酒 *jiǔ* carries the Agent Role. In (8), the teacher is Zhang San (Agent), the one who was taught (Oblique) and who learns English is Li Si (Theme), and the thing to be taught (Theme) is English. In (9), the Agent is Zhang San, while the Theme of 早 *zǎo* ‘early’ is the event 張三來 *Zhāngsān lái* ‘Zhang San’s coming’. In (10), the Agent is Zhangsan, while the Thematic Role for 上 *shàng* ‘up’ is arguably obscure. In the more complicated sentence (11), what Zhang San (Agent) brought up is 事兒 *zhèshìr* ‘this matter’ (Theme or Patient), but what is the Thematic Role for the invisible NP doing the action 來 *lái* ‘come’?

The above examples have not exhausted the complicated thematic roles of RVCs yet. However, we may have seen clearly that divergent internal thematic relations are neutralized³ in a seemingly single RVC form. Every Chinese linguistic theory must face the test of succinctly accounting for the hidden diversity in thematic role structure of RVCs.

Secondly, an RVC may have a translation-equivalent in English or other language that is rooted in a radically different image. Consider English sentence (12) and its Mandarin translation (13):

- (12) The shirt flapped dry in the wind.
- (13) 衣服 在 風 中 擺 干 了。
 yīfu zài fēng zhōng bǎi gān le.
 clothes in wind midst flap dry asp
 ‘The clothes flapped dry in the wind.’

But compared with (13), sentences (14) and (15) are preferred expressions to match (12):

- (14) 風 把 衣服 吹 干 了。
 fēng bǎ yīfu chuī gān le.
 wind ba⁴ clothes blow dry asp
 ‘The wind blew the clothes dry.’
- (15) 衣服 被 風 吹 干 了。
 yīfu bèi fēng chuī gān le.
 clothes bei wind blow dry asp
 ‘The clothes was blown dry by the wind.’

Both (14) and (15) focus on the dynamic, agentive force of the wind, which blows 吹 ‘*chuī*’ to make the clothes dry 干 ‘*gān*’. By contrast, (12) focuses on the flapping motion of the wind, which causes the clothes to become dry. In describing the same scene where clothes first flapped in the wind and finally became dry, Mandarin and English speakers adopt different world views (Wang 2000b), which cause them to recognize two distinct events. To explain such a radical difference between the underlying Mandarin and English images, a methodology integrating the investigation of conceptualization and grammaticalization must be applied to explicate the image composition and the connection between semantics and syntax. The application that is to be conducted in this study tests the feasibility of the approach based on cognitive linguistics. It can also shed new light on the study of other Chinese linguistic data, insofar as they are viable approaches for such complex structures as verb-complements.

1.2.2 Studies of Complex Events in General

RVCs contain complex events in a condensed structure. It is therefore necessary to briefly review some pertinent studies of structures representing complex events.

In establishing theoretical foundations of cognitive grammar, Langacker (1987) shows the conceptual framework that is reflected in human languages. He employs such notions as *Scene* and *Image* to account for human conceptualizations of the external world. Scenes are vaguely given for us to conceptualize, whereas images are consequently tailored from scenes and reflected as expressions in language. This insight provides us a clear vision of the relation between language forms and their symbolization of meanings because Langacker makes it possible to define grammatical categories such as noun, verb, etc., semantically. Further, his accounts of valence relations and grammatical organization in terms of composition are spelled out in reasonably explicit detail. Moreover, a series of illuminating notions (Langacker 1995) such as “trajector”, “landmark”, and “path” etc., are used to account for atemporal and temporal relations. These notions have been broadly adopted in various cognitive works as key concepts. We will make use of these notions in analyzing an event and its image.

As insightful as Langacker, Lakoff (1987), with emphasis on the bodily basis of reasoning, shows us the richness of imaginative perspectives of reasoning and its importance in human categorization. Lakoff raises the values of his study with respect to cognitive semantics in the following. First, he aspires to seek Idealized Cognitive Models (ICMs). ICMs are idealizations that allow human beings to handle the complexity of their experiences for the purpose of linguistic communication. They are means by which we organize our knowledge, further, embody them in our linguistic

expressions. Second, he puts forth two “directly-meaningful” symbolic structures: basic-level concepts and kinesthetic image schemas. His assertion of the importance of image schemas in the metaphorical projections from concrete to abstract domains used to structure complex concepts is very enlivening in analyzing language forms containing complex images. I will use some of his notions and analyses that benefit my studies as they are carried on.

In his imposing elucidation of conceptual content and its organization in human language, Talmy (2000) not only establishes the theoretical orientation of a cognitive semantic approach, but more importantly, examines the typological patterns by addressing event structures in a very broad linguistic background. Talmy’s work is particularly interesting from the cognitive point of view because of his explicit treatment of event structure. Among his four patterns of concept-structuring systems, “Force and Causation” (Vol. 1, Part 4) addresses various causative situations and how entities interact with respect to force, which plays a structuring role across a range of language levels. This part is concomitant to Talmy’s endeavor in exploring event complexes. Talmy elaborates characteristics of typical causative situations, either simple or complex, and the interactions of the basic components in causative chain. Many descriptions in this work afford much stimulation for us to reconsider the complexities of Mandarin RVCs. Thus I predicate the efficacy in my research because I am conducting my analysis by referring to these provoking concepts and methodologies, and I show the efficacy in detail as my investigations proceed.

Along with other cognitive grammarians’ assiduously pursuing ICM, Croft (1990, 1991) is identified by his ardent studies of event structure with his broad view of the

world as a vast causal network. When his causal hypothesis is tacitly accepted in much of the philosophical literature, Croft proposes that a verb denotes a segment of a causal chain. This causal chain is a single event in some sense. In another sense, events are segments of the causal network. Asserting that a causal chain represents an ICM, Croft's analyses provide an illuminating account of event structures with complex images, which enables us to examine an event continuum richly encompassed in all RVCs in Chinese. I will make use of his arguments in one part of my theoretic foundations in Chapter 2 and for the methodology in Chapter 3.

In addition to the above, Haiman (1985) demonstrates that linguistic structures often iconize non-linguistic diagrams of our thoughts. In his efforts to reduce the gap between human conceptualization and language forms, Haiman divulges motivations such as economy, generalization, and associations, which are responsible for the distortion from the initial iconicity of conceptualization to linguistic symbolization. The principle of economy is particularly insightful when we examine Mandarin RVCs.

In sum, cognitive grammarians aim to disclose conceptualizations and their symbolic motivations that are universal to human language. Their views and notions that are mentioned above are all insightful ideas that help us to explain a variety of complex phenomena in a revealing way. However, their accounts may explain more if structures or constructions in Mandarin, such as characteristic phenomena as RVCs, are delved into and investigated in light of these insights. As stated in the last section, RVCs are causality in the simple form of "verb-complement" but involve very divergent cause-result particulars. Moreover, there may exist radically different images for translations-

equivalents in different languages. My assertion of the RVCs as a testing ground will be substantiated when my studies of this construction are unfolded in the following chapters.

1.2.3 A Review of Previous Studies

I try to list notable studies pertinent to my examinations of RVCs. My review is presented with respect to methods implied in the previous works. In my review, I have found research conducted in (a) traditional descriptive method, (b) functional or semantic classification, and (c) purely formal view such as GB Theory. Criteria of what can be considered as RVCs in several dictionaries for pragmatic purposes are also concisely reviewed because lexical data in these dictionaries may vary depending on criteria.

1.2.3.1 General Descriptions

The descriptive introduction of RVCs as a subcategory of verb-complements started with Chao (1968), who defines the properties of RVCs as both “bound” and “lexical”. Except for his inclusion of what are later considered as “manner verb-complements”, “potential verb-complements” and “extent verb-complements”, Chao’s view of grammatical features of RVCs is tacitly and broadly inherited by most linguists of Chinese, as represented in Thompson (1973), Li and Thompson (1981), Zhu (1982), and Peking University (1993).

Generally, what are considered as traditional descriptions identify RVCs as lexical compounds. Semantically, the first element indicates an action or process, and the second element indicates resultative state caused by the first element. Formally, the head (normally the verb) and the end (an adjective or a verb) are inseparable and thus the relationship between the two components of the RVC is “closer” or “more restricted” than the two elements in other types of verb-complements. If a *-de-* denoting potential or

a negative word *-bu-* is placed between the first verb and its complement end, an RVC may become a verb-complement indicating potential. This is another commonly accepted diagnostic feature of RVCs. Views in the above mentioned study by Chao (1968) and Li & Thompson (1981) diversify one another concerning whether “directional verb-complements” should be considered as a subcategory of RVCs or as an individual category that is parallel to other verb-complements (Zhu 1982, Peking University 1993). But no one would deny the intimate relation of RVCs and directional verb-complements, especially for the fact that the metaphoric use of the latter is overwhelmingly considered as RVCs.

But the general picture of the traditional description can not delve deeply into the essence of this phenomenon. Later linguists expand their investigations of RVCs either by probing the semantic abundance they provide, or by finding some general rules on transformation and thematic relations in syntactic forms.

1.2.3.2 Functional or Semantic Classifications

Studies on semantics of RVCs try to disclose the interrelation among components or NPs that are related to the two verbs in terms of valence. Some studies explain that Argument can be semantically associated with the verb and the complement in an RVC (Wang 1995, 1999; Wu 1998). Some try to provide rules that constrain the syntactic behavior of Arguments associated with RVCs (Guo 1995). Still others investigate the Argument structure of RVCs (Shen 1993), which furthers previous studies by specifying that the Argument structure of the resultative complement determines that of the RVCs. And, in Shen’s (1993) opinion, the volition of the verb (in RVC) can be either internal or external, and these two functions in turn can determine the Arguments of RVCs.

A series of literature (Li 1980, Lu 1986, Yang 1986, Ma 1987, Zhan 1989, Miao 1990), in an attempt to find semantic characterizations of RVC, does not, it seems to me, shed any direct light on the issue at hand. They may be only regarded as providing extravagant examples containing a variety of RVCs. These data may eventually facilitate the naming of those noun phrases related to RVCs as “subject” or “object” only. The *superficial nature of their classifications is made apparent by labeling linear relations of components in traditional grammatical terms.* In these studies, some RVCs of the same properties are cross-listed in categories with contrastive characteristics because these studies do not catch the meanings of RVCs at the conceptualization level, but focus on conventional way of naming syntactic patterns and characterizing them. They lack an account of the central mechanism integrating the semantic properties with their syntactic behaviors.

This situation is improved by the “semantic-functional” approach employed by McDonald (1994). His proposal may be thought of as an attempt to reveal the functional organization of RVCs through the reinterpretation of resultative and directional verb-complements, both of which are termed as “completive” compounds. McDonald groups the complements of “completives” based on the semantic contents that are realized in context, in both semantic explicitness and collocational appropriateness. Attempting a *new look at the functional characteristics of RVCs,* McDonald’s study does significantly widen the theoretical horizons for semantic study of RVCs. But a more detailed and comprehensive study needs to be conducted, which may partly be in light of some semantic explicitness residing in the verb complements of RVCs in his study. And this is why I am conducting the current study.

1.2.3.3 Formal Approach

Formal linguists employ ideas or notions developed in the general framework of GB Theory and focus their studies on the theta-roles, or the argument structure of RVCs. Assuming a thematic structure in a GB framework, Chang (1989), Ross (1990), and Cheng & Huang (1994) investigate the theta-roles of RVCs by considering the first verb as the head of RVCs. But they differ from one another in that Chang sticks to the Theta Criterion (Chomsky 1981) and proposes “argument percolation rules” by which the preferential donor of theta-roles of RVCs is the first verb. Ross, in contrast, adopting the “tiered thematic structure” of Jackendoff (1987), believes that both semantic features of the verbs and thematic roles assigned by verbs determine the properties of RVCs. Cheng and Huang claim that RVCs show an array of alternation between transitivity and aspectuality. They determine that RVCs are derived from an underlying left-headed event structure whose semantics determines their linking with appropriate thematic and argument structures.

Contrary to the above studies, Y. Li (1990) thinks the theta-roles of the verb-complements are jointly assigned by both the first verb and its complement, although, similar to Ross, he admits the hierarchical thematic structure of a verb. Zou (1994) points out the inadequacy in Li and provides an alternative lexical-syntactic analysis. Zou affirms an implication relation between the verb and its complement which is expressed by *semantic embedding of the complement*. This conclusion actually confirms the first verb as the semantic determinant of RVCs, which somewhat agrees with the above three claims. Taking a similar lexical-syntactic analysis, Lin (1996) advances Li’s (1990) and Zou’s (1994) ideas that subject-oriented RVCs, such as 笑累 *xiào lèi* ‘laugh-

tired’, 走掉 *zǒu diào* ‘walk-away’, are formed in the lexicon, whereas object-oriented RVCs, such as 撕破 *sī pò* ‘tear-broken’, 殺死 *shā sǐ* ‘stab-dead’, are derived syntactically through verb-movement and incorporation from Deep-Structures. Sticking to his observation of hierarchy, Y. Li (1995) terms “causative roles” for the phenomena of inverse theta-role assignment in RVCs and links this role to syntactic arguments by a causative hierarchy superseding the thematic hierarchy. But, contradictorily, the assignment of a specific causative role is dependent on the source of the theta-role of the argument.

These studies throw light on the question of how the thematic roles of RVCs, when a complicated systematic difference exists, should be determined by taking into consideration of the argument structures of the two verbs. But as my analysis in Chapter 4 will show, defects in these studies are in alignment with the wrong assumption of formal approaches that thematic roles are ultimately syntactic driven. The thematic relations involved in RVCs can only be achieved in a compositional way on conceptual grounds.

1.2.3.4 RVCs in Dictionaries

Many dictionaries cataloguing Chinese verbs consider RVCs as a very special category. Since dictionaries function as databases for users, what are the properties of RVCs are normally not articulated. For example, Meng et al (1987) in their 動詞用法詞典 *Dòngcí Yòngfǎ Cídiǎn* (DYC) ‘A Dictionary for Usage of Verbs’ stipulate RVCs as verbs with complements indicating result. Wang et al (1987) in their 漢語動詞結果補語搭配詞典 *Hànyǔ Dòngcí Jiéguǒ Bǔyǔ Dāpèi Cídiǎn* (HDJBDC) ‘A Dictionary of Chinese Verb-Resultative Complement Phrases’ and Huang (1998) in his 動詞分類和研

究文獻目錄總覽 *Dòngcí Fēnlèi hé Yánjiū Wánxiàn Mùlù Zǒnglǎn* simply list what they take to be RVCs. None of them specifies any criteria for RVCs. Only Yu et al (1998) in their 現代漢語語法信息詞典 *Xiàndài Hànyǔ Yǔfǎ Xìnxī Cídiǎn* (XHYXC) ‘The Grammatical Knowledge-base of Contemporary Chinese’ ascribe a series of syntactic features that are used to identify RVCs. For example, an RVC should be a verb able to be directly associated with any of the following: -了 *liǎo* ‘finish’, -著 *zháo* ‘reach; achieve’, 成 *chéng* ‘into’, 動 *dòng* ‘move’, 好 *hǎo* ‘finish’, and 得了 *dé le* ‘finish’. But these criteria are too limited in that they eliminate a huge amount of data that our intuition would strongly consider as RVCs, such as 說清楚 *shuō qīngchū* ‘state clearly’, 錘死 *chuí-sǐ* ‘beat to die’, etc. My study, laid out in detail later, avoids the problems inherent in the criterion-related omission, sets up rules that determine data which may be considered as RVCs to a large measure. Moreover, the data identified in this study have properties that are not only included in the dictionaries above, but also beyond the rules they themselves may specify.

My review has found that RVCs have long been discussed in the literature of Chinese linguistics. It seems that previous studies have characterized certain behaviors of RVCs in various perspectives. However, the problem remains that, in spite of the evidence for their different claims and conclusions, there are strong generalizations to be made about grammatical relations and the correspondences between the verb and its complement, and also about the arguments of RVCs concerning their thematic roles. These studies, therefore, do not analyze the data adequately enough and thus are somewhat speculative and not entirely satisfactory because the complex semantics and thematic relations of RVCs remain unexplored, which obviously result from the authors’

partial views of the schools of thought. I am turning away from any purely formal or functional endeavor since there are questions about RVCs that cannot be ignored: generally, in the simplified schema of RVCs, how are the complexities and continuities of causal events condensed into a “verb-resultative complement” form? As I will explain, RVCs are gestalt perceptions, of which the intricate interweaving of their *meaning and form can better be observed in their image structures that are believed to reside in the human conceptualization of events.* Further, how the conceptualized images are compressed into ostensibly simple RVCs is another note-worthy issue that has been insufficiently explored. Comprehensive accounts of RVCs with respect to the integration of formal and semantic perspectives are particularly scanty. Previous inquiries try to elucidate complicated internal structure. But these undertakings linger at superficial levels because all exertions are limited by *Western style treatment, which ignores the exact nature of RVCs in their condensation in both form and meaning.*

1.2.4 The Necessity and Feasibility Intention in Current Effort

Given what was presented in the last section, we can see that *the future study of an RVC construction must be approached by a more holistic account that accommodates the integrated nature of this construction.* Holding the belief that there is a conceptual compression in RVCs, we need to re-examine this construction in a cognitive approach so as to disclose the relation between conceptual contents and their symbolization with respect to verbs and resultative complements. We believe that such an improved approach would make a better achievement with only justified formal machinery, and can accomplish a more profound account of the complicated RVCs in Mandarin. Guided by this attempt, we intend to work out the properties of RVCs. This may not only enable us

to arrive at a detailed understanding of how Mandarin Chinese realizes complex events with actions and results, but also how this realization is symbolized, and often distorted, in the process of condensation.

1.3 Scope of Study

1.3.1 Organization of Current Study

I adopt the CCG proposed by Hsieh (1992, 1999, 2000) as the theoretic framework for this study. Because this theory is still novel to many, I start to present its main features in Chapter 2. To do this, I start by revisiting the cognitive grammarian's view of the relation between language and its symbolization of the conceptualized world. Then I show how, in an effort to maintain scientific rigor, the theory of CCG starts from the cognitive depth, where human cognition can be explicitly explored, and moves on to an account for the perceptible language form.

Since the introduction of CCG will show that basic building blocks for language forms are simple events represented by "action frames", Chapter 3 departs temporally from our systematic investigation of Chinese verbs in terms of event aspect. After reviewing previous attempts on classifying Chinese verbs in terms of aspects and situations, we offer a new classification. We categorize Chinese verbs from the perspective of gestalt, and set forth a series of compositional rules for expressions presenting varieties of events. The RVC as a very comprehensive form of a series of event composition, along with other language phenomena, can be accounted for efficiently by the proposed rules.

As our exploration moves on, the level closer to syntax uses TSrr in the systematic terms of CCG. The thematic relations among components in action frames are thus presented in Chapter 4. I attempt to demonstrate the superiority of the approach to other previous operations about the thematic roles and their realizations in dealing with the thematic relations of RVCs. Compositional rules are to be given in a similar holistic way as those provided for verbs.

In Chapter 5 I make closing remarks. I start this chapter with particularly the intention to contribute potentially to the pedagogy of Mandarin, especially for teaching RVCs to English learners of Chinese. I try to incorporate the suggestions of previous scholars, but bring out the efficacy of this study in facilitating teaching of RVCs. Then, I conclude that the studies are of both theoretical and practical value.

1.3.2 Sources of Corpus

Our study of event aspectual types of verbs is substantiated with abundant data. Data needed are mainly drawn from the following dictionaries.

The XHYXC is the most comprehensive electronic dictionary in China. It encompasses the diligence and effort of Chinese linguists and other scholars in the field (Yu et al. 1998) who had worked on it for more than ten years. Its grammatical information is therefore copious and helpful. Moreover, data in this dictionary are digitized, making them both easily accessed and conveniently managed. This study will use the XHYXC as a basis for the two subcategories of verbs and adjectives. In the category of verbs, 2094 entries⁵ of individual verbs⁶ are listed. The category of adjectives contains 1471 entries. The analysis in Chapter 3 will provide a detailed statement about the use of these data.

This corpus is supplemented by the *DYC* (Meng et al.1987), which contains 2117 verb entries. Not only does the *DYC* contain more entries⁷ than the *XHYXC*, but it also provides examples with a verb's possible function as the first verb of an RVC.

After the initial classifications are made, I then use lists in the *HDJBDC* (Wang et al. 1987) to provide further examples for RVCs. About 5000 examples in this dictionary are drawn from newspapers, magazines, novels, scripts for dramas or movies, and spoken Chinese. I exclude items that are overly literary or evidently idiosyncratic to particular author and concentrate on those acceptable to many native speakers.

The “directional verb-complements” (DVC) are significant when discussing RVCs. The non-directional use of the complements also occupies a special role in RVCs. The *趨向補語通釋 Qūxiàng Bǔyǔ Tōngshì* ‘A Thorough Rendition of Directional Complements’ (Liu 1998) provides a thorough list of 3000 entries of verbs with directional complements, including their metaphoric, or resultative, meanings.

All data in these dictionaries combine to set up a solid base for this study of verbs and RVCs.

In this chapter, I have tried to demonstrate the necessity to take the stance within cognitive linguistics. I decided to conduct this study in the spirit of many inspiring cognitive grammarians’ work, and also to employ the pliable device of CCG to conduct my investigation. I further spell out the need for a comprehensive endeavor because of various shortcomings existing in previous studies of RVCs. Finally, I have shown the abundant sources that this study has drawn upon. However, I need to elucidate the theoretical foundations of our study before I move on.

Notes

- ¹ Both of the complements of an RVC are more appropriate to be considered as verbs, adapted to Li (1990), because in certain RVCs, such as 打贏 *dǎ-yíng* ‘play and win’, etc., the second element is a verb.
- ² The “asp” (“aspect”) is used here for the generally accepted view of the grammatical function of 了 *le*, 著 *zhe*, etc.
- ³ The notion “neutralize” is adopted with the same meaning in Li (1973).
- ⁴ We italicize *bǎ* here in the word-to-word translation because there is no English correspondence for this Mandarin morpheme; similarly, *bèi* in later examples.
- ⁵ Different meanings of individual language forms are listed as different entries. For example, three entries are listed under the same lexical form 包 *bāo*: (i) to wrap; (ii) to guarantee; (iii) to undertake.
- ⁶ “Individual” here means single verb instead of Verb-Object compound. For example, *chàng* ‘to sing’ is an individual verb whereas 唱歌 *chànggē* ‘to sing (songs)’ are Verb-Object compound. We will detail our reason in Chapter 3 for such doings.
- ⁷ Referring to Endnote 5, *DYC* contains two more meanings that should be differentiated for the (i) - (iii): (iv) ‘to surround’; (v) ‘to reserve’.

CHAPTER 2

THEORETICAL FOUNDATIONS

I have set out to argue for an approach based on cognitive view in this study of images and expressions in Chinese verbs, and against the pure formalist or functionalist view. I have also decided to adopt the theory of CCG to succinctly account for the internal structure of complex linguistic phenomena such as RVCs. As a necessary step toward a better understanding of my methodology, this chapter introduces the underpinnings of the theory upon which the research is based. Such key notions like ISrr and SSrr in CCG are still novel to many readers. Only a few studies (Chang 1998; Chiang 2000; Gammon 1998; Hayden 1997; Wang 1998, 1999) besides Hsieh's (1992, 1999, 2000) articles have adopted this theory. It, therefore, would be best to provide a full picture of CCG as I introduce some related theories that CCG draws upon.

The above considerations prompt me to present *this chapter* as follows. Concerning the revealing nature of SSrr, which bridges the most cognitively motivated ISrr and purely formal constrained CSrr, I start my introduction of CCG by addressing the conceptualizations in ISrr which may be associated with a 'universal scene'. The view of universalists and its correlation with ISrr are thus shown in Section 2.1. I will also show that the compromise of universalism and relativism requires the assumption that event imagery is decomposable. Therefore, how putatively decomposed images are symbolized in SSrr is provided in Section 2.2. SSrr are then organized under various principles to be transformed to CSrr in Section 2.3. Section 2.4 presents other relative notions that will be used in this study.

2.1 Universal Image

This chapter illustrates two important notions relevant to the foundation of CCG: universalism and relativism, and their correlation in terms of language universality and relativity. I first review the universalism and relativism with regard to the conceptualization in human language. Then I show that ISrr are analogized as language universality, and SSrr as language relativity. This parallelism demonstrates that an ISr is like an optimal prototype and an SSr is like an exemplar of the prototype. Finally, I show that the dispute between linguistic universalism and linguistic relativism can be reconciled by notions of ISr and SSr in CCG, which are therefore preferentially employed in this study.

2.1.1 Universal Image and Language Specific Realization

As an integral part of human cognition, language is regarded as expressions of human conceptualization of the world in which human beings live. Given its objectivity, the external world presents generally the same scene to all linguistic communities. Many basic experiences can thus be taken as universal to speakers of all language. To this extent, language may ideally describe a universal scene that is seen to all human beings.

However, given an objective external world, the conceptual systems of different language speakers may be divergent although they have similar cognitive capacity (Lakoff 1987: 311-312). Moreover, language does not capture the full range of possible scenes because a sentence has only finite length and selectively presents parts of its meaning. Language usually simplifies its ideally comprehensive cognition into granulated content. And as observed in Wang (1998), neither English nor Mandarin,

presents an optimal expression for a particular scene. Langacker (1987: 39) has pointed out that what we see in a specific language, instead of a universal scene, is in fact image that “structures a scene in a particular way for purposes of linguistic expression, emphasizing certain facets of it at the expense of others, viewing it from a certain perspective, or constructing it in terms of a certain metaphor.” But clearly, Langacker’s scene is roughly a collection of various components having a varying structure, and his image then “acts on this fluid structure to give it a fixed structure”, as interpreted precisely by Hsieh (1989: 62). Different languages, or different expressions in the same language, employ diversified images although human cognition and experience are essentially the same. Thus, of all the meaning parts associated with a sentence, only some are coded in a language. Pinker (1989) displays this insight: what is coded becomes the semantics (or pragmatics) of the sentence and what is left uncoded becomes the semantics (or pragmatics) of the real world, or real-word knowledge, complementing the semantics (and pragmatics) of the sentence. Thus, on the one hand, we can comprehend much more than what language explicitly expresses. On the other hand, for expressions with equivalent meanings across languages, we see their diversities because they employ different images to structure the same basic conceptual content (Lakoff 1987, Langacker 1987, Pinker 1989, Talmy 2000).

Most cognitive grammarians thus hold the belief that alternative conceptualizations of conventions are used throughout daily life with regard to various cultures. A scene that is presented in language forms is roughly the same, and thus gives us a universal concept. Images that are specifically tailored in various languages are relative. Therefore we can study languages building their own images, or the various

realities that are created by various linguistic expressions. The cognitive reality of image schemas is also evidenced by many psychological experiments, such as Gibbs & Colston (1995). These experiments affirm the imaginative and nonpropositional nature of scenes in the human brain. Given that image schemas are “indeed psychologically real and function in many aspects of how people process linguistic and non-linguistic information” (Gibbs & Colston 1995: 365), it thus makes it possible for cognitive linguists to observe the embodied nature of perception, imagery conceptualization, and their correlation to language. The observations from psychology enable us to account for the correspondence between images and their linguistic expressions on a reliable foundation.

2.1.2 Optimal Type and Exemplars

Natural language, if it exists, reveals generally the optimal scene of the external world, and is thus the most prototypical form of all languages. The notion of prototype (Rosch 1977), as it is largely accepted, refers to an object or entity of the most typical and thus the best example or the most salient member of a non-classical category. An example of the prototype takes ‘robin’ as the prototype of ‘bird’. Comparatively, penguin and ostrich are the least prototypical categories of bird compared with robin. Rosch’s prototype has exemplars with a varying degree of prototypicality. Intuitively, pigeon or chicken is closer to the prototype of bird than penguin and ostrich.

Appropriating the idea of prototype, Hsieh (1996) proposes an “optimal type” referring to a set formed by merging together all features that are ever present in individuals of a category, including its most prototypical exemplar and its less prototypical exemplars. Given the above, the optimal type of a scene disregards the

saliency of features and focuses instead on the comprehensiveness of the artificial collection of features. An optimal type is thus a construal that embraces all features and properties of a certain category. An optimal linguistic expression thus amounts to a descriptive panorama and hence bears the maximum comprehensiveness of a scene disclosed by the current expression. Appropriating Rosch's notion of "exemplar", we can say that, for one single scene, specific translation-equivalent expressions in various languages may be considered as exemplars based on the same universal optimal type.

Investigations of the linguistic optimal and its exemplars appear briefly in Wang (1998). I reiterate it here but in an expanded form for a more comprehensive illustration. Ideally, a putative optimal type can be artificially constructed by comparing translation-equivalent expressions in languages all over the world. The specific expression of a scene in a certain language is an imagery exemplar, consisting of many imagery units, and is of a varied degree of optimality. Here I will illustrate the construction of optimal type of a scene with a simple formula. Suppose, for an identical scene, there are two or more translation-equivalent expressions, $e(A)$ ¹, $e(B)$, ..., and $e(N)$ in languages A, B, ..., and N. The different facets of these expressions can be discerned by features $\{a_1, a_2, \dots, a_k\}$ in $e(A)$, $\{b_1, b_2, \dots, b_k\}$ in $e(B)$, ..., and $\{n_1, n_2, \dots, n_k\}$ in $e(N)$, respectively. By collecting all features of these languages concerning the expressions of this scene, we obtain the optimal type $O-e(A, B, \dots, N) = \{a_1, a_2, \dots, a_k; b_1, b_2, \dots, b_k; \dots; n_1, n_2, \dots, n_k\}$, and merge the overlapped features within the set O-e. For example, in a set of sentences in Mandarin (1), Japanese (2), and English (3):

- (1) 畫 從 牆 上 掉 下 來。
 huà cóng qiáng shang diào xià lai.
 painting from wall on fall down come

‘The painting fell off the wall.’

(2) E ga kabe kara ochi mashita.

painting *ga* wall from fall *past*

‘The painting fell off the wall’.

(3) The painting fell off the wall.

(1), (2), and (3) are each adapted or tailored from the full optimal scene based on these three languages, which denotes a cluster of images or events (k) a painting (a) ‘from (the wall)’, (b) ‘off (the wall)’, (c) ‘fall’, (d) ‘down (to the ground)’, and (e) ‘come (toward the direction of the reference)’², and maybe also (f) “be on the ground”. To express the desired configuration of meaningful elements in the Mandarin expression, Chinese selects from cluster (k), forming the image cluster (i) while emphasizing the facets of (a), (c), (d), and (e). Japanese selects (a) and (c) from cluster (k), forming the image cluster (ii). English instead chooses (b) and (c) from cluster (k), forming the image cluster (iii). Notice that none of these three languages selects image (f). We therefore obtain the optimal type that is constructed artificially for Mandarin, Japanese, and English: $O-e(C, J, E) = \{\text{from, fall, down, come; from, fall; off, fall}\}$, where “from”, “fall”, “down”, “come” are features in $e(C)$, “from” and “fall” are features in $e(J)$, and “off” and “fall” are features in $e(E)$, respectively. By merging the identical elements “from” and “fall” in the set $O-e(C, J, E)$, we obtain for Mandarin Chinese, Japanese, and English an optimal type for the scene in which a painting fell off the wall, i.e. cluster (k). Consequently, image clusters (i), (ii), and (iii) are three different exemplars of this optional type in the three languages. We illustrate this optimal type and its three language specific exemplars in Table 2.1.

Language	Cluster	(a) from	(b) off	(c) fall	(d) down	(e) come (/direction)	(f) on the ground
Mandarin	(i)	+		+	+	+	
Japanese	(ii)			+		+	
English	(iii)		+	+			

Table 2.1. The Contrast of Clusters (i), (ii), and (iii).

We can see that cluster (i) is more comprehensive than cluster (ii) and cluster (iii) because it depicts more facets or images or events, and thus more complexities about the scene than the other two exemplars. Whereas (ii) and (iii) bear their own emphases, with (ii) focusing on the source of the movement “fall”, and (iii) on the action of separation, “off”, before the event “fall” takes place.

2.1.3 ISr and Optimal Type

In CCG, an ISr is postulated to be cognitively motivated, and therefore is the closest to the conceptualization of human language. An ISr thus details the physical or psychological content of a scene exhaustively and precisely. It is most meaning-related, and therefore, it is the “highest” or “deepest” level of representation in the grammar. ISr represents the universal cognition of human beings from various perspectives and can therefore be regarded as an optimal expression. As I have illustrated above, ensured by translation equivalence, the optimal type O-e(C, J, E) has cluster (k) as the universal ISr of Mandarin, Japanese, and English, concerning the scene that depicts a painting’s falling off the wall.

As a synthetic construction, the ISr of an optimal type concerning a scene is an encyclopedia entry that ideally assembles the exhaustive conceptualizations in human languages. Such an ideal universal collection can be put to great use by relativism, which

helps to explain why languages vary in restricted ways according to an obvious universal tendency. What we potentially have is an ideal optimal type, but what we obtain are always exemplars in specific language. The optimal ISrr are seldom found in specific languages. Therefore, we have to create them.

2.2 Events Decomposition and SSrr

According to cognitive linguists, a scene usually corresponds to a cluster of events, and is normally expressed selectively in a language. An expression is simple if a scene is simple, i.e., a single event, and complex if a scene is relatively complex, i.e., more than one single event. Events in an expression are thus observable when we decompose a scene into its segments.

2.2.1 Decomposibility of Events, and Image Gestalt

Cognitive grammarians take the view that an expression of an image is decomposable into smaller units of individual events. A single event may be represented by a verb or verb-like word (hereafter we use the term 'generalized-verb', or g-verb, including verbs, adjectives, adverbs, and prepositions) in the grammar of a language. A complex event is composed of two or more single events. An event, whether simple or complex, instead of being a massive chunk from a scene, is thus a cluster of smaller images, which are gestalts. In the ICMs of Lakoff (1987), an individual event is the semantic entity corresponding to a simple verb (or verb-like word) in a language. Even the meaning of a single verb has structure and its meanings can be detailed in a series of imagery identifiable on time scale. For instance, Langacker (1987: 278-298) illustrates

that the meaning of an established expression can be viewed as a network of interrelated imagery frames. Further, Croft (1990), Talmy (2000) and others show clearly that the structure of events in the world is a vast causal network, and that human beings must break down the network in some way for apprehension. Similarly, Rappaport and Levin (1988) suggest a lexical-semantic representation of a sentence be a decomposed predicate, which is composed of g-verbs). This is the view that may overcome the deficiencies of the syntactic representations of an event.

The advantages of viewing an event of a scene in terms of decomposable potentials are thus at least twofold. First, it enables us to observe an image gestalt for its details inherited in different event types, and the correlation of image components, and therefore, to discern the different levels of precision in conceptualization of languages. Second, this observation can be advanced by our investigations of the configuration of these components and their relevance to one another. The first perspective of advantage enables us to delve into the cognitive essence of the linguistic expressions, especially catching the semantic nuances existing in the meanings of verbs. The second advantage equips us with explicit language forms with the semantic richness of their components. The integration of these two is, at least as it seems to me, the right way of language survey, especially for sentence patterns with complex images, such as RVCs, verbal series, 把 *bǎ* and 被 *bèi* structures, etc., in Mandarin.

Therefore, when we examine expressions with single verb or verb series, we may decompose expressions or predicates into segments in terms of event units. I accordingly view the meaning of an image gestalt as a given of a composite structure. As mentioned above, a single verb denotes an event reflecting a part of a process (of actions) or state.

And that certain part is thus an aspect in a continuum of events. Following this suggestion, I construe every aspect in a simple event containing a syntactic representation, a verb, which is represented as an SSr in CCG. In the analysis of the optimal type O-e(C, J, E) for expression (3), each feature (i.e., features (a) through (e)) of the cluster (k) is an individual SSr. An SSr is thus an image in which a verb functions as its core, or mainstay. An optimal type, in another sense, is a collection of translation-equivalent SSrr from all expressions in all languages. To be more accurate, each decomposed element is an image gestalt, also an SSr in CCG, and the whole cluster, either (i), (ii), or (iii), is the composite structure SSrr for Chinese, Japanese, and English, respectively. Cluster (k) is thus the ISr for the scene “The painting fell off the wall” for these three languages.

2.2.2 Basics of SSrr

Since ISrr are motivated by pure cognitive forces, and CSrr are constrained mainly by formal forces, the level of SSrr is postulated to be a bridge between the cognitive layer most closely associated with meaning, and the compositional layer most closely associated with form. This connection enables the theory of CCG to accommodate, and hence to balance the cognitive content and symbolic forms of an expression. SSrr are composed by individual SSr. An SSr is in meaning a simple event, which is also a single facet of the imagery continuum. In form, an SSr is an action (AC). An AC is therefore compositionally generated in form and cognitive motivated in meaning. It can be either simple (s-AC) or complex (c-AC). The origin of an s-AC is one of the 28 Action Frames (ACFs), which are classified and labeled in the brackets “<n>” in Table 2.2 (adopted from Hsieh 1999).

	<I, <A, R>>				<I, <A, R>>			<I, <A, R>>				
SAC	<1>	x_i	FV	y_j	<10>	x_l	HV	y_j	<19>	x_i	GV	y_j
	<2>	x_i	FV	0	<11>	x_l	HV	0	<20>	x_i	GV	0
	<3>	0	FV	y_j	<12>	0	HV	y_j	<21>	0	GV	y_j
	<4>	0	FV	0	<13>	0	HV	0	<22>	0	GV	0
RAC	<5>	h	FV	y_j	<14>	h	HV	y_j	<23>	h	GV	y_j
	<6>	h	FV	0	<15>	h	HV	0	<24>	h	GV	0
	<7>	x_i	FV	k	<16>	x_l	HV	k	<25>	x_i	GV	k
	<8>	0	FV	k	<17>	0	HV	k	<26>	0	GV	k
	<27>	x_i	k	0								
WAC	<9>	h	FV	k	<18>	h	HV	k	<28>	h	GV	k
	FAC				HAC			GAC				

Table 2.2. Classification of Action Frames (ACFs).

Now let me explain Table 2.2 in detail. These 28 ACFs are like simple image patterns expressed in abstract forms. Each of the 28 ACFs represents an s-AC. A c-AC is composed of s-ACs, that is, a more complex AC can be composed of several less complex ACs. Composition may be repeated in a binary way to form a more complex AC. An s-AC has a “semantic” subject, a “semantic” verb, and a “semantic” object, which is called Initiator (I), Act (A), and Receiver (R), respectively. As commonly recognized by linguists, the semantic relation between a verb and an object is closer than that between a subject and a verb. Hence the A and R compose together into the Complex Act (A') as a semantic predicate. The A' composes with the Initiator (I) into an AC as a semantic sentence, which is a single SSr. An AC has the structure AC = <Initiator, Complex Act = <Act, Receiver>>, or in abbreviation, AC = <I, A' = <A, R>>, or more abbreviated, AC = <I, <A, R>>, as its linearly reduced form or linear representation, whose fully-expanded form would be a binary tree. Figure 2.1 (next page) shows straightforwardly the tree of a single SSr for the Mandarin sentence (4) 張三喝水 *Zhāng Sān hē shuǐ* 'Zhang San drinks water'.

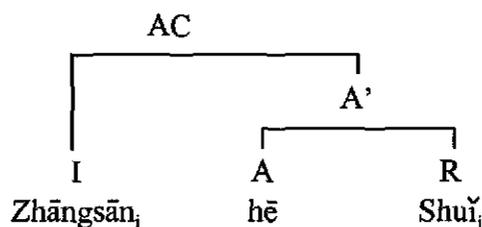


Figure 2.1: A Binary Tree of an s-AC for Sentence (4).

The SSr of sentence (4) matches ACF <1> of the 28 ACFs in Table 2.1. An ACF <m> in general yields a Particularized Action Frame (PACF), also written <m>, based on a specifically chosen Abstract Verb (AV). An AV fits the A position of the Act in an SSr and it anticipates in the CSr a g-verb. An AV anticipating a verb or adjective is categorized as a Full Verb (FV). An AVs anticipating a preposition, a conjunction, an adverb, an auxiliary, an aspect, a tense, or a negation is categorized as a Half Verb (HV). AV anticipating a demonstrative, a determiner or a grammatical particle is a Grammatical Verb (GV). Correspondingly, an AC with an FV is an FAC, one with an HV is an HAC, and one with a GV is a GAC. FAC, HAC, and GAC are categories of α type, the verbal-based action type. The Act in sentence (4) is thus an FAC because the A, 喝 *hē* ‘to drink’, is an FV.

Each SSr containing an AC is an individual imagery unit. When two or more SSrr combine to form a more elaborate expression, there exists a “grammatical valence relation” in Langacker’s (1987: 277) terms, and components in this composite structure need to be identified. In CCG, Initiator (I) and Receiver (R) are determinants of the nominal type of SSrr, β type, dependent upon the status of I or R. I or R in an s-AC, such as *Zhāngsān* (x_i) and *shuǐ* (y_j) in Figure 2.1, is indexed by variables x_i or y_j , in order to have an identical referee when composing with other s-ACs into c-AC. An AC with an

indexed I or R or both is called a Solitary Action (SAC). The SSr for sentence (4) is an SAC, because there is an I and R individually indexed. I or R can also be simple constant h or k as an embedding site for another AC. An AC with a constant h or k is a Receptive Action (RAC), because it contains a constant as an embedding site. The constant can be simple, as the SSr of sentence (5) 張三說他喜歡李四 *Zhāng Sān shuō tā xǐhuān Lǐ Sì* ‘Zhang San said that he likes Li Si’, shown in Figure 2.2, illustrates:

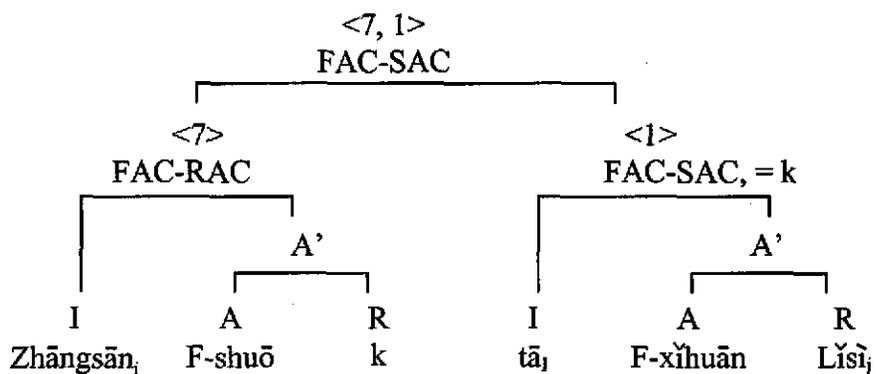


Figure 2.2. SSr for (5).

The s-AC <1> <tā, <xǐhuān, Lǐsì>> ‘he likes Lisi’ is marked ‘=k’ to indicate that it is the same event as referred to by the simple constant k in the s-AC <5> <Zhāng Sān, <shuō, k>> ‘Zhangsan said (that)’. Similarly, I or R can also be represented by complex constant f(h), f(k), etc., for adverbials and other types of modifiers. Sentence (6) 張三很高興 *Zhāngsān hěn gāoxìng* ‘Zhangsan is very happy’ is composed of two ACs. The first AC is 張三高興 *Zhāngsān gāoxìng* ‘Zhangsan (being) happy’. This event functions as the I(nitiator) of the more complex event <Zhāngsān gāoxìng, <hěn, 0>>, denoting that the event of Zhangsan’s being happy initiates another event that can be depicted by the Act of 很 *hěn* ‘very’, which functions semantically as a statement talking about the ‘T’. In SSr for (6) (Figure 2.3, next page), f(h) has the shape ‘degree (h)’,

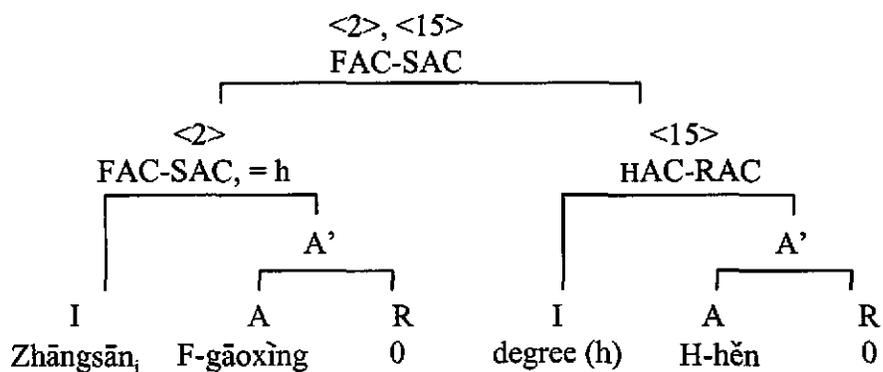


Figure 2.3. SSr for (6).

since ‘h-hěn’ describes the degree of Zhangsan’s being happy. As said, an AC with one constant, either simple or complex, is a Receptive Action (RAC), such as <7> in sentence (5) and <15> in sentence (6). An AC with two constants is a Warm Action (WAC). For example, in sentence (7) 你買的等于我買的 *Nǐ mǎi de děngyú wǒ mǎi de* ‘what you bought is (the same as) what I bought’, 你買的 *nǐ mǎi de* ‘what you bought’ is an embedded AC functioning as the I, and, similarly, 我買的 *wǒ mǎi de* ‘what I bought’ is another embedded AC functioning as the R. Both are complex constants, and both are based on the number of zero, one, or two constants. SAC, RAC, and WAC are three categories of β type.

Each SSr is a composite type α - β . The composite type in (4) is FAC-SAC since there is no constant in this AC. The composite type in <7> of (5) is FAC-RAC and HAC-RAC in <15> of (6) since they both contain one constant. The composite type α - β of a c-AC in an SSr is determined by computing. The α - β types of its computing s-AC or c-AC. Thus in SSr (5), FAC-RAC <7> and FAC-SAC <1> compute in <7, 1> FAC-SAC. The symbol <7, 1> is the result of composing <7> and <1> into a pair <<7>, <1>>, shortened as <7, 1>. The type FAC-SAC is obtained by first computing FAC in

<7> and FAC in <1> to obtain FAC, and then by computing RAC in <7> and SAC in <1> to obtain SAC.

2.3 Organization of Imagery Units

At the beginning of this chapter, I have briefly mentioned that cognitive grammarians primarily study images and their organizations. A scene of an event is a continuum of imagery units. Thus, expressions for images in a language are organized to reflect the continuum of images in the objective world. Talmy (1985) has observed that separable and isolated semantic elements in an expression, such as ACs and their components in terms of CCG, may be represented by corresponding forms according to specific patterns, such as SSrr in specific languages. I have shown in above that SSrr in CCG can be analogized as representations of individual imagery units. I hereby present a few organizing principles about the forming of images that are pertinent to the following study.

2.3.1 Organizing Principles

2.3.1.1 Principle of Temporal Sequence

Abundantly supported by a large array of syntactic phenomena in Mandarin, Tai's (1985) well-known Principle of Temporal Sequence (PTS) is defined with a conceptual basis: "the relative word order between two syntactic units is determined by the temporal order of the states which they represent in the conceptual world" (p.50). With this principle, Tai suggests that Mandarin "takes the verb as the central reference point and orders elements semantically connected with it according to temporal sequence" (p.64).

This principle provides a valid reason for many Chinese syntactic phenomena concerning the relative orders of the components of an expression.

A few examples will suffice at present to explicate Tai's claim. In sentence (8) 我吃饱了 *wǒ chī bǎo le* 'I am full (by eating)' there are two main images, or two ACs are arranged in temporal sequence, when we analyze this sentence into two subparts. The first event is 我吃 *wǒ chī* 'I eat' and the second is 我饱 *wǒ bǎo* 'I am full'. In the expression in sentence (8), the event AC = $\langle wǒ, \langle chī, 0 \rangle \rangle$ precedes the event AC = $\langle wǒ, \langle bǎo, 0 \rangle \rangle$ in the linear relation, as it plausibly is in the objective world. Their relative order cannot be reversed, since arguably, the image $\langle wǒ, \langle bǎo, 0 \rangle \rangle$ always follows the image $\langle wǒ, \langle chī, 0 \rangle \rangle$ in real world experience.

As an iconically motivated principle that proves that the language structure corresponds to our conceptual structure of the external world, PTS is used to account for the natural array of an event series that occurs in a sequential time. This principle holds especially true in accounting for a series of linguistic phenomena in Mandarin about the internal relative order among components. We apply PTS as one of the main principles for the organizations of SSr because this principle makes use of an iconic motivation for syntactic representations (see also Hsieh 1989).

2.3.1.2 Causal relation

Somewhat similar to Tai's PTS is the causal chain suggested by Croft (1990, 1991), who suggests that events are related as "cause" and "result", naturally connected on a time scale. Making use of semantic decomposition, Croft argues that an event in a sentence, no matter whether simple or complex, can be segmented into a chain of sub-events, which are linked by causal correlation. Thus we can see that the concept of

causal chain is very useful for semantic decomposition. Croft also proposes four criteria as a step to an “Idealized Cognitive Model”, including: causal type, inherent aspectual type, transmission of force, and qualitative semantic difference. In this semantic framework of causal chain, Croft defines four basic and another nine oblique thematic roles, among which “cause” and “result” are two event roles denoted by main verbs.

Let me illustrate Croft’s ideas by using two of his examples in terms of CCG. In sentence (9) 我用石頭打破了玻璃 *wǒ yòng shítou dǎ pò le bōli* ‘I broke the glass with a rock’, there is a series of smaller events. The first event is AC <10> = <*wǒ*, <*yòng*, *shítou*>>, the second is AC <1> = <I³, <*dǎ*, *bōli*>>, the third is AC <3> = <0, <*pò*, *bōli*>>, and some may agree that there is the fourth event AC <2> = <*bōli*, <*pò*, 0>>⁴. In the causal network, the participants 我 *wǒ* ‘I’, 石頭 *shítou* ‘stone’, and 玻璃 *bōli* ‘glass’ with their correlation with the event segment is diagrammed by Croft as Figure 2.4:

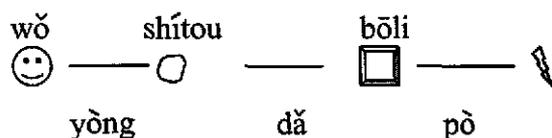


Figure 2.4. Linear Sequence of Participants and Events in (9).

According to Croft, an ordering is imposed on the participant, who acts as a causer or causee in the causal chain of events. In Figure 2.4, the causer 我 *wǒ* ‘I’ precedes the instrument 石頭 *shítou* ‘stone’, which in turn as a causer precedes the causee 玻璃 *bōli* ‘glass’ in the sub-event of AC <1> = <I, <*dǎ*, *bōli*>>. These four temporally and causally sequenced events are closely connected with the participants and completely copy the order of the objective world. That is, the volitional causer 我 *wǒ* has to initiate the event 用 *yòng*, in which 石頭 *shítou* is another participant that is involved. Further, 石頭 *shítou*

is the initiator of a following event 打 *dǎ*, in which the action 打 *dǎ* affects the causee 玻璃 *bōli* directly. And, in the event caused by the preceding event 打 *dǎ*, 玻璃 *bōli* must be presupposed before the action and the state of *pò*. Comparing (9) with its English translation-equivalence of sentence (10) ‘I broke the glass with a rock’, we can see that the Mandarin sentence evidences more about the hypothesis of the causal chain and PTS.

Holding a similar belief to Croft, Talmy (2000: 409-549) is the first to recognize “force dynamics” in analyzing “causing” and “effect” in a very fine-grained framework. “Force dynamics” is a generalization over the notion of “causative” for both prototypical and non-prototypical causing, and the former is more relevant to our study of RVCs. In Talmy’s study, force dynamics in various causative situations plays an important role of structuring, and this role goes across a range of language levels. Various patterns of force dynamics illustrated by Talmy shows that the fundamental system of notion can structure conceptualization which pertains to force interactions, and these interactions can be generalized over “causative”. In Talmy’s causal representation, causal relations are individuals acting on individuals, with some notion of transmission of force determining the causal order of the causal chain. For different participants involved in causative situations, Talmy illustrates that they may be forces from physical, psychological, or sociological perspectives. His original analyses help us observe various interrelated factors and their metaphoric extensions in the linking of conceptual and syntactic language forms.

2.3.1.3 Salience Principle and Principle of Information Center

Less emphasized than his PTS, Tai’s Salience Principle (SP) and Principle of Information Center (PIC) (1989) are proposed to supplement his PTS. SP is defined on

the notion of focus, which involves the packaging of information based on the attitude of the speaker. Examples (11) and (12) are adopted from Tai:

(11) 我 病 了, 沒 去 開 會.
wǒ bìng le, méi qù kāi huì.
I sick *asp* not go attend meeting
'I was sick and (therefore) didn't attend the meeting.'

(12) 我 沒 去 開 會, 因 爲 我 病 了.
wǒ méi qù kāi huì, yīnwèi wǒ bìng le.
I not go attend meeting because I sick *asp*
'I didn't attend the meeting, because I was sick.'

Contrary to (11), which follows the natural order with the reason ahead of the consequence, (12) takes the salient order with the consequence before the reason. PIC is defined, independent of the speaker's attitude, on the notion of information center, which is pragmatically structured. Sentences (13) and (14) illustrate the different information centers.

(13) 我 想 讓 他 不 高 興.
wǒ xiǎng ràng tā bù gāoxìng.
I want make him not happy
'I want to make him unhappy.'

(14) 我 不 想 讓 他 高 興.
wǒ bù xiǎng ràng tā gāoxìng.
I not want make him happy
'I don't want to make him (feel) happy.'

In sentence (13), 不 *bù*, which is before 高興 *gāoxìng*, directs the scope of negation centering on 高興 *gāoxìng* "happy". Contrastively, in sentence (14), 不 *bù* is before 想 *xiǎng* "want" and thus directs the scope of negation centering on 想 *xiǎng*.

Moreover, an extended principle of PIC states that “the given (information) is ordered before the new (information)” (Tai 1989: 211). This observation not only covers an important fact in word order in Chinese, but also helps us account for relative positions of arguments and verbs or complements in RVCs when we employ SSrr to represent these positions.

All of the above principles, i.e., PTS, Causal Relation, SP, and PIC, account for the organization of language elements and they are shown to be very useful to studying Mandarin syntax. A particular syntactic structure may exhibit more than one principle. For example, sentences (8) and (9) can be interpreted in both PTS and the idea of causal chain. Sentence (9) can also be construed as an organization following Talmy’s “force dynamics” because it contains the process of force transmission. Besides following PIC, sentence (9) is also organized by PTS. In short, the connection of individual components in an event series may be the result of interplay of various forces, which may either be temporal, causative, or related to saliency.

2.3.2 Organization of SSrr

Individual components of an event are thus connected, following one or more principles introduced above. SSrr in CCG may be organized in accordance with any principle that applies. Each individual SSr is a full image which contains event segments that are causally connected. And in each event, i.e., an SSr, there are shared gestalts in different ACs. These shared gestalts may be indexed variables, “T”s or “R”s, in one SSr or more SSrr. When the individual SSrr are connected, these co-indexed noun-phrases (NPs) are combined, in a binary way, and then transformed into the appropriate number

of NPs in CSr. In the following, I try to show that the linear orders of language elements are decided by degrees of complexity through an operational process of “instantiation”, during which indexed variables are converted into appropriate NPs, whereas the composition of events are accomplished through a series of computations.

2.3.2.1 Instantiation

Instantiation is an important notion in CCG. As a key step in the process of converting an SSr into its corresponding CSr, the instantiation procedure turns each indexed variable w_k (or more precisely, w_α), which represents an I or R, into a properly placed co-indexed NP_k (or more precisely, NP_α) in the CSr. A w_k is written as x_k when it represents I, and y_k when it represents R. The rule of instantiation applies cyclically from the lowest complexity-degree AC all the way up to the highest complexity-degree AC in an SSr. The cyclical application is dependent upon the notion of Minimal Domains. The Minimal Domain of occurrence for w_k is the smallest tree within the SSr that contains all copies of w_k . Three cases are possible. A w_k can be (i) uniformly y_k such as y_j *Li Si* within ACF <1> in Figure 2.5, being re-cited and revised by showing NP_j instantiating y_j .

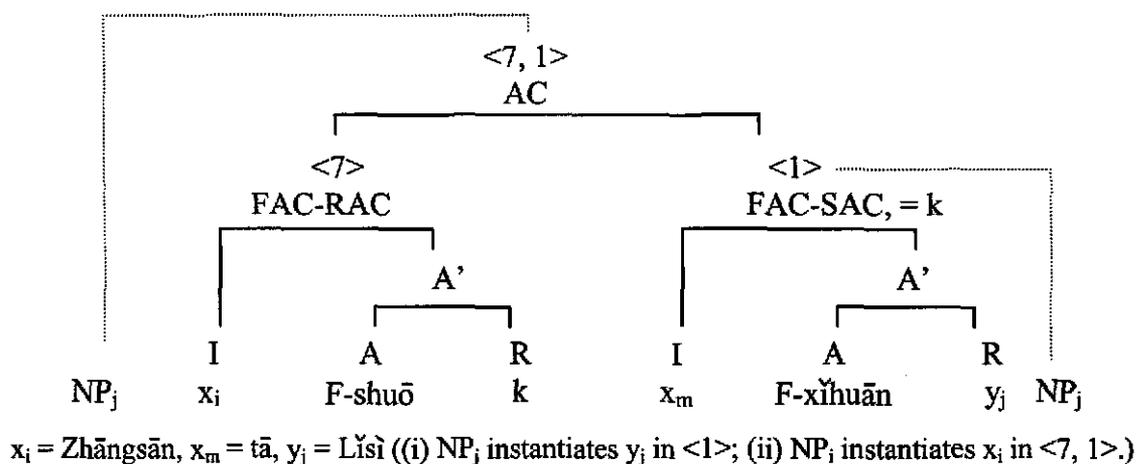


Figure 2.5. Instantiation for Sentence (5).

for details). The SSr in Figure 2.6 will yield a derived CSr in Figure 2.7, after instantiation and other relevant operations have applied. The rule of Head Projection for all categories is simply x^k (Head)/ y^k (Modifier) $\rightarrow x^{k+1}$, where the slash “/” indicates either order between x^k and y^k . This Head Projection is ultimately based on the x-bar theory in GB (Jackendoff 1977). By Head Projection, the entire sentence ‘ $V^4 = S$ ’

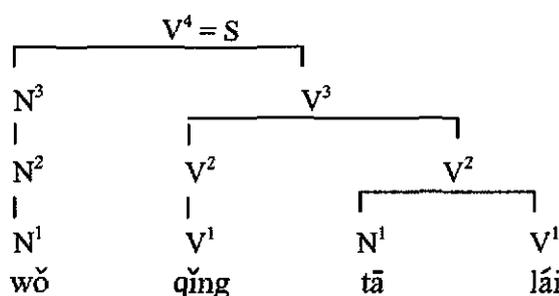


Figure 2.7. CSr for (15).

derives its degree-4 verb category from the degree-1 verb category 來 *lái*, which composes with a degree-1 noun, N^1 - 他 *tā*, into V^2 . Degree-1 verb *qǐng* is raised to degree-2 so that it can compose with the degree-2 verb, V^2 , into V^3 . The noun *wǒ* is similarly raised from a degree-1 N^1 to a degree-2 N^2 and to a degree-3 N^3 so as to compose with degree-3 verb V^3 into V^4 .

2.3.2.2 Computations

Invariably, a sentence is an SSr, composed of either simple or complex images. I have in the above shown that each SSr corresponds to a simple AC, and that a complex AC is the binary composition of two less complex ACs, based on a set of stipulation rules. The rules for the computation of the α -type for an AC are listed in Table 2.3, and the rules for the computation of the β -type for an AC are in Table 2.4, both of which (on

next page) are taken from Hsieh (2000). The α -type is based on the type of the verb, and the β -type is based on the type of the nouns.

Each element within an s-AC is specified with regard to its primary ranking or status as ‘primary’ (‘p’) or ‘secondary’ (‘s’) relative to its co-composing element. By stipulation, which is based on a traditional notion about language structure⁵, we have s-AC = <I(s), A’(p) = <A(p), R(s)>>. Within a c-AC, the ‘p’ or ‘s’ status of any AC is

	FAC	HAC	GAC
FAC	(i) FAC	(ii) FAC	(iii) (a) FAC, if GAC is an SAC (b) GAC, if GAC is an RAC or WAC
HAC		(iv) HAC	(v) (a) HAC, if GAC is an SAC (b) GAC, if GAC is an RAC or WAC
GAC			(iv) GAC

Table 2.3. Computation of α -types.

	SAC	RAC	WAC
SAC	(i) SAC	(ii) SAC	(iii) RAC
RAC		(iv) RAC/WAC	(v) RAC/WAC
WAC			(iv) RAC/WAC

Table 2.4. Computation of β -types.

obtained through computation based on the ‘p’ and ‘s’ status of its own composing ACs, which may each be simple or complex. The primacy degrees are listed in Table 2.5 for α -types, and in Table 2.6 for β -types, based on the fullness hierarchy of ACs which is: FAC > HAC > GAC, and the solitariness hierarchy of ACs, which is SAC > RAC > WAC.

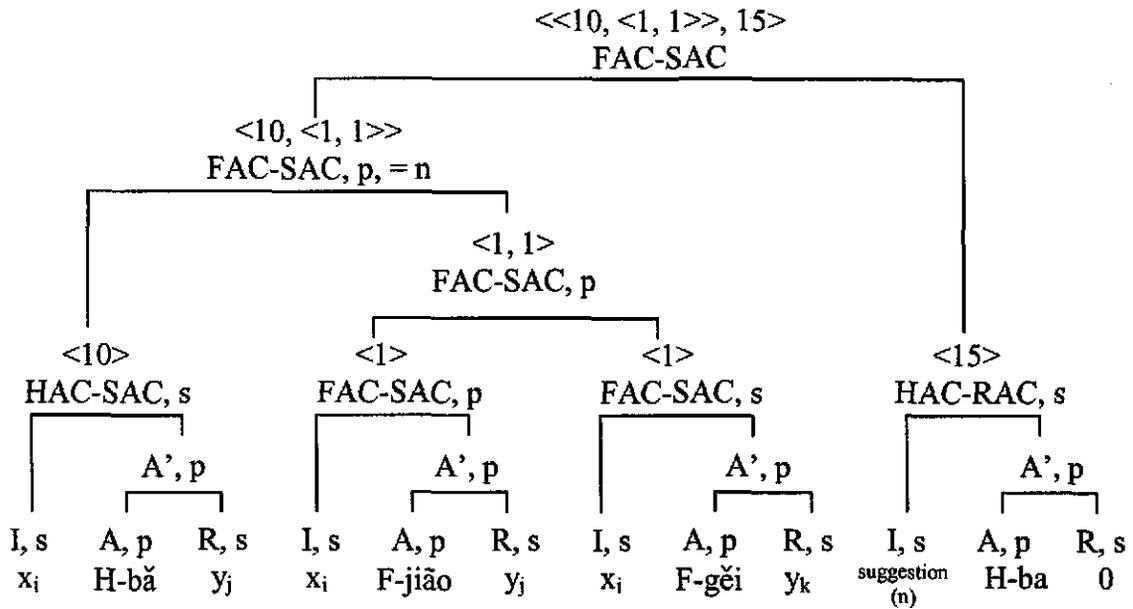
	FAC	HAC	GAC
FAC	(i) <2,2>	(ii) <2,0>	(iii) <2,0>
HAC	(iv) <0,2>	(v) <2,2>	(vi) <2,0>
GAC	(vii) <0,2>	(viii) <0,2>	(ix) <2,2>

Table 2.5. Computation of the Primacy Degrees in α -types.

	SAC	RAC	WAC
SAC	(i) <1,1>	(ii) <0,1>	(iii) <0,1>
RAC	(iv) <1,0>	(v) <1,1>	(vi) <0,1>
WAC	(vii) <1,0>	(viii) <1,0>	(ix) <1,1>

Table 2.6. Computation of the Primacy Degrees in β -types.

To give an explicit idea about computations in an SSr, let me illustrate with sentence (16) 你把鑰匙給我吧 *nǐ bǎ yàoshi jiāo gěi wǒ ba*, ‘Please turn in the key to me’, in Figure 2.8.



(15) *nǐ* (= i) *bǎ* *yàoshi* (= j) *jiāo gěi wǒ* (= k) *ba*.

Figure 2.8. SSr for (16).

2.4 Other Useful Notions

In the above, I have sketched a full picture of the theory of CCG. In the next two chapters, I am going to explicate the two significant parts of my contribution to the structure of CCG: the aspectual categorization of Mandarin g-verb, and the composition

of thematic roles. But, as preliminaries, I need to discuss some useful notions that are frequently used by cognitive grammarians and pertinent to this study.

2.4.1 Image Windowing

As I stated in the earlier part of this chapter, the richness of the experienced world is impossible to be exhaustively encoded in our language. Only part of a scene may be structured as a linguistic expression representing that scene. Language as a window for the conceptualization of our experiences only frames a limited part of the whole scene and disregards or gaps others. What is put into the foreground of attention is prominently structured in language, and the remainder is de-emphasized as the background, or outright omitted. An event is sequential in nature, hence it may have either the initial, the medial, or the final, or any two or all three of them windowed. Talmy (2000: 271-279) has given a characterization of image windowing with illustrations. Here I take one of my previous examples to illustrate a windowing. Given the contrast provided by (17) *I broke the glass by hitting it with a rock*, the images in sentence (18) (labeled earlier as sentence (9)) are very illustrative of image windowing and gapping.

(18) 我 用 石 頭 打 破 了 玻 璃。
wǒ yòng shítou dǎ pò le bōli
I use stone hit break *asp* glass
'I broke the glass by hitting it with a rock.'

For many Mandarin speakers, (18) is clear enough for describing the whole event.

However, images (a) through (h) are the additional details that are not encoded in (18) but are nonetheless relevant: (a) 抓住一塊石頭 *zhuāzhu yíkuài shítou* 'grab a rock'; (b) 拿起來 *ná qǐlai* 'lift it up'; (c) 揚起手臂 *yáng qǐ shǒubèi* 'swing (it) (with my) arm'; (d) 把

石頭扔出去 *bǎ shítou rēng chūqu* ‘propel the rock’; (e) 石頭飛向玻璃 *shítou fēi xiàng bōli* ‘the rock moves toward the glass’; (f) 石頭擊中玻璃 *shítou jī zhòng bōli* ‘the rock hit the glass’; (g) 玻璃破裂 *bōli pòliè* ‘the glass cracked’; (h) 玻璃破了 *bōli pò le* ‘the glass is broken’. Aside from these, there might even be other fine details, such as those disregarded intervals in the process of the rock moving toward the glass. However, Mandarin sentence (17) only windows the agent 我 *wǒ* ‘I’ who initiates an action, the causative entity (or, the instrument) 石頭 *shítou* ‘the rock’, the hitting image (f), and the resulting subevent images (g) and (h), while the first few images (a) through (e) are gapped.

A windowed image depicts the parts of an image that are coded in a linguistic expression. Whatever is not windowed or gapped is not coded.

2.4.2 The Notions of Figure and Ground

The notions of figure and ground amount to semantic roles in describing events, temporal or atemporal. In Talmy’s (2000: 184) definition,

The Figure is a moving or conceptually movable entity whose site, path, or orientation is conceived as a variable the particular value of which is the relevant issue....

The Ground is a reference entity, one that has a stationary setting relative to a reference frame, with respect to which the Figure’s site, path, or orientation is characterized.

Figure and ground are thus a pair of co-existing notions. Let us consider examples (19) and (20), to see how the two notions apply:

- (19) 郵遞員 走 過 窗口。
yóudìyuán zǒu guò chuāngkǒu.
 postman walk past window

‘The postman walked past the window.’

(20) 籃子 里 放 了 蘋果.

lánzi li fāng le píngguo.

basket inside place *asp* apple

‘The basket contains apples.’

In (19) and (20), 郵遞員 *yóudìyuán* ‘postman’ and 蘋果 *píngguo* ‘apple’ are figures in (19) and (20) respectively, with the former physically moving and the latter mentally movable. In comparison, 窗口 *chuāngkǒu* ‘window’ and 籃子 *lánzi* ‘basket’ are ground, and indicate the references of the figures’ path or site, respectively.

Figure and ground form a pattern of focus. They are two cases in Fillmore’s (1968) Case Grammar, with figure corresponding to an ‘active’ case, while ground corresponds to an ‘inactive’ case. This pair of notions may also be compared to ‘trajector’ and ‘landmark’, respectively, in Langacker’s (1987) framework. A trajector is the entity that can be construed as the foreground figure in a motion event. A landmark is the background figure in the same motion event. I am adopting the notion landmark to contrast it to the notion reference because reference is used as a concept connected to temporal relations. Langacker’s path is another notion also relevant to motion. A path is the way on which a trajector moves toward the landmark.

2.4.3 The Notions of ‘Foreground’ and ‘Background’

Concerning the attentional system of human beings, what is given salience or prominence is considered a ‘foregrounded’ element, whereas what receives relatively less attention than the foregrounded reference is the ‘backgrounded’ element. Foregrounding and backgrounding are viable notions in explaining an event containing a series of sub-events. Normally, windowed images in an event series are foregrounded, such as the

images (f) through (h) in sentence (18), and the moving of the postman within the view framed by the window in (19). What is left in the background is considered less important concerning the description of the event and is normally gapped through the structuring of language. For example, subevents (a) through (e) in (18), the subevents before the postman enters the view framed by the window in (19) and the images before the apples were placed in the basket in (20).

The above three sets of notions in my discussion, i.e., image windowing, figure and ground, and foregrounded and backgrounded, are interrelated to each other, and they allow us to get a handle on the depiction of various semantic properties concerning the aspectual details of event. I will make use of them in my discussion later.

In this chapter, I have presented a full view of CCG. We can see that this reconciling theory absorbs the quintessence of both functionalism (through the components of ISrr and SSrr) and formalism (through the components of SSrr and CSrr). I aim at a more sharply focused study of SSrr and a study of the transformation from SSrr to TSrr in the next two chapters. In doing so, I hope to obtain a better understanding of how events are partly characterized by their internal aspects.

Notes

¹ Again, there would be $e(A_1)$ and $e(A_2)$, etc., if there is more than one equivalent expression within one language.

² “Come” in general indicates the direction toward the reference. The reference is normally defaulted as the speaker if not specified. Related to the optimal scene of “The

painting fell off the wall”, the painting was on the wall before it fell, and it is generally in a position higher than the speaker (or the speaker’s eye, which is the vision line). When it falls, it moves toward the lower position and thus can be construed as using “come”, which generally denotes a direction toward the reference, and therefore, the speaker, if not specifically marked.

³ The “I(nitiator)” is placed here instead of a specific noun because it may either be 我 *wǒ* ‘I’ or 石頭 *shítou* ‘stone’, the latter of which is actually the one that hits the 玻璃 *bōli* ‘glass’. See also the latter part of the paragraph for detailed interpretation.

⁴ The last sub-event is the same as the event in the sentence 杯子是破的 *bēizi shì pò de* ‘The cup is broken.’

⁵ It is broadly recognized that a verb is the head of a VO structure semantically. While a predicate, normally composed of a single verb or VO structure is the head of a sentence semantically.

CHAPTER 3

EVENT TYPES AND THEIR COMPOSITIONS

This chapter will define RVCs in term of Aspectual Composition. The analysis is presented in the form of a step-by-step buildup in accordance with our basic assumptions that simple semantic elements combine into complex configurations and that lexical elements comprise compounds having complex configurations. In particular, Section 3.1 sketches the essential structure of event in terms of aspect, and broadly reviews studies of verbs in an event, with a focus on Mandarin verbs. Section 3.2 categorizes six basic aspectual types of event that are conceptualized in Mandarin verbs, and further categorizes commonly used Mandarin verbs based on these six basic types. Section 3.3 presents compositions of the six aspectual types and the computation for these aspectual types. Section 3.4 applies the research results in the preceding sections to an analysis of RVCs, aiming for a more systematic methodology than previous approaches.

3.1 Viewing Verbs in Terms of Aspect

As mentioned in Chapter 1, an RVC is commonly considered a composition of two verbs, which may be two verbs or adjectives, hence two generalized verbs (g-verbs). Thus our investigations of RVCs start from examining the characteristics of Mandarin g-verbs.

Cognitive grammarians consider verbs, or g-verbs, as encoding of events. It is thus meaningful to study characteristics of verbs by delving into the internal structure of events and studying the aspects in an event. After briefly introducing previous studies of

English verbs in terms of aspects, I review Tai's (1984) study of Chinese verbs in terms of Vendler's (1967) study based on English verbs. I will show that Tai's categorization sheds much light on subsequent studies (Szeto 1988, Smith 1990, He 1992, Guo 1993, among others). We also use Tai's insight as a guide to our current study of aspects of Mandarin verbs.

3.1.1 Studies of Event Structure and Event Aspect

Cognitive grammarians have been pointing out that an event in the external world is a structural network, where different verbs as conceptualizations of events represent various categorizations of events. Verb meanings, therefore, reflect internal structures of events. Aspect as an inherent property of an event refers to the internal temporal organization of an event. Aspects are encoded in each individual verb, and are considered as the determinant of grammatical behaviors of verbs. Moreover, as the internal elements, aspects interact with each other as well as with other elements in a sentence.

Vendler (1967) pioneers the study of aspects of English verbs, and he categorizes them into four types: Activity (ACT), Achievement (ACH), Accomplishment (ACP), and State (STA). These four categories are listed in terms of time schemata by Tai (1984: 289), and are restated as below:

ACT: Continuous tense with no set terminal point.

ACP: *Continuous tense with set terminal point.*

ACH: Lacking continuous tense, predicated only for single instants of time.

STA: Lacking continuous tense, predicated for a shorter or longer period of time.

Two phrases containing temporal differences "for (an hour)", and "in (an hour)", with the former extending tense continuously but the latter not, are used to test whether a verb is

of continuous temporal structure in the event it represents. It is discovered that this distinction is not quite pertinent to study of verbs in Mandarin, where tense is not marked by grammatical devices.

In the context of lexical decomposition and Montague Grammar, Dowty (1979) improves Vendler's classification with several important modifications. Dowty takes STA, e.g., *sing*, as the primitive. ACT is then derived by applying the operator "do" to STA. For example, *do (sing) → be singing*. Similarly, ACH is derived by applying "become" to STA. For instance, *become (not alive) → die*. ACP is derived by applying both "cause" and "become" to STA, e.g., *cause (become (open)) → to open*. In this way, individual verbs in the lexicon of a language would fall into a hierarchical system, where only STA verbs are the basics, while all other verbs are derived and thus secondary in the lexicon. It is particularly true for ACP, whose derivation is achieved through application of "cause" after the application of "become".

However, we can observe the defects of this approach once we employ this approach to Mandarin verbs. For instance, if we assume that Mandarin 開 *kāi* '(be) open' as a STA, we get an ACT 開開 *kāi kāi* 'to open' by applying "do". But 打開 *dǎ kāi*, commonly recognized as an RVC, would be construed as an ACH by a large number of Chinese linguists (Tai 1984, Szeto 1988, and He 1992, among others). In a similar way, if we apply both "cause" and "become" to 開 *kāi*, we would only get 打開 *dǎ kāi* 'to open', which is, instead of an ACP, still an ACH because it is an RVC.

Looking into the semantic features of verbs and their syntactic behavior, Teeny (1992) argues for a strong correlation that exists between aspectual properties of verbs and syntactic structures. The Aspectual Interface Hypothesis (AIH) she proposes asserts

the determinant aspects of a verb in the mapping of semantic and thematic characteristics to the syntactic structure. The AIH discerns that the direct internal argument of a verb of change may “measure out” over time the event described by the verb. Let us explain this by taking the pair of examples in Teeny (p. 7), we rename them as (1) and (2):

(1) Charles drank a mug of beer (??for an hour/in an hour).

(2) Charles drank beer (for an hour/*in an hour).

According to Teeny, “a mug of beer” in (1) delimits the event of “drink” because the amount of beer “a mug” as an affected argument changes as the event “drink” proceeds. Further, the event “drink” ends when the last drop of beer in the mug is consumed. In contrast, “beer” in (2) does not delimit the event of “drink” because “beer” as a general noun here is not an internal argument, and thus it does not measure out the event “drink” (i.e., its changing with time does not demarcate the end point of the event). By seeing the correlation between the argument and the syntactic behavior in verbs, Teeny’s insights shed much light on the issue of verb aspects from the perspective of correlation between verbs and its associated NPs.

Insightful as they are, these studies of verb aspects are primarily based on English and other languages with rich tense systems. Although they are attempts to disclose universal properties reflected in verbs, these approaches inevitably confront various degrees of difficulty when these approaches are applied to a language of divergent ontology, such as Mandarin. This can be observed in the non-conclusiveness of previous studies (Chu 1976; Teng 1979; 1986¹; Smith 1990; He 1992) and I will show some of the inadequate analyses as needs arise.

3.1.2 Studies of Event and Aspect in Chinese Verbs

In what follows, I am going to review studies of Mandarin verbs in light of earlier studies of English as well as Mandarin verbs.

3.1.2.1 Tai's Three Classes

Following Dowty's (1979) proposal for considering the whole predicate instead of the individual verb, Tai's (1984) observations of Mandarin verbs in terms of Vendler's categories are particularly appealing. He is one of the first scholars to note that Mandarin does not have the category of Vendler's ACH and ACP although it has the category of ACT. Instead, the English ACP is expressed in the form of an RVC in Mandarin. Further, ACP in English and RVC in Mandarin differ fundamentally in that the former contains both action and result aspects, whereas the latter contains only the result aspect. This difference may be observed, in a progressive-tense sentence, by using a pair of translation-equivalent verbs in these two languages. To illustrate this, consider English sentence (3) and Mandarin sentence (4).

(3) I am learning singing.

(4) *我在 學會 唱歌。
wǒ zài xué huì chàng gē
I in-process-of study capable-of sing song
'I am learning singing.'

(5) 我在 學 唱 歌。
wǒ zài xué chàng gē
I in-process-of study sing song
'I am studying singing.'

English sentence (3) containing an ACP "learn" can be associated with a progress tense whereas Mandarin sentence (4) containing the RVC 學會 *xué huì* 'study-capable of → learn' cannot. On the contrary, the verb in (5) 學 *xué* 'study' an ACT, instead of an

RVC, is compatible with 在 *zài*, a word denoting progress. Tai furthers his argument by English sentence (6), and Mandarin sentences (7) and (8) (pp. 292-293).

(6) John almost wrote a poem.

The scope ambiguity of (6) can be distinguished by the following two Mandarin sentences (7) and (8), respectively.

(7) 張 三 幾 乎 寫 了 一 首 詩。

Zhāng Sān jīhū xiě le yì shǒu shī

Zhang San almost write *asp* one MW poem

'Zhang San almost wrote a poem.'

(8) 張 三 幾 乎 寫 完 了 一 首 詩。

Zhāng Sān jīhū xiě wán le yì shǒu shī

Zhang San almost write finish *asp* one MW poem

'John almost finished (writing) a poem.'

The sentence (8) with RVC 寫完 *xiě wán* 'write-finish' has only the result reading.

Similar to the function of adverb 幾乎 *jīhū* in sentences (7) and (8), negative word also distinguishes the two interpretations embodied in the English sentence (9), as shown in Mandarin sentences (10) and (11) respectively, with the latter containing RVC 學會 *xué huì* 'study-know → learn'.

(9) John did not learn singing.

(10) 張 三 沒 學 唱 歌。

Zhāng Sān méi xué chàng gē

Zhang San not study sing song

'Zhangsan did not study singing.'

(11) 張 三 沒 學 會 唱 歌。

Zhāng Sān méi xué huì chàng gē

Zhang San not study know singing

‘Zhangsan did not learn singing.’

Similarly, Tai grasps the fact that many of Vendler’s ACHs are also realized in Mandarin as RVCs, and that semantically and syntactically the behavior of RVCs is similar that of ACPs. For example, “find” is an ACH, corresponding to Mandarin 找到 *zhǎo dào* ‘seek-reach → find’, an RVC; “see”, an ACH also, corresponds to Mandarin 看見 *kàn jiàn* ‘look at-view → see’, an RVC. Tai also observes that some English ACHs take the simple verb in Mandarin, and they must co-occur with the inchoative aspect marker 了 *le* ‘become’. Consider:

- (12) 他病 了。
tā bìng le
he sick *asp*
‘He got sick.’ or ‘He is sick.’

In sum, Tai asserts that, (i) Mandarin RVCs correspond to two categories of English verbs. One is English ACHs, such as 找到 *zhǎo dào* to “find”. The other is English ACP, such as 學會 *xué huì* to “learnable”; (ii) Mandarin single verbs, such as 死 *sǐ* ‘die, dead’, which correspond to English STA, are resultative simple verbs. Both RVCs and resultative simple verbs belong to the category of “result”, which has a definite time instant and has no continuous tense.

Tai pioneers the view that Chinese verbs are strikingly different from English verbs, especially as the two are contrasted as a pair of translation-equivalent sentences. Tai’s acumen catches the distinctive correspondence between English and Mandarin verbs in that the windowed images of event continua may be divergently encoded, despite the seemingly similar morphosyntactic forms. Tai shows that the two elements in an RVC belong to two distinct aspectual categories identified by Vendler, and that they

compose into another category in a predictable way. Hence an RVC is analytical, compositional, and computational in this sense.

More inspiringly, Tai's observation that English is agent-oriented but Mandarin is patient-oriented directs us to a view of Mandarin verbs, in which we do not simply copy categorizations in one language from a different language, as others are still doing later (Teng 1986, Smith 1990, etc.), but in which we consider the inherent properties of verbs in a particular language to set up verb categories for that language.

3.1.2.2 Szeto's Two-System Classification

Szeto's (1988) study of aspect and 'aktionsart'² of Chinese verbs merits special attention because it provides a much more comprehensive and coherent analysis compared with other works on a similar issue. In the following ways, Szeto has provided very revealing observations.

Firstly, Szeto contrasts the aspectual properties inherent in Mandarin verbs and English verbs, proposing a two-system classification of Chinese verbs. He points out the inherent flaws in applying Vendler's four-way classification of English verbs to the analysis of Chinese verbs, and suggests that the notion of the length of time, instead of just the notion time, is crucial to Vendler's classification. Szeto argues that, different from an event in English, which proceeds in time in a direction, and which is vector-like in nature, an event in Chinese is confined in a time sphere, which is scalarial in nature. Looking at it from another perspective, he contrasts English ACPs and Chinese RVCs. ACPs in English are based on the notion of change proceeding from beginning to completion, so that the 'action' progresses in a certain 'direction' toward the 'achievement' stage. The notion of change in Chinese RVCs, however, can only be

construed as extending in time, without a consistent direction in a time sphere, and the focus is placed on the resultative phase of an event. Szeto thus spells out Tai's original idea, explicating Tai's notion of a resultative stage in Mandarin RVCs. Szeto differs from Tai in affirming that two different phases exist in RVCs: a state and an end point.

Secondly, Szeto calls attention to the analytical nature of RVCs and thus advocates that the study of the semantic content and syntactic structure of a verbal compound should consider a compound as a composition that is more than the sum of its parts. Specifically, "the aspectual class that a phrase or a sentence belongs to is determined by the lexical aspectual class of its main verb and the compositional semantic rules that have applied in combining the NPs, adverbial, tenses, and other constituents involved in the whole sentence" (p. 86). The aspectual class of a sentence is thus a cluster of semantic features situated inside a time sphere.

Third, and fully in line with the above, Szeto argues that Mandarin RVCs do not constitute a homogeneous class. RVCs such as 踢死 *tī sǐ* 'kick die' are lexically derived and thus should be treated as single unit rather than a composition of two loosely-knit lexical items. For this kind of RVC, there is a causal relation between the first verb and the second verb, the latter of which retains its lexical meaning. By contrast, RVCs such as 洗完 *xǐ wán* 'wash-finish', 找到 *zhǎo dào* 'look-find' are grammaticalized compounds with the second verb adding a "telic" notion to the event. Therefore it "affects the intrinsic temporal nature of the situation and hence alters its 'aktionsart' (of this kind of RVC) from an 'unbounded' situation to a 'bounded' situation" (p. 182), in which the attainment of a goal is implied.

However, for the second type, i.e., grammaticalized RVCs, Szeto terms as “change of situations”. He does not explicate the distinctions among the three subtypes, nor the difference among the examples given in each subtype. For instance, it is reasonable in considering 愛上 *ài shàng* ‘fall in love’, 認出 *rèn chū* ‘make recognition-out/decipher’ as “change of states”. But for some other RVCs such as 恨透 *hèn tòu* ‘hate-(someone’s)-guts’, it is hard to distinguish different states, or to tell how states have changed, in its semantic contents. Let us look at some other examples. For Szeto, 死掉 *sǐ diào* ‘die-depart/off’, 丟掉 *diū diào* ‘lose-fall’, and 走掉 *zǒu diào* ‘go-away’ belong to the same subtype: change of punctual occurrences. But it is questionable if we should consider another RVC with -掉 *diào* such as 擦掉 *cā diào* ‘wipe-off’ as belonging to the same subtype. Consider sentence (13):

- (13) 襯衫 上 的 黑 點 擦 了 半 天 才 擦 掉。
 chènshān shàng de hēi diǎn cā le bàntiān cái cā diào
 shirt on of black dot wipe *asp* for-a-while not-until wipe depart
 ‘The black stain was not wiped off until I worked on it for quite a while.’

This example shows that the first verb 擦 *cā* ‘wipe’ bears completely different semantic properties from 擦 *sǐ* ‘die’ and 丟 *diū* ‘lose’, all of which are Szeto’s category of “punctual occurrences”. It is obvious that neither 死掉 *sǐ diào* nor 丟掉 *diū diào* may be used in similar sentence like (13).

- (14) *這 人 死 了 半 天 才 死 掉。
 zhè rén sǐ le bàntiān cái sǐ diào
 this person die *asp* for-a-while not-until die depart
 ?‘This man finally died after he tried for quite a while.’

- (15) *我的 錢包 丟 了 很 久 才 丟 掉。
 wǒde qiánbāo diū le hěn jiǔ cái diū diào
 my wallet lose *asp* very long not-until lose depart
 *‘My wallet was finally lost after (I had tried) for a long time.’

In contrast, both 死掉 *sǐ diào* and 丟掉 *diū diào* may be used with temporal phrases denoting time-point, such as sentences (16) and (17).

- (16) 病人 三 點 二十 死 掉 了。
 bìngrén sān diǎn èrshí sǐ diào le
 patient three o'clock twenty die depart *asp*
 ‘The patient died at 3:20.’

- (17) 我的 錢包 在 我 上 公 共 汽 車 時 丟 掉 了。
 wǒde qiánbāo zài wǒ shàng gōnggòngqìchē shí diū diào le
 my wallet at I get-on bus time lose depart *asp*
 ‘I lost my wallet when I got on the bus.’

But it is not natural if 擦掉 *cā diào* is used in similar case. Consider sentence (18).

- (18) ?襯衫 上 的 黑 點 三 點 擦 掉 了。
 chènshān shàng de hēi diǎn sān diǎn cā diào le
 shirt on of black dot three o'clock wipe depart *asp*
 ?‘The black stain on the shirt was wiped off at 3 o’clock.’

We can see that the first verb may enable an RVC to have different semantics and thus function differently. Thus in some of Szeto’s categorizations, the semantic and functional divergence of RVCs may be over-generalized or ignored.

Still, Szeto’s description of RVCs does bear insightful analogy to Tai’s observations, which are therefore comparatively sketchy. They both throw light on the semantic decompositionability of RVCs. As an improvement, Szeto has brought much prominence on the aspectual difference between the two kinds of RVCs, i.e., what he

terms as lexically and grammatically derived. I must also point out that Szeto's analysis remains unsatisfactory in some perspectives. One is his failure to thoroughly carry through the view of composition in characterizing the aspectual nature of RVCs. This fact is borne out in the category of "change of situations", by examples (13) through (18) given above. This category is worked out based on the semantics of the first verb in an RVC, not on the composed semantics of the RVC. The second perspective is to over-generalize the second verb as expressing a "telic" notion for the category of grammaticalized RVCs. Let us consider the example of 愛上 *ài shang* 'become fond of, fall in love'. Instead of extending to an end of 愛 *ài* 'love', the resultative 上 *shang* denotes the inceptive concept of "up on the state of (falling in love with)". Further, the state of 愛上 *ài shang* may denote a state starting from a particular moment, as in (19):

- (19) 我 第 一 眼 就 愛 上 了 他。
 wǒ dī yī yǎn jiù ài shang le tā
 I number one eyesight right-away love upon *asp* him
 'I fell in love with him at first sight.'

It may also denote a state of 愛 *ài* that gradually emerges but the inception of a new state is hard to be pinpointed on any time scale, as (20) shows:

- (20) 我 慢 慢 地 愛 上 了 這 個 工 作。
 wǒ màn mǎn de ài shang le zhè ge gōng zuò
 I gradually love upon *asp* this MW³ job
 'Gradually, I am becoming fond of this job.'

The third perspective, which tallies with the previous two perspectives, lies in the attempt to distinguish two levels of RVCs. Szeto does not present a clear distinction between lexicalized RVCs and grammaticalized RVCs, although he emphasizes that lexicalized RVCs involve causal relation, and that the grammaticalized RVCs contain

telic notion. This is because, Szeto’s telic marker such as 去 *qù* ‘go’ may actually denote a resultative event, or state of “being away” in an RVCs like 死去 *sǐ qù* ‘die and (be) away’. Moreover, Szeto’s stative word *pò* ‘broken’ may be more appropriately construed in my opinion, as marking the end of the action 打 *dǎ* ‘to hit, to break’ in 打破 *dǎ pò* ‘hit-break’. These two examples recall for us Zhu’s (1985: 95) insight, which states that there does not exist a clear demarcation between the formation of compounds and of syntactic structures for Chinese. Cheng and Huang (1994) also argue comprehensively that there is no significant difference in linguistic systematic property between these two kinds of RVCs because, to them, there is nothing more “idiomatic” about “lexicalized” RVCs than those “grammaticalized” RVCs. Therefore, to diversify RVCs in this perspective may be just as futile.

Szeto’s analysis of Chinese verbs has achieved limited success. However, many facets in Szeto’s analyses are very worthy to refer to. His observations, along with others studying Chinese verbal aspects, lend the most support to the current study.

3.1.2.3 Smith’s Four Event Types

Smith’s (1990) study proves that Vendler’s four categorizations of English verbs are of universal application, and thus can account for Chinese verbs as well. She employs Tai’s insights by using notions like “atelic”, “telic”, and “change of state” to distinguish event types in Mandarin verbs. Smith affirms the existence of telic events in Mandarin by using three tests: “completion”, “duration”, and “nondetachability”⁴, as shown in the following (adopted from Smith 1990: 324).

	Atelic	Telic	Change of state
Completion	no	yes	yes
Duration	yes	yes	no
Nondetachability	yes	yes	no

Smith's "atelic" type corresponds to Vendler's ACT, "telic" type to ACP, and "change of state" to ACH. Smith thus proves that the four situational types of Chinese are exactly the same as those in English. Referring to Tai's study, Smith associates the telic type with RVCs mostly, which Smith shows to be presenting events with both duration and associated outcome, in contrast to Tai's claim that RVCs contain only a result aspect.

We agree with Smith in postulating that there is a nondetachable termination that is associated with the "atelic" verbs because our treatment (see Type F in Section 3.2) has some shared properties with hers. And this treatment diverges from that of many others (see Tai 1984, Szeto 1988, among others) that directly equalize "atelic" verbs to Vendler's ACT. -

However, Smith's general view of Mandarin verbs based on the tests she proposed, especially the "completion", should be rejected on the following grounds. First, to use "completion" to distinguish "telic" from "atelic" is problematic. Smith argues that "telic" expresses events associated with either termination or completion, while "atelic" expresses events associated with termination only. In our opinion, "completion" as a test would not distinguish different situations when an event that is expressed in an RVC is vague in its completeness. It may be neither telic nor atelic. For instance, 哭紅 *kū hóng* 'cry-red → cry and (become) red' does not denote a completion of either 哭 *kū* 'cry' or 紅 *hóng* 'red', neither does it contain "termination" of any action or state denoted by 哭 *kū* or 紅 *hóng*. Thus, for an event such as 哭紅 *kū hóng*, its telic or atelic status cannot be determined. Furthermore, some example sentences from Smith (p. 319) failed to support her claim regarding the category that she considers corresponding to Vendler's ACH. Let us consider one of them:

(21) 他們 三 年 蓋 好 了 那 個 橋。
 tāmen sān nián gài hǎo le nèi ge qiáo
 they three year build finish *asp* that MW bridge
 ‘They built that bridge in three years.’

According to Smith, sentence (21) denotes that the building of the bridge occurred and was completed within a three-year period. This interpretation is acceptable to most Mandarin speakers. However, Smith claims that it can also mean that the construction of the bridge occurred within a three-year period. And this judgment, in my opinion, contradicts to many native Mandarin speakers’ intuition⁵. Second, Smith’s claim that both “telic” and “change of state” bear the property of “completion” is not supported by facts in Mandarin. It is clear that “change of state”, i.e., Vendler’s ACH, does not necessarily imply completion. It only denotes an instant happening on a time scale. For the English ACH “to hear”, we can not assert that the act of listening which is carried out in order to hear is completed once the “hearing” is achieved. Similarly, for a Mandarin ACH such as 發現 *fāxiàn* ‘to discover’, nothing about the “completion” aspect is assured. With this, we can see that Smith’s study has overlooked many, even the most commonly observed RVCs. Her study raises more problems than it intended to solve. All of this results from her attempt to prove the applicability of Vendler’s classification to Mandarin verbs.

3.1.2.4 He’s Situational Types and Aspectual Classes

Having observed the plenitude of the results of Szeto’s study, He (1992) comes to a similar conclusion and adopts the same four types of Mandarin verbs as Smith does. However, he points out the inadequacy of Szeto’s study in grouping together all kinds of stative verbs⁶. Different from Smith’s study of the grammatical realization of event types

in Chinese verbs, He's classification is based on what he defines as "situations" and a series of tests that are used to identify these situations. Thus, He's situation types result from the interaction between a predicate verb's internal temporal natures and its aspect markers, and as such is not a classification of the verb's aspects only.

Situations in He's study are in general either stative or non-stative. The stative type can be either "absolute states" or "non-absolute states". These two are contrasted by their compatibility with the set of test, i.e. - 在 *zài*, - 很 *hěn*, the imperative sentence, and verb-copying. Vendler's ACT, ACP and ACH correspond to the "non-stative situations" in He's study. ACT verbs can have postverbal duration expressions. And ACP verbs can have only preverbal durational expressions denoting the time it takes to complete the activity and they are thus goal-oriented. He's view on these two types is not entirely innovative. The inadequacy of He's analysis lies in his account of ACH and STA verbs as restated in what follows.

First, differing from Smith and Szeto, He's RVCs are ACHs that do not possess duration. With the resultative element as the semantic head, the verb of an RVC is the adverbial modifier of the head element. According to He, the compatibility of RVC with post-verbal expressions denotes the lapse of time after the change of the state. Consider (22), which is from He (p. 192):

- (22) 我 找 到 那 本 书 三 天 了。
wǒ zhǎo dào nèi běn shū sān tiān le
I look-for reach that MW book three day *asp*
*'I have found that book for three days.'

Given only (22), it is correct to claim that 三天 *sān tiān* 'three days' has nothing to do with the aspect of 找 *zhǎo* 'look for' or 到 *dào* 'reach'. But the example in (23)

clearly falsifies this claim. The postverbal durative expression 三天 *sān tiān* can be associated with the aspect denoted by the resultative complements 紅 *hóng* ‘be red’:

- (23) 他眼睛 哭紅 了 三 天 了。
tā yǎnjīng kū hóng le sān tiān le
he eyes cry red asp three days asp
‘His eyes have been red for three days from crying.’

It is obvious that *sān tiān* denotes the duration of 紅 *hóng*, the state in which his eyes are red from crying. In Chinese, there are a large number of RVCs like 哭紅 *kū hóng*, with the stative verb as resultative endings. Thus it would be insufficient to claim that Mandarin RVCs contains the nature of an ACH. Even if for those RVCs that He considers as “completive compounds”, the postverbal temporal expression may denote the time extended since the change takes place.

- (24) 飯 做 好 了 一 個 小 時 也 沒 人 吃。
fàn zuò hǎo le yí ge xiǎoshí yě méi rén chī
meal cook finish asp one MW hour and no person eat
‘The meal had been ready for one hour, and no one ate yet.’

Different from 找到 *zhǎo dào* in (22), where 到 *dào* denotes the termination of the action 找 *zhǎo*, 好 *hǎo* here entails both the termination/completion of the action 坐 *zuò* ‘to cook’, and the inception of a state when a meal is ready to be served.

Second, He’s stative verb with inchoative *le* represents a new situation denoted by the stative verb. The whole sentence thus implies the emergence of a new situation, which is, however, classified as ACH by He. Sentences such as (17) and (18) thus present punctual aspect without duration.

(25) 花 紅 了。
huā hóng le
flower red *asp*
'The flower has become red.'

(26) 我 愛 吃 中 國 飯 了。
wǒ ài chī Zhōngguó fàn le
I love eat Chinese food *asp*
'I have grown to love Chinese food.'

And the ungrammaticality of sentence (27) would result accordingly, which, however, is obviously a perfectly acceptable sentence:

(27) 花 紅 了 一 個 星 期。
huā hóng le yí ge xīngqī
flower red *asp* one MW week
'The flower has been red for one week.'

He also calls special attention to a group of sentences, which he labels as “presentative sentences”, predicated by verbs denoting the appearance or disappearance of an entity at a particular place, and denoting a change of state. Example (19) is taken from He (p. 199).

(28) 監 獄 跑 了 一 個 犯 人。
jiānyù pǎo le yí ge fānrén
prison escape *asp* one MW prisoner
'A criminal escaped from prison.'

He considers sentences like (28), different from stative existential sentences presenting homogeneous situations, as denoting changes in a situation. Since they indicate situation of change-of-states, they are ACHs. He further concludes that the situation of a Chinese sentence is more importantly decided by the aspect markers.

Although He wisely considers various features of a sentence such as verb, object, and aspect marker, when he tries to account for different situational types, he does not maintain his thoroughness throughout. This flaw is reflected in his focusing on the aspect marker when talking about “presentative” and STA situations, and on the resultative component when analyzing the RVCs as ACHs. He thus fails to explicate the functions of all componential aspects and the combinatory nature of a situation. He’s study, therefore, does not provide the actual semantic generalization of situations involving RVCs because he fails to capture the principle, even though he is intent on doing so, that a situation in a sentence is an integrative whole jointly determined by all component aspects.

3.1.2.5 Guo’s Event Course Types

Guo’s (1993) study of Chinese verbs, although not as widely cited as the other works discussed above, nonetheless merits mention in our discussion.

A statistical analysis in Guo’s study is carried out based on a thorough classification of Chinese verbs. Different from all of the above research, which study the aspects or situations expressed in Mandarin predicates, Guo’s study focuses on the different courses in an event that is encoded in Mandarin verbs, which is also the primary intention of our study. However, Guo’s classification is not tenable for the reason that he, as He (1992) does, categorizes Mandarin verbs by their compatibility with those words commonly recognized as manifesting correspondent aspects of event such as *-le* (inchoative or completion), *-著 zhe* (progressive or durative), *-過 guo* (ending), and *-(正)在 (zhèng)zài* (progressive). This approach inevitably leads to a fallacious classification of the verb event aspects, because it takes the compositional results of a

verb and its test as equivalent to the category of the verb. For example, Guo identifies verbs such as 來 *lái* ‘come’, 忘 *wàng* ‘forget’, 結婚 *jiéhūn* ‘get married’ as the category denoting punctual events because they are compatible with the end-denoting 了 *le*, not with the durative-indicator -著 *zhe*, or progressive indicator –(正)在 (*zhèng*)*zài*. This classification seems counter-intuitive, especially for verbs like 來 *lái*. As another example, Guo characterizes 認識 *rènshi* ‘to know’ as denoting an event salient in its starting point and duration. This may be correct for (29) below, but obviously not with (30). In sentence (30) the inception is not discernible. Similar to (30), in sentence (31), the termination of the event is equally salient as its inception, if 舞會 *wǔhuì* ‘(dancing) ball’ as a referred event during which the action of getting acquaintance happens.

(29) 我 認識 張 三 三 年 了。
 wǒ rènshi Zhāng Sān sān nián le
 I know Zhang San three year *asp*
 ‘I’ve known Zhang San for three years.’

(30) 我 一 識 張 三。
 wǒ rènshi Zhāng Sān
 I know Zhang San
 ‘I know Zhang San.’

(31) 我 在 舞 會 (上) 認 識 了 張 三。
 wǒ zài wǔhuì shang rènshi le Zhāng Sān
 I at ball in know *asp* Zhang San
 ‘I got acquainted with Zhang San at the ball.’

In (31), the event of 認識 *rènshi* starts at a moment when 我 *wǒ* ‘I’ and 張三 Zhang San begin to exchange information about each other, and ends at the moment when ‘we’ finally get some facts about each other.

Guo's attempt to identify event structure in Mandarin verbs thus seems to be on the wrong track because he, as He (1992) does, equates compatibility of a verb with an aspect marker with the event aspect encoded in an individual verb. As I will be demonstrating in Section 3.2 and have shown in my survey of previous studies, the aspectual structure preserved in each verb may change when they are associated with other components. The compatibility of verbs with other words denoting event aspects only provides structural assistance for us to identify functions of verbs. It is not, however, an inherent part of the internal property of verbs. This fallacy, although, is cautiously sidestepped by Smith (1990), who points out that this fallacy results from the tradition of taking the words denoting aspects as the criteria for judging the internal nature of verbs. Words that may be associated with the predicate verb only reflect a partial nature of the verb, and are thus not sufficiently revealing of verbal aspects. Furthermore, they may also change the aspect of the whole event, which is a composite entity. It is thus not surprising that Guo's classification contains exceptions that total as high as 12.8% of the Chinese verbs he treated.

The survey in this section shows that aspects of Mandarin verbs have been explored through many different approaches. In virtually all of the previous approaches, there exist a major defect in the classificatory criteria, resulting from either simply applying methods in studies of English verbs mechanically to Mandarin verbs, or taking the composite results as identifications of internal properties. I do admit the fact that event and its aspects in the objective world are universal to all human beings. However, the characteristics of particular conceptualizations in various languages prevents us from equalizing aspects encoded in one language to those encoded in another because of the

interaction among verb semantics peculiar to each individual language. We should probe into the nature of the event represented by the richness of event aspects, and the grammatical properties related to verbs and their semantics and functions.

3.2 Event Schema and Event Types

My examination of verbs starts from aspects of events that are naturally conceptualized in the form of g-verbs. I present a prototype of event schema by examining the structure of an event, and analyze its main components and properties. Event components fall into six aspect types that g-verbs in a language represent. Although I use Mandarin examples, the event situations dealt with here are considered to be fundamental also in other languages, on figuring the semantic basis – the conceptualization of event aspects. Thus, I expect my presentation to be deep-reaching, in the sense that it reveals a part of universal event organization in language forms.

3.2.1 Event Schema

An event is a happening. A happening occurs at a certain place during a certain interval of time. Therefore a single event is generally a time-bound entity, and it can be schematized as in Figure 3.1.



Figure 3.1. Event Schema.

An event as shown in Figure 3.1 is considered prototypical because it embodies a whole process of a happening, which is a three-unit image, the units of which are sequenced one after another. An event has the following properties:

- (i) An event may have a beginning or an end or both.
- (ii) An event may have a duration.
- (iii) An event may be located on a time scale.

Aspect is the inherent property of an event. It places an event in the domain of temporal structure. Concerning the aspects delineated, an event can be naturally understood as being comprised of three main components: a start point, a duration, and an end point. I illustrate the three main components of an event in Figure 3.2.

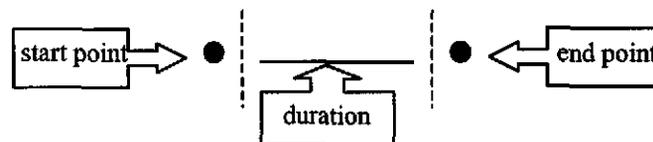


Figure 3.2. Structure of Event Schema.

The three components reflect the main stages of a single event on a time scale. Each of them has intrinsic properties to distinguish it from another. The start point denotes an instant when an event starts, and it thus has no duration. For an event denoted by an ICM (Idealized Cognitive Model) of the verb ‘to sleep’, the start point can be contemplated as the moment when the initiatory agent ceases to be awake, or becomes unaware of what is happening around him, normally with eyes closed.

The start point is followed by the duration stage. This stage is a time interval during which a happening lasts along a time axis. Change or progress may or may not take place. And if change does take place, it may lead to an outcome of an essentially different stage, which is considered as the end point. The duration stage may be static or dynamic, and it may consequently denote the continuation of a state or the development of an action. In the event of “sleep”, the duration stage is the sleeping period lasting till

the moment right before the agent awakens and, in the most common situation, opens his or her eyes.

The end point appearing right after the duration stage denotes a moment when the event terminates. This termination can be considered as an outcome resulting from the preceding duration stage, but essentially divergent from it. For the event of “sleep”, the end point is also the moment of “wake up”, which is in turn the start point of “being awake”. Since the end point follows the duration stage on a time scale, it is by nature an outcome that can be considered as the resulting stage. On the other hand, it can also be considered as the start point of a following event that comes into being, and thus it shows no duration, as in the examples of “sleep”, “wake up”, and “being awake”.

The three main components of event schema give us an abridged view of event concerning its different aspects in terms of their internal consistencies. The start point and end point demarcate an event to a duration, in which the event progresses. A duration is significant, because it not only manifests the development of an event, but also bridges its two ends. The duration stage follows the start point and leads to the end point, which is another defining component in an event, since it is also the start point of a following event, if we consider the whole world a network of causally connected events. The end point is crucially noticeable, because it is an outcome resulting from the duration stage, and as such may be considered as a natural extension of the duration. It may also mark a termination, which may be completely different from the duration in nature, if it is characteristically closer to its following duration than its preceding one. The importance for clarifying this point becomes obvious when we investigate aspectual compositions of verbs in Section 3.3.

Aspects of events are primarily windowed and encoded in a verb. Individual verb that windows aspect(s) of an event may comprise into complex expressions, forming the predicate of a sentence. Thus a sentence may be the structure of a composition of aspects. Therefore, we should examine aspects conceptualized in a lexicon of Mandarin verbs before we try to account for complex images in compounds like RVCs or other more complicated expressions.

3.2.2 Event Types

An event or event aspect that is conceptualized in individual verb, especially a g-verb, in a language may not be absolutely prototypical, as Figure 2.1 shows. A g-verb may window only certain stage of an event. Thus, we can analyze a g-verb by checking which aspect(s) is/are windowed in its semantic contents. Each aspect is basically a stage in an event. It may either be windowed/conceptualized (“+”) or not (“ ”) in the semantics of a verb. All three stages may have the possibilities of being windowed or not being windowed. The alternation of these two possibilities for the three components in a single event can be figured out by this formula: $2 \times 2 \times 2 = 8$. Specifically, the details of these alternations may be shown in Table 3.1.

Types	start point ●	duration _____	end point ●
A	+		
B		+	
C			+
D	+	+	
E		+	+
F	+	+	+
G			
H	+		+

Table 3.1 Possible Compositions of Event Aspects.

Among these eight types, Type G and Type H are in shadow because I do not find any g-verbs of these two types, at least not in Mandarin. It is straightforwardly clear that a g-verb should function as a windowing of an event, in which at least one aspect of the event should be encoded. Type G without any event aspect windowed is thus ousted. The possible event aspects shown in Type H indicate that only the start point and the end point are windowed; whereas the duration that connects these two points is gapped. Type H skips a crucial tie connecting the two ends in an event schema.

Disregarding Type G and Type H, I now illustrate the six event types representing various possibilities of aspect windowing in the semantics of a g-verb. I proceed as follows.

Type A: inception ●-----○

Type A denotes the starting point of a simple event indicated by an associated word. In Mandarin, g-verbs of Type A are limited in number. The most typical Type A verb is 開始 *kāishǐ* 'to start, to begin'. Others examples are 成 *chéng* 'to become'⁷, 引起 *yǐnqǐ* 'cause', -起來 *qǐlái* 'start to (do)', and -上 *shang* 'begin to (do)', etc.⁸

Denoting an instant, Type A verbs must be associated with another word entailing an event with duration. Consider examples (32) and (33):

(32) 演出 開始 了。
 yǎnchū kāishǐ le
 performance start *asp*
 'The performance started.'

(33) 吸煙 引起 咳嗽。
 xīyān yǐnqǐ késou
 smoke cause cough

‘Smoking causes coughs.’

Both 演出 *yǎnchū* ‘performance’ and 咳嗽 *késou* ‘cough’ denote a process containing a duration, even though they are nouns. It is especially true that -起來 *qǐlai* ‘to start to (do)’, and -上 *shang* ‘begin to (do)’ used together with other verbs denoting an event with duration. Compare this following pair:

(34) 我 喜 歡 上 一 個 人。
wǒ xǐhuan shang yí ge rén
I like up one MW person
‘I fell in love with one person.’

(35) *我 上 一 個 人。
wǒ shang yí ge rén
I up one MW person
‘*I started one person.’

That a Type A verb should appear with a word denoting an event with duration tallies with the reality in the objective world that a beginning must be followed by a continuation, or a duration.

What are commonly considered as “aspect markers” denote various types of aspect. One function of 了 *le* is an “inchoative” marker, which is usually considered to indicate a new situation, as (36) shows:

(36) 我 十 八 歲 就 (開始) 工 作 了。
wǒ shí bā suì jiù (kāishǐ) gōngzuò le
I eighteen age right-away start work *asp*
‘I started to work (as early as) when I was eighteen.’

It is the 了 *le* that adds the meaning of “start” (開始 *kāishǐ*) for the event denoted by 工作 *gōngzuò* ‘work’. Further, the start point is at the year when 我 *wǒ* ‘I’ was eighteen years old.

Indicating an instant on the event time scale, verbs of Type A denote the beginning point of time, as 從 *cóng* ‘from (a point of time)’ in (37), not an expression indicating duration of time, such as 從 *cóng*...到 *dào*... ‘from...to’ in (38).

(37) 我 從 上 月 喜 歡 上 了 運 動.

wǒ cóng shàng yuè xǐhuān shàng le yùndòng

I from last month like up *asp* sports

‘I started to be fond of sports since last month.’

(38) *我 從 五 月 到 六 月 喜 歡 上 了 運 動.

wǒ cóng wǔ yuè dào liù yuè xǐhuān shàng le yùndòng

I from May to June like up *asp* sports

*‘I started to be fond of sports from May to June.’

Type B: steady state ○————○

Type B denotes a steady state of an event, where neither the start nor the end point is discernible. This type is similar to the ‘stativity’ type, which Langacker (1987: 220-222) characterizes as a structure indicating atemporal relations, a state that shows an undemarcated permanence on a time scale. Typical Type B verbs are 是 *shì* ‘to be’, 在 *zài* ‘be at/in/on’, 姓 *xìng* ‘(somebody’s) surname is’, and expressions like 生活 *shēnghuó* ‘to live (a life)’, etc. This category also indicates verbs of emotion and feeling, such as 喜歡 *xǐhuān* ‘like, enjoy’, 怕 *pà* ‘fear’, 看 *kàn* ‘regard, judge’, and verbs denoting property of entities, such as 快樂 *kuàilè* ‘happy’, 結實 *jiéshí* ‘strong’, 藍 *lán* ‘blue’, and 亂 *luàn*

'messy', etc. Adverbs such as 正 *zhèng* 'in the process of' have the property of verbs, and are also Type B verbs.⁹

- (39) 他正 看 書.
tā zhèng kàn shū
he in-the-process-of read book
'He is reading a book.'

Aspect marker -著 *zhe* is also a Type B verb, denoting the steady state of its preceding verb.

- (40) 張 三 過 著 悲慘的 生活.
Zhāng Sān guò zhe bēicǎnde shēnghuó
Zhang San live *asp* wretched life
'Zhang San is living a wretched life.'

Without demarcation for its event aspect, a Type B verb appears in expressions indicating time with no boundary, such as 一直 *yìzhí* (*dōu*), 'all the way', 從來(都)就/ (是...的) *cónglái* (*dōu/jiù* (*shì...de*)) 'to have been the case all the time'. Accordingly, Type B verbs cannot appear with time-point expressions. Consider the pair of examples (41) and (42):

- (41) 你 一直 都 像 爸爸.
nǐ yìzhí dōu xiàng bàba
you all-along all resemble father
'You look like your father all the time.'

- (42) ? 你三點 的 時候 像 爸爸.
nǐ sāndiǎn de shíhou xiàng bàba
you three-o'clock of time resemble father
'?You look like your father at three o'clock.'

One might argue for the grammaticality of (43), where a seemingly time-spot expression is used:

- (43) 你 三 歲 的 時 候 像 爸 爸。
nǐ sān suì de shíhou xiàng bàba
you three age of time resemble father
'You look like you father at the age of three.'

However, note that 三歲的時候 *sān suì de shíhou* 'at the age of three' in (43) actually denotes a time-span that extends at least one year.

Type C: termination ○-----●

Type C, in contrast to Type A, denotes the termination of an event indicated by an associated *g*-verb. Typical verbs of Type C are verbs indicating termination such as 完 *wán* 'to finish', 結束 *jiéshù* 'to end', and 到 *dào* 'to arrive', or verbs indicating an outcome of a preceding event, such as 成 *chéng* 'to become', 崩 *bēng* 'to split, to burst', 見 *jiàn* 'perceive',¹⁰ etc. Verbs of this category normally are emphasized by a completion aspect marker 了 *le* in a sentence. Somewhat similar to Type A, it is natural to construe that aspect of Type C signals an instant that has no duration on a time scale. For instance, one can not say 他成名人用了三年 *tā chéng míng rén yòng le sān nián* 'it took him three years to become famous.' Also, we can use the non-durational character of Type C to explain the ungrammaticality of (44) and the grammaticality of (45).

- (44) *他們 的 關 系 一 直 結 束 了。
tāmen de guānxi yìzhí jiéshù le
they of relationship all-along end asp
*'Their relationship has been ending all the time'.

- (45) 他們 的 關係 昨天 結束 了。
 tāmen de guānxi zuótiān jiéshù le
 they of relationship yesterday end *asp*
 'Their relationship ended yesterday.'

As is well known, the aspect marker 了 *le* denotes the completion of an event, regardless of the aspect type of the verb it is associated with, as (46) shows:

- (46) 我 吃 了 一 個 蘋果。
 wǒ chī le yí ge píngguo
 I eat *asp* one MW apple
 'I ate one apple.'

The *le* in (46) marks the end of the event 吃 *chī* 'to eat', which is divergent from the one in (23) (i.e. 他眼睛哭紅了三天了 'His eyes have been red for three days from crying'), which marks the start of the event indicated by the preceding verb.

Type D: start-bounding ●————○

Type D denotes an event which starts from a certain moment and maintains a continuous state but does not have an ending. G-verbs of this category window a discernible start and its continuation of an event. The start point of Type D verbs is transient, while the duration extending it remains the same throughout the event. Type D thus is composite of two components. Hence, Type D verbs are stative verbs. They are also ACH (Vendler 1967, Tai 1984, among others). Consequently, Type D verbs can be used in expressions denoting either a time-point (e.g., 剛才 *gāngcái* 'a moment ago' in (47)) or a time-span (e.g., 兩年 *liǎngnián* 'two years' in (48)).

- (47) 小 貓 剛 才 死 了。
 xiǎo māo gāngcái sǐ le
 little cat a-moment-ago die *asp*
 'The kitty (just) died a moment ago.'

- (48) 小 貓 死 了 兩 年。
 xiǎo māo sǐ le liǎng nián
 little cat die *asp* two year
 ‘The has been dead for two years.’

We can see that the inceptive aspect of 死 *sǐ* ‘die’ is more salient in (47), although the state of being dead lasts since 剛才 *gāngcái* ‘a short moment ago’, than it is in (48). In contrast, the state of being dead is more emphasized in (48) than in (47), although the start point is a moment that took place two years ago. The composite characteristic of Type D can be seen by comparing the Mandarin verb 死 *sǐ* ‘to die, to be dead’ with the two English expressions “to die” and “to be dead”. The compatibility of Type D verbs with both time-point and time-span expressions supports our analysis.

Type D verbs include some verbs of emission, such as 亮 *liàng* ‘to lighten, to be bright’, verbs of infliction, such as 壞 *huài* ‘to destroy, to be destroyed’, 破 *pò* ‘to break, be broken’, verbs of physical state resulting from change, such as 熟 *shú* ‘to be cooked’, 丟 *diū* ‘to lose, to be missing’, and 開 *kāi* ‘be away’, etc.

The verb of motion 去 *qù* ‘go (to)’ indicating a movement belongs to Type D. 去 *qù* requires an entity moving away from a landmark (normally the speaker, or a backgrounded reference). Consider (49), where the start point denoted by *qù* can be located at 三點 *sān diǎn* ‘three o’clock’ on a time scale. The event of *qù* continues after three o’clock. Its ending may be demarcated by a Type C verb 到 *dào* ‘arrive’ in (50).

- (49) 我 三 點 去 學 校。
 wǒ sān diǎn qù xuéxiào
 I three o’clock go school
 ‘I’ll go to school at three o’clock.’

- (50) 我 三 點 去 學 校, 三 點 半 到 (學 校).
 wǒ sān diǎn qù xuéxiào sān diǎn bàn dào (xuéxiào)
 I three o'clock go school three o'clock half arrive (school)
 'I('ll) go to school at three o'clock, and arrive there at three-thirty.'

The duration of motion denoted by 去 *qù* is clearer in (51).

- (51) 他 去 學 校 兩 個 小 時 了.
 tā qù xuéxiào liǎng ge xiǎoshí le
 he go school two MW hour asp
 'He's left for school for two hours.'

The 兩個小時 *liǎngge xiǎoshí* 'two hours' can only be construed as the duration after he left the landmark and since which the time laps. Szeto (1988: 228-233) gives an explicit analysis of 去 *qù*, which concerns more about the inceptive stage and its development from one (stage) to another (stage), and he provides further support to my claim that this verb denotes aspects in which a moving object departs from a reference point and continues with the inceptive stage, hence it is a start-bounded verb.

Type E: end-bounding ○————●

Type E g-verbs denote an event aspect that does not have a start point but has a duration and a terminating point. Contrary to Type D, Type E has a clearly demarcated point, beyond which, the aspect is not windowed by the semantics of the verb. In light of Langacker's (1987: 244-246) lengthy discussion about the landmark saliency of motions represented by such verbs as "to enter", we can see that verbs of Type E manifest windowing of a process bounded by landmark. The start point of Type E is hard to discern because only the salient landmark is windowed in the semantics of in this type of verbs.

Concerning the two aspects windowed, it is natural for us to understand that Type E verbs make use of expressions of time-spot like 三點 *sān diǎn* ‘three o’clock’ in (52), the moment when the figure 我 *wǒ* ‘I’ reaches the landmark 學校 *xuéxiào* ‘school’.

- (52) 我 三 點 來 學校。
wǒ sān diǎn lái xuéxiào
I three o’clock come school
‘I come to school at three.’

Type E verbs may also make use of expressions of time-span, such as 二十分鐘 *èr shí fēnzhōng* ‘twenty minutes’ in (53):

- (53) 他 每 天 用 二十 分 鐘 來 學校。
tā měitiān yòng èrshí fēnzhōng lái xuéxiào
he everyday use twenty minutes come school
‘It takes him twenty minutes to come to school everyday.’

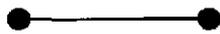
But they cannot use expressions such as 從 *cóng* ‘from’ indicating a start point on a time scale:

- (54) *我 從 三 點 來 學校。
wǒ cóng sān diǎn lái xuéxiào
I from three o’clock come school
‘I’ve been at school since three o’clock.’

Szeto (1988), although depicting 來 *lái* as starting with a bound, has suggested that it terminates at the location of speaker, or, more exactly, the speaker as the reference point. The process manifested by 來 *lái* is “mainly concerned with a gradual transition from the state of ‘nothing’ to that of ‘something’ (p. 231). Besides 進 *jìn* ‘enter’ and 來 *lái* ‘come’, many of what are usually considered as Mandarin “directional verbs” are Type E, such as 出 *chū* ‘go out (of)’, 起 *qǐ* ‘emerge’, etc. This is due to the nature of events denoted by

verbs of this category, which are predominantly terminated by the reference. For example, 進 *jìn* ‘enter’ depicts a scene that a figure moves towards and finally passes; a landmark, for instance, the door of a room. The passing of the landmark marks the completion of the scene depicted by 進 *jìn*. The schema of Type E, schematized as a line denoting process and a dot denoting a termination, can be justified as follows. The event denoted by 來 *lái* is a process during which a figure moves toward a landmark, such as 學校 *xuéxiào* ‘school’ in examples of (52) to (54), and that landmark is included in the semantics of 來 *lái*. Therefore (53) is grammatical. Also, the instant at which the figure moves into the scope of the landmark is included in 來 *lái*, and hence (52) is a well-formed sentence. Once the figure entering a door has passed the door, however, it requires an aspect beyond the limit of the semantics of 來 *lái* ‘come’. That is, it requires 在...里 *zài...lǐ* ‘be in/at’, more appropriately. In short, Type E is characterized by a process extending toward its termination or an end point, or, as a figure moving toward its landmark.

Type F: prototype



This type denotes a prototypical event, whose bounds become discernible when they are actuated by referential objects or words denoting aspects. That is, Type F entails the start point and the end point, which can be seen when they are associated with (i) the direct object of verbs, or (ii) other aspect-denoting verb(s) in a sentence. Note the different noun phrases that are associated with 喝 *hē* ‘to drink’ in the example in (55).

- (55) 我 喝 茶。
 wǒ hē chá
 I drink tea
 ‘I drink tea.’

(56) 我 喝 了 一 杯 茶。
wǒ hē le yì bēi chá
I drink *asp* one cup tea
'I had (drunk) a cup of tea.'

(57) 我 喝 了 一 小 时 (的) 茶。
wǒ hē le yì xiǎoshí de chá
I drink *asp* one hour of tea
'I drank tea for one hour.'

(58) 我 喝 了 茶。
wǒ hē le chá
I drink *asp* tea
'I drank the tea.'

(59) 我 喝 完 了 茶。
wǒ hē wán le chá
I drink finish *asp* tea
'I finished (drinking) the tea.'

The event of 喝 *hē* 'to drink' in sentences (55) to (59) can be represented by a simple event "I drink tea". This event is potentially delimited by the indefinite noun 茶 *chá* 'tea' in (55). The amount is specified as 一杯 *yì-bēi* 'a cup' in (56), which demarcates the event 喝 *hē* 'to drink', since consuming a cup of tea occupies an interval of time, which can be shorter or longer, depending on the speed of "my" drinking. The start point is the moment when the tea in the cup is entering the drinker's mouth, and the end point is the instant when the last drop of tea in the cup is in the drinker's mouth. Similarly, the prototypicality of 喝 *hē* in (57) can also be construed as a whole event on a time scale, on which the interval starting from the moment "I" drank the tea and ending at the moment that "I" stopped drinking the tea is one hour. Teeny's (1992) study about how the

semantic object of verbs can measure out an event, as I reviewed in Section 3.1, lends further support to my analysis. Normally, the direct object demarcates the event denoted by the predicate verb, especially at the end point, of an event image crucially. In Mandarin, drinking can be delimited by different devices. It may be delimited by the amount (e.g., (56)), by the time that is expended for the event (e.g., (57)), or by another event aspect such as 了 *le* (e.g., (58)), which is a Type C verb denoting the end point only. It can even be emphasized by another Type C verb 完 *wán* ‘to finish’ (e.g. 59). I thus suggest that Type F presents a prototypical event and its presentation is differently realized in their constellation with different associated elements. I accordingly depict the schema of Type F as a , with two dimmed ends that allow it to compose with a type that has one or two solid ends to form a complex aspect.

Most Type F verbs correspond to what are recognized as ACT in Vendler’s categories. They also include verbs which are fallaciously characterized as denoting a moment aspect. Let us consider (60):

- (60) 燈光 閃 了 一 下。
 dēngguāng shǎn le yíxià
 light flash *asp* one-time/a-short-moment
 ‘The light flashed (once).’

The aspect of the event 閃 *shǎn* ‘to flash’ entails all three components of a prototypical event schema, although the duration may be extremely short. Thus all Type F verbs can comply with such expression as “用/花了 *yòng/huā le* ‘take/spend’ + time-span”, of which the start point, duration, and end point are discernible on a time scale.

(go to next page)

(61) 燈光 閃 一下 用 了 1/30秒。
 dēngguāng shǎn yíxià yòng le 1/30 miǎo
 light flash one-time use asp 1/30 second
 ‘It takes for 1/30 second for the light to flash once.’

Our proposal to view Type F as presenting a bounded event takes a strong stand on the controversy against the traditional thinking (Vendler 1967, Tai 1984, Teng 1986, Szeto 1988, Smith 1990), which views Type F verbs as denoting seemingly non-delimited “activity”. I propose to consider g-verbs as primary devices for conceptualizing an event in a gestalt. Therefore, g-verbs should schematize the essential components of an event.

To sum up, Types A, B, and C are simple types because they present a conceptually unitary aspect in their semantics in the lexicon. Further, Types A and C differ from Type B in that they occupy a nil duration¹¹ in time scale. Type B is the only event type that contains neither the start nor the end of an event schema. Types D and E

	Time-point	Time-span	Time-interval	non-interval
examples	明年 míngnián 'next year' 剛才 gāngcái 'moments ago'	三天 sān tiān '3 days' 一秒鐘 yìmiǎozhōng 'one second'	用了(三十分) yòng le (sān shí fēn) 'takes 30 minutes' 從三點到五點 cóng (sān diǎn) dào (wǔ diǎn) 'from 3 o'clock to 5 o'clock'	一直都 yìzhí... (dōu) 'always' 總是 zǒngshì 'always'
A	+	-	-	-
B	-	(-)	-	+
C	+	-	-	-
D	(+)#	+	-	-
E	(+)*	-	+	-
F	+	+	+	-

#null compatibility with 到 dào 'arrive, till' denoting an end point

*null compatibility with 從 cóng 'from' denoting a start point

Table 3.2 Contrast of aspectual types

are composite types because aspects that are windowed by verbs of these two types entail a graduation from one stage to another (i.e., either from start point to a continuation as in Type D, or from a continuation to an end point as in Type E). Although these two types window composite images, they differ from each other in that Type D is more distinguished by its duration stage, whereas Type E is more characterized by the bounded ending aspect. Image windowed by g-verbs of Type F is holistic because it is delimited in composition.¹² These six types can be briefly distinguished by their compatibility¹³ with temporal expressions, which are either time-point or time span, as Table 3.2 shows (see the previous page).

3.2.3 Categorization of Mandarin verbs

With a full picture of how aspects are windowed and conceptualized in the lexicon, supported with examples from Mandarin verbs, I am now categorizing Mandarin verbs into the six event types based on Table 3.2. I focus on what are called Full Verbs (FVs) in CCG. They are verbs and adjectives in common terminology. My categorization sidesteps Half Verbs (HVs), considering that some classes like conjunctions, tense, and auxiliary are not compatible with the notion of aspect. Other HVs such as aspect markers -了 *le*, -著 *zhe*, and -過 *guo* have been discussed in corresponding analyses of event types in the last section. I also remark on adverbs (a subclass of HVs) that denote aspect of steady-state and I categorize them as Type B verbs.

FVs that are categorized in the current study are constituted from two lexicons in XHYXC (Yu et al. 1998) with 2094 verbs and 1471 adjectives. But I adjust the lexicon

of verbs in XHYXC by comparing its entries with the 2117 verbs in DUC (Meng et al. 1987) and with definitions in *Xiàndài Hànyǔ Cídiǎn* (XHC) (YYS 1996). The methods of adjustment used encompass two perspectives concerning whether they are verbs or adjectives. When I establish individual entry of verbs, I either expand or reduce the entries in XHYXC by taking the following into consideration:

- (i) I focus on entries of unitary morphologic verbs, not compounds. This operation is based on two reasons. First, in CCG, the computational rules for simple SSrr composing into complex SSrr are applicable for the formation of both compounds and constructions such as phrases. Second, it is commonly recognized that, in Chinese, the organizing rules for compound are basically the same as those for phrases. So, for example, if there is an entry for 雕 *diāo* ‘to carve, to engrave’, and an entry for 刻 *kè* ‘to engrave, to cut’, then I do not include the verb 雕刻 *diāokè* ‘to carve, to engrave’ because it may be simply formed by our compositional rules. However, I include compounds like 搗亂 *dǎoluàn* ‘make trouble, create a disturbance’ besides the entry 搗 *dǎo* ‘to pound/beat with a stick’ and the entry 亂 *luàn* ‘chaos, disturbance’ because the meaning of 搗亂 *dǎoluàn* cannot be obtained by composition of the meaning of 搗 *dǎo* and that of 亂 *luàn*.
- (ii) I add entries such as 琢 *zhuó* ‘to carve, to chisel, to grind’ to the lexicon so that it may combine with another verb such as 雕 *diāo* ‘to curve’ into 雕琢 *diāozhuó* ‘to sculpt, to polish’, and 磨 *mó* ‘to grind’ into 琢磨 *zhuómó* ‘to carve and polish’, etc. The additions are for the purpose of maximal productivity from the composition of entries in the verb list.

(iii) I examine every entry to see if it entails different meanings as well as event types.

For example, 認識 *rènshi* is listed as one entry in both XHYXC and XHC, but one entry with two definitions in DUC: (a) to be familiar with, to know; (b) to get acquainted with (somebody). These two definitions correspond to two different meanings, and therefore, two event types, with (a) to Type B and (b) to Type F. We thus list 認識 *rènshi* as two entries, marked as 認識 *rènshi*₁, and 認識 *rènshi*₂.

(iv) For one language form with different pronunciations, for instance, 露, *lòu* and *lù*, both mean ‘to reveal, to show’ but are listed as two entries in GKCC. The former is the colloquial form and the latter is the literary form. Both of them denote aspect of Type F, hence we list them under one entry 露 *lù/lòu*.

(v) I eliminate such entries as 大戰 *dàzhàn* ‘to fight violently’ from XHYXC because 大 *dà* ‘great(ly)’ describes the state of how a fight would be carried out, and the word 大戰 *dàzhàn* is a compound that can be reduced to 大 *dà* (a Type B verb) and 戰 *zhàn* (a Type F verb). I single out 戰 *zhàn*, however, as an individual entry and add it to the list since it is an FV in a sentence like 他們為自由而戰 *tāmen wèi zìyóu ér zhàn* ‘they fight for freedom’. Moreover, the meaning (a) ‘to battle, to fight’ (戰 *zhàn*₁) is different from the meaning (b) ‘to shiver, to shudder’ of the same form 戰 *zhàn* (*zhàn*₂) in such words as 打戰 *dǎzhàn* ‘to shiver’ and 膽戰心驚 *dǎnzhàn xīnjīng* ‘to tremble with fear’. I do not set up a separate entry for the meaning of (b) because it is included in the entry 打戰 *dǎ zhàn*.

Based on the above concerns, I established a total of 1505 g-verbs and group them into the six event types by examining their compatibility with the temporal expressions in Table 3.3. These g-verbs can be found in the Appendix.

	A	B	C	D	E	F	Total
Entries	10	211	30	42	17	1195	1505
Percentage	0.066%	14%	0.98%	1.99%	1.13%	79.4%	97.6%

Table 3.3. Statistical Chart for Event Types of Mandarin g-Verbs

In Table 3.3, we see that verbs corresponding to Types A and C are relatively small in number because, with no extension over time, these two types window an aspect that is zero on a time scale. Verbs of these two types must be associated with other verbs or nouns containing event duration in a sentence. Findings about this phenomenon can be interpreted as suggesting that windowing duration, within the scope of which a happening can progress, is the predominant function of verbs. This observation may also be used to account for the fact that Type F verbs occupy the top percentile over the other five types because of the prototypical nature of this type in windowing an event. This comes as no surprise since the primary function of verbs is to conceptualize an individual event in gestalt.

3.3 Aspectual Compositions

My presentation in Section 3.2 has already depicted a full picture of aspects in the lexicon for Mandarin FVs. Further to be studied, however, is the aspectual category of complex events because they are more common phenomena than simple event aspects in sentences. My continuing task then is to decide on issues related to the formation of complex events.

3.3.1 Aspectual Compositions

I have discussed, mainly in Chapter 2, how a simple event is represented by an SSr, and how a complex event represented by an SSr results from a binary composition of two simple events. In what follows, I will show the inventory of compositions of aspects represented by simple SSr: how individual g-verbs representing one of the six basic aspect categories of events are organized by a process called Aspectual Composition. My proposal of this notion differs from the one adopted by others (Chang 1997, Chang et al. 1997, Narayanan 1997), which are based on a cognitive theory of X-schema, and which detail the superfluous facets that are not windowed in the semantics of a verb depicting a motor motion. We are also showcasing that, through the process of Aspectual Compositions, all aspects of complex events fall within one of the six posited event types and therefore within the event types conceptualized in Mandarin g-verbs.

Our notion of Aspectual Composition can be termed as follows:

Aspectual Composition is a process in which two aspect types in two events (as represented by two g-verbs) combine into the composite aspect type of resulting complex event.

These aspect types are described and illustrated by symbols, and I am going to present Aspectual Compositions by operations on these symbols. The solid line  and a filled dot  indicate aspects that are actually windowed and thus are foregrounded images. A dashed line  a the coreless dot  indicate aspects that are not windowed and are thus gapped, or backgrounded in order to bring a relief to the foregrounded images. The dimmed dot  assumes the value of the filled dot  in Type F when the two are in a composition. Based on the factuality of aspects that are represented in each type, I posit the Rules for Aspectual Composition as follows:

- Rules: (i) ● x ○ (= ○ x ●) → ●
- (ii) ● x ● (=● x ●) → ●
- (iii) ● x ○ (=○ x ●) → ○
- (iv) — x — (= — x —) → —
- (v) α x α → α, where α = ●, ○, ●, —

The symbol “x” stands for “to compose with”. Rules (i) and (iv) state that, in the process of Aspectual Composition, foregrounded images have priority over or override backgrounded images, because they are factually encoded/windowed in the semantics of language forms. Rule (v) states that the composition of the same event aspects is simply a mapping of the source aspects to the composed aspect. Rules (ii) and (iii) pertain to compositions containing Type F verbs. It is recognized in this study that the dimmed bounds of Type F are actuated by factually windowed aspect components in the process of Aspectual Composition (Rule (ii)). They are overridden, however, in composition with the circle because they are actuated by naught aspect (Rule (iii)). When I discuss the property of Type F verbs, I establish that the bounding property of this type is not manifesting without actuation. I thus appeal to a rule particularly for Type F verb so as to make the rules complete:

Adjustment Rule:

$$\bullet \text{---} \bullet \times \emptyset \rightarrow \bullet \text{---} \bullet$$

This feature has two correlated effects: it winds up such single SSr sentence with Type F verb as 張三學中文 *Zhāng Sān xué Zhōngwén* ‘Zhang San studies Chinese’ a composition of aspects (a prototypical aspect type composing with a special nil aspect). It also makes the composed Type F and the single Type F sentence bear the same compositional aspect type.

Applying all of the rules that are posited above, I obtain binary compositions of the event types by Aspectual Compositions in Table 3.5.

	A	B	C	D	E	F
A						
B						
C						
D						
E						
F						

Table 3.5 Aspectual Compositions of Event Types

The Aspectual Compositions are expected to account for the formation of both compounds and constructions. This is based on Zhu's (1985: 95) insights about the combination of language forms, including conceptualization of complex events: they are not simply adding up, nor whole-part relationship, but a realization of the interaction among components. The Aspectual Compositions should therefore comply with the formation of both compounds and structures. To understand how Aspectual Compositions work, I examine each composition in Table 3.5 in the following, and exemplify them with sentences containing both compounds (if applicable) and constructions, and with the former we use examples with RVCs (italicized and underlined) if one exists. Other underlined g-verbs in each example sentence are correspondent aspectual event types in each composition.

Composition 1: A x A = A x →

The composition of two Type As is Type A, which is commonly considered as the pattern of compounds or constructions in a coordination.

(62) 起 初, 天 地 一 片 混 沌.
 qǐ chū, tiān dì yí piàn húngùn
 begin start heaven earth one MW chaos
 'At the beginning, the sky and the earth are a chaos.'

(63) 小孩兒 班 六 月 開 始, 大 人 班 七 月 開 始.
 xiǎoháir bān liùyuè kāishǐ, dàrén bān qīyuè kāishǐ
 child class June start adult class July start
 'The child class starts in June, and adult class starts in July.'

No "A x A" type RVCs can be observed because the two events in an RVC (underlined in the above examples) are not coordinatively connected. Also, two inceptive aspects cannot be causally connected either.

Composition 2: A x B = D ●-----○ x ○-----○ → ●-----○

The aspects of Type A and Type B verbs combine into an aspect type of a start point and a duration following it, naturally a Type D event, which is a gestalt composed of these two parts. The Type A verb demarcates the event of Type B verb at the start point. For example,

(64) 我 開 始 覺 得 他 不 太 善 良.
 wǒ kāishǐ juéde tā bú tài shànliáng
 I start feel he not too kind
 'I started to feel that he is not (a) kind (person).'

The relative order of these two types of verbs, however, may not follow the temporal sequence in the real world. For example,

(next page)

(65) 他是大學生 了。
 tā shì dàxuéshēng le
 he is university-student *asp*
 'He (became and) is now a university student.'

The steady-state indicator 是 *shì* 'to be', a Type B verb, starts at the indication of the inceptive 了 *le*, a Type A verb. It is the same case for 胖 *pàng* 'be fat' (Type B) and 起來 *qǐlai* 'start (to do something)' in (66):

(66) 你 什麼 時候 胖 起來的?
 nǐ shénme shíhou pàng qǐlai de
 you what time fat start *de*
 'When did you start to get fatty?'

The question word 什麼時候 *shénme shíhou* 'at what time' is questioning about the start point, denoted by 起來 *qǐlai*, because 胖 *pàng* 'be fat' does not comply with any time-spot expression.

Composition 3: A x C = ? ●-----0 x O-----● → ●-----●

The composition of a Type A verb with a Type C verb is obviously illegitimate because the duration aspect bridging the start point and the end point comes from neither Type A nor Type C. The two Chinese compounds, i.e., 始終 *shǐ zhōng* 'throughout (the time)', and 起止 *qǐzhǐ* 'start-stop', that we have observed manifest a seeming composition, and it is obvious that the duration is backgrounded.

(67) 你 始 終 沒 說 一 句 話。
 nǐ shǐ zhōng méi shuō yí jù huà
 you start end not speak one MW sentence
 'You did not say a word throughout.'

(68) 這 個 節 目 十 點 開 始, 十 一 點 完.
 zhè ge jiémù shí diǎn kāishǐ, shíyī diǎn wán
 this MW program ten o'clock start eleven o'clock end
 'This program starts at ten and ends at eleven.'

No RVC of "A x C" composition can be formed, because the duration — a connection between a start and an end — is crucially gapped in this situation.

Composition 4: A x D = D ●-----0 x ●———○ → ●———○

The aspects of Type A verb and Type D verb combine into Type D with the inception of A coinciding with the start point of D, emphasizing the start of a new stage.

(69) 我 從 上 星 期 開 始 熟 悉 這 個 工 作 的。
 wǒ cóng shàng xīngqī kāishǐ shúxi zhè ge gōngzuò de
 I from last week start familiar this MW work de
 '(It was) from last week that I started to get familiar with this work.'

Sentence (70) provides a little more complex composition of Type A and Type D.

(70) 我 最 近 喜 歡 上 了 運 動。
 wǒ zuìjìn xǐhuān shàng le yùndòng
 I recently enjoy up asp sports
 'I fell in love with sports recently.'

With the composition of 喜歡 *xǐhuān* 'like' (Type B) and 上 *shang* 'up → start to' (Type A) into a composite Type D 喜歡上 *xǐhuān shang* '(begin to) fall in love with', the Type A verb *le* composes with the composite Type D 喜歡上 *xǐhuān shang* into a new verb of Type D, emphasizing the occurring of the event 喜歡運動 *xǐhuān yùndòng* 'enjoy sports'.

Composition 5: A x E = F ●-----0 x ○———● → ●———●

The aspects of Type A verb and Type E verb combine into a prototype event of Type F, with Type A demarcating the start of the event denoted by Type E which is inherently bounded. For example,

- (71) 觀衆 幾 點 開始 進 場?
 guānzhòng jǐ diǎn kāishǐ jìn chǎng
 audience how-many o'clock start enter arena
 ‘When does the audience start to enter the arena?’

The event of 進 *jìn* ‘enter’ is clarified by the 開始 *kāishǐ* ‘to start’, making the event of sentence (71) a prototypical one. It starts at the moment denoted by 開始 *kāishǐ* and lasts till all of the audience has entered the arena, between which is the duration—the time that is consumed by the audience entering.

I could not observe any RVC composed from “A x E”, which might be due to the nature of the Type E event for its saliency at the end point, which leaves the connection, hence the causal relation between these two events, nebulous.

Composition 6: A x F = D ●-----○ x ●————● → ●————○

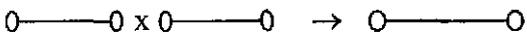
The aspects of Type A and Type F combine into a composite aspect event of Type D. The start point of Type F is actuated by the inception of a Type A verb and the end point of Type F falls outside the focus of attention, illustrating the start of an event and its continuation. For example,

- (72) 我們 現在 開始 討論.
 wǒmen xiànzài kāishǐ tāolùn
 we now start discuss
 ‘Let us start (our) discussion now.’

In (72), the start point is clarified by the temporal expression 現在 *xiànzài* ‘now’, a time-point expression. The duration of a composed Type F is also discernible as in sentence (73):

(73) 你 熬 上 一 年 吧。
 nǐ áo shàng yì nián ba
 you hold-out up one year *particle*
 ‘Please hold out for another year.’

The time-span 一年 *yìnián* ‘one year’ is associated with the duration part of 熬 *áo* ‘to endure, to hold out’, and the one-year period starts from the moment indicated by 上 *shàng*.

Composition 7: B x B = B 

Two steady-state aspect verbs of Type B compose into another steady-state aspect, also a verb of Type B.

(74) 這 種 說 法 純 屬 造 謠。
 zhè zhǒng shuōfa chún shǔ zàoyáo
 this kind saying pure belong rumor
 ‘This kind of saying is purely rumor.’

(75) 他 叫 張 三， 是 中 國 人。
 tā jiào Zhāng Sān, shì Zhōngguó rén
 he call Zhang San be Chinese
 ‘His name is Zhangsan, and he is a Chinese.’

The composition of two steady-state verbs does form aspects that are causally related. Thus, no RVC is observed.

Composition 8: B x C = E 

The aspects of Type B verb and Type C verb combine into an aspect type of Type E, with the end point of Type C terminating the event aspect of Type B. For example,

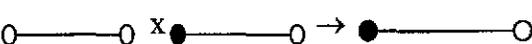
- (76) 你 想 瘦 成 竹 竿 嗎?
 nǐ xiǎng shòu chéng zhú gān ma
 you want thin become bamboo stem *particle*
 'Do you want to be as thin as a bamboo-stick?'

The word 成 *chéng* 'become' indicates a new state resulted from the state 瘦 *shòu* 'thin (in figure)': being 竹竿 *zhú gān* 'bamboo-stick', and thus a terminating of the state 瘦 *shòu*.

Sentence (77) gives a clear end of a steady state.

- (77) 他 喜 歡 手 工 喜 歡 到 了 極 點。
 tā xǐhuān shǒugōng xǐhuān dào le jídiǎn
 he like handwork like arrive *asp* utmost
 'He is extremely fond of handwork.'

Once 極點 *jídiǎn* 'utmost' is reached, it seems to arrive at an end of the steady-state 喜 歡 *xǐhuān* 'to like, enjoy', and it cannot go beyond.

Composition 9: B x D = D 

The aspects of Type B verbs and Type D verbs combine into a composite aspect event of Type D. This composite event type continues the duration of component Type D and overrides the steady state of Type B. In addition, the start point of the component Type D also is carried on, starting from the accumulation of the state denoted by the Type B verb. For example,

- (78) 我 每 天 閑 在 家 里 閑 瘋 了。
 wǒ měi tiān xián zài jiā li xián fēng le
 I every day idle at home inside idle crazy *asp*
 'I have become crazy from being idle at home every day.'

It can be seen that the state of 瘋 *fēng* ‘be crazy’ starts from the accumulation of 閑 *xián* ‘be unoccupied, be idle’, and continues since then, thus a Type D. The expression 閑瘋 *xián fēng* ‘be so idle that (one) goes crazy’ focuses on the state of being crazy while the Type B verb 閑 *xián* indicates the causal event of 瘋 *fēng*. Similarly, 累病 *lèi bìng* ‘be so tired as to become sick’ in (79) denotes the starting and continuation of 病 *bìng* ‘be sick’ resulting from the steady-state of being tired (累 *lèi*):

- (79) 你 這 樣 工 作 會 累 瘋 的。
 nǐ zhè yàng gōngzuò huì *lèi bìng* de
 you this kind work will tired sick *de*
 ‘Your working in this tedious way will cause you to get sick.’

Our observation is also supported in Szeto’s (1988) study of the nature of event as a ‘self-closed’ unit of happening, which views the unit “as a whole in its entirety or as condensed.” (p. 106).

Composition 10: B x E = E 

The aspects of Type B verbs and Type E verbs combine into a Type E aspect. Similar to the composition of Type B and Type D, the aspect of Type B overrides the aspect of Type E verb in duration. The example sentence that we can find is a literary one.

- (80) 潭 水 的 綠 綠 進 了 隱 士 的 心。
 tán shuǐ de lǜ *lǜ jìn* le yǐnshì de xīn
 pond water of green green enter *asp* hermit of heart
 ‘The green of pond water is so green that it enters the heart of this hermit.’

The steady green of pond water forms an invisible motion, a fictive motion, which moves toward the heart of the hermit and this process ends when it reaches (and resides) in his heart.

Composition 11: B x F = B ○——○ x ●——● → ○——○

The aspects of Type B verb and Type F verb combine into an aspect of Type B, because neither the start point nor the end point of the Type F event is actuated. Aspect of Type B verb reinstates the duration aspect of the Type F verb and its two potential ends fall outside of windowing.

(81) 他 穿 著 白 色 的 襯 衫 .

tā chuān zhe bái sè de chènshān

he wear asp white color of shirt.

'He is wearing a white shirt.'

The steady state of -著 *zhe* revives the duration of 穿 *chuān* 'to wear' and makes 穿著 *chuān-zhe* denote a phase of durative event. Similarly in (82),

(82) 他 喜 歡 喝 礦 泉 水 .

tā xǐhuān hē kuàngquán shuǐ

he like drink mineral water

'He likes drinking mineral water.'

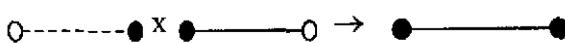
The aspect of event *hē* merges with the steady aspect of 喜歡 *xǐhuān*, and the aspect of 喜歡喝 *xǐhuān hē* 'like drinking' denotes a steady state. In this compositional situation, no RVC is detected.

Composition 12: C x C = C ○-----● x ○-----● → ○-----●

The aspects of two Type C verbs combine into a Type C aspect. It is the coordinate relation between these two aspectual verbs.

- (83) 他到 中國 成 了 名 人。
 tā dào Zhōngguó chéng le míng rén
 he arrive China become *asp* famous person
 'He became famous when he arrived in China.'

The first aspect *dào* 'arrive' marks the end of the travel to China. The second aspect *chéng*, although it may be translated as "become", does not window a state of being a famous person. No RVC of C x C composition is discerned. The end point of an event can only be connected to, or, resulted from, a duration, but not another end point.

Composition 13: C x D = F 

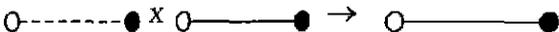
The aspects of Type C verb and Type D verb combine into aspects of event type F, with the Type C verb delimiting the end point of the aspect of Type D verb. This is a composition process somewhat similar to that between a Type A verb and a Type E verb.

- (84) 他后来 去 成 美国 没有?
 tā hòulái qù chéng Měiguó méi yǒu
 he afterward go success US not have
 'Did he finally (succeed in) go(ing) to the US?'

Once the 去 *qù* 'going' in (84) is delimited by a completion 成 *chéng* 'become → successful in (doing)', the compositional event ends as an event of prototype, showing the aspect of Type F.

- (85) 不知道 他 会 病 到 什么 时候。
 bù zhīdào tā huì bìng dào shénme shíhou
 not know he will sick arrive what time
 'No one knows when his sickness will end.'

The 到 *dào* ‘arrive → at’ terminates the endless aspect of 病 *bìng* ‘sick’ (Type D) and makes the composed 病到 *bìng dào* ‘be sick till’ denote aspect with both start and end points.

Composition 14: $C \times E = E$ 

The aspects of Type C verb and Type E verb combine into an aspect of Type E, with the aspect of Type C emphasizing the termination of the event denoted by the Type E verb. For example,

- (86) 他來 到 北京。
 tā lái dào Běijīng
 he come arrive Beijing
 ‘He came to Beijing.’

Once 他 *tā* ‘he’ is in Beijing, the event of 來 *lái* ‘to come’ terminates. The using of 到 *dào* ‘to arrive’ reinstates the end of 來 *lái*.

Composition 15: $C \times F = E$ 

The aspects of Type C verb and Type F verb combine into an aspect of Type E verb. The aspect of Type C actualizes the end point of the aspect of Type F, and its start point falls outside of the windowing in the composition.

- (87) 他洗 好 衣服 了。
 tā xǐ hǎo yīfu le
 he wash finish clothes *asp*
 ‘He finished washing clothes.’

- (88) 書 看 完 了。
 shū kàn wán le
 book read finish *asp*
 ‘(Someone) finished reading the book.’

The events 洗 *xǐ* 'wash' and 看 *kàn* 'read' are clearly terminated by the aspect denoted by 好 *hǎo* 'ready, done' and 完 *wán* 'finish' respectively.

Composition 16: D x D = D ●——○ x ●——○ → ●——○

The aspects of two Type D verbs combine into the same aspect of a Type D verb.

(89) 我的手套 破 了, 后来 丢了.

wǒ de shǒutào *pò* le, hòulái diū le

my of gloves worn-out *asp* later loss *asp*

'My gloves were worn out, and were lost later.'

In (89), both 破 *pò* 'worn out' and 丢 *diū* 'missing' start from a moment and last without an end. Once the gloves wore out, the steady-state of *pò* continues even if it is later lost.

In a similar way, the steady-state of 丢 *diū* lasts forever once it is out of the sight of its owner. The resulted event aspect is actually an overlap of two Type D aspects.

(90) 小 狗 病 死了.

xiǎo gǒu *bìng sǐ* le

little dog sick die *asp*

'The dog is dead from sickness.'

Somewhat different from (89), in which the state of 破 *pò* 'worn out' lasts even if the gloves were lost, the durative state of 病 *bìng* 'sick' seems to be terminated with the starting of another Type D 死 *sǐ* 'die, dead'. It may thus be construed as the condensed event unit coinciding with the start point of 死 *sǐ*.

Composition 17: D x E = F ●——○ x ○——● → ●——●

The aspects of Type D verb and Type E verb combine into an aspect of Type F.

The start point of Type D aspect and the end point of Type E aspect function as two ends of the composed event and the durations of these two events merge into one.

(91) 我 可以 自由 來 去。
 wǒ kěyǐ zìyóu lái qù
 I may freely come go
 'I may come and go freely.'

(92) 今天 你 來 早 了。
 jīntiān nǐ lái zǎo le
 today you come early *asp*
 'You came early today.'

Note that 早 *zǎo* 'early' in (69) is a Type D because it depicts an aspect which starts from the instant when the event 來 *lái* 'to come' ends. Similarly, it is the case in (93):

(93) 我 進 錯 了 門。
 wǒ jìn cuò le mén
 I enter wrong *asp* door
 'I entered the wrong door.'

The 錯 *cuò* 'wrong' (a Type D verb here) is assessed about the event 進 *jìn* 'to enter' when it terminates.

Composition 18: D x F = D ●——○ x ●——● → ●——○

The aspects of Type D verb and Type F verb combine into an aspect of event Type D. The start of Type D verb actuates the start of the Type F verb and durations of these two verbs coincide. But the end point of Type F falls outside of windowing of the composition.

(94) 你 吃 飽 了 嗎?
 nǐ chī bǎo le ma
 you eat full *asp particle*
 'Are you full (by eating)?'

The event of 吃 *chī* 'eat' as a happening here can be viewed as a condensed unit and it coincides with the start point of 飽 *bǎo* 'to be full' (Type D) whose end point is not windowed. Sentence (95) is in a case similar to (94).

- (95) 大家 每天 打死 一只 蒼蠅。
dàjiā měitiān dǎ sǐ yì zhī cāngyīng
 everybody everyday hit die one MW fly
 'Everybody kills one fly each day.'

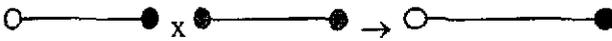
Composition 19: E x E = E 

The aspects of two Type E verbs combine into another Type E aspect.

- (96) 嚴 禁 陌生人 進 出。
yán jìn mòshēngrén jìn chū
 strictly forbid stranger enter go-out
 'Strangers are strictly forbidden to go in and out.'

- (97) 你什麼 時候 進 來 的?
nǐ shénme shíhou jìn lái de?
 you what time enter come *de*
 'When did you come in?'

Both the event of 進 *jìn* 'enter' and the event of 來 *lái* 'come in(to)' in (97) ends at the moment of the figure 你 *nǐ* 'you' passes the (unspecified) landmark of motion.

Composition 20: E x F = E 

In addition to bounding the end point of event aspect denoted by Type F verb, the Type E verb merges its duration with that of the Type F verb and makes the composite event a Type E again.

- (98) 這 聲 長 嘆 表 達 出 他的 心情。
zhè shēng cháng tàn biǎodá chū tāde xīnqíng
 this MW long sigh express out his feeling

‘This long sigh expressed his feeling.’

出 *chū* ‘out’ demarcates the end of the prototypical event 表達 *biǎodá* ‘to express’.

Composition 21: $F \times F = F$ ●——● x ●——● → ●——● → ●——●

The aspects of two Type F verbs combine into an aspect of Type F, a prototype aspect of event, resulting from Adjustment Rule.

(99) 代表們 在新 市場 參觀 採購.

dàibiǎomen zài xīn shìchǎng cānguān cǎigòu

delegations at new market visit do-shopping

‘Delegations visited and did shopping at the new market.’

(100) 她 竟然 哭 倒 了 長城.

tā jìngrán kū dǎo le Chángchéng

she surprisingly cry fall *asp* Great Wall

‘To one’s surprise, she made the Great Wall fall by crying.’

Note that 倒 *dǎo* ‘to fall’ in (100), instead of being a Type C verb marking an end only, indicates an event aspect with a start point and an end point, although the duration may last very shortly, it takes time for the falling anyway.

Two facts need to be noted here. First, the composed Type F may manifest aspects of two events that overlap on a time scale, although they are presented as one aspectual type of F. As the example of (100) shows, the falling of the Great Wall may start when the crying is in process. And the crying may continue when the falling stops, or it may terminate at the same time with the end of the falling. The starting time

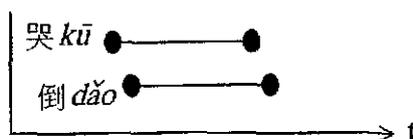


Figure 3.3. Detailed Schema of 哭倒 *kū dǎo*.

denoted by one verb precedes another. This can be presented graphically in Figure 3.3 (see last page). Second, we may also construe the temporally preceding event 哭 *kū* as a condensed unit. Thus 哭 *kū* as a transient event aspect results to 倒 *dǎo*, and the durations of both events do not last quite long. Similarly in (101):

- (101) 小貓 碰 倒 了 花 瓶。
 Xiǎomāo pèng dǎo le huā píng
 kitty knock fall *asp* flower vase
 ‘The kitty knocked the vase down.’

And composed event can be presented as follows, since the knocking (碰 ‘*pèng*’) may be as short as an instant:

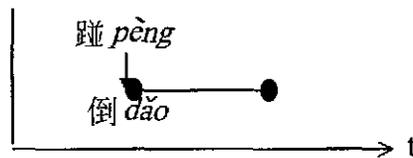


Figure 3.4 Detailed schema of 碰倒 *pèng dǎo*

Thus a complex Type F from two Type F verbs is more complicated than a simple Type F.

3.3.2 Compositional Processes: Aspect Mapping and Aspect Superimposition

The twenty-one Aspectual Composition types provide us with a panoramic picture of the interaction of all possible compositions between two event aspect types. Examining the composed event aspects throughout, we find that the process as composition can be grouped into two categories: “Aspect Mapping” and “Aspect Superimposition”. And the two categories may be defined as follows:

Aspect Mapping (AM): A process in which the aspects of component-simple events are mapped onto the aspects of the composed complex event.

Aspect Superimposition (AS): A process in which the aspect of a foregrounded component event override the aspect of backgrounded component event, forming the aspect of the composed complex event.

Obviously, except for the illegitimate Composition 3, Compositions 1, 7, 12, 16, 19, and 21 belong to the process of AM, and the remaining compositions are AS. In Table 3.5, the AM types form the diagonal cells starting from the upper-left to the lower-right, and the composed event aspects are graphically identical with the component event aspects. The other 14 compositions (Compositions 2, 4, 5, 6, 8, 9, 10, 13, 14, 15, 17, 18, 20) undergo the process of AS, and compose into one of the three composite type D, E, and F, except for Composition 11 (i.e., $B \times F = B$). We also observed that RVCs are much more easily and productively formed in the AS than in the AM, taking one of the aspectual types of D, E, or F. This observation provides a significant clue for our defining RVCs in terms of Aspectual Compositions.

3.4 The Import of Aspectual Compositions for RVCs

Having explored the characteristics of the single event aspects and compositional properties of a complex event aspect, I believe I have achieved a solid foundation for a fresh examination of the RVCs. The work in the first part of current section resolves RVCs into the event aspectual relations and aspectual types into which they combine. I see RVCs of two aspectual types: Result-Durational and Result-Terminating. Then we show that Aspectual Compositions can identify RVCs from other structures of verb-complements.

3.4.1 Aspectual Properties of RVCs

Before my analysis moves forward, I first make reference to Table 3.5 and the twenty-one compositional types again. Tallying with my summary at the end of Section 3.3, we have observed that no RVC takes simple aspectual type either Type A, B, or C through Aspectual Compositions. Correspondingly, RVCs are composed in types of D, E, or F. This is in consonance with the assumption of our study: complex events are compositions of simple events. Among the composed D, E, and F types, those undergoing AS are much more productive in forming RVCs than those undergoing AM.

Aspectual Compositions containing Types D, E, or F are a number of distinct types of causative-result situations of varying complexity of event aspects. Causally related events are sequenced on a time scale, because it requires time for the causing event aspect to take effect so as to result in the caused event or its aspect. This recognition is significant because, on the one hand, it straightforwardly accounts for ineligibility for Compositions 1 (A x A), and 12 (C x C) in forming into RVCs. It may also account for the Composition 3 (A x C) since the significant bridging stage is gapped. On the other hand, two event aspects cannot be causally connected if neither of them is bounded because a bound denotes an end or a start, distinguishing one stage characteristically from a preceding one. This recognition accounts for Composition 2, i.e., two Type B verbs cannot form an RVC, such as 喜歡快樂 *xǐhuān kuàilè* 'like happiness', and 怕亂 *pà luàn* 'fear of chaos', and also for Composition 11 (i.e., B x F = F).

G-verbs representing two events extended on a time scale, are not necessarily organized by the order of the causing event preceding the caused event, although the

causing event starts ahead of the caused event. A statement about the caused event following the causing event in temporal sequence is based on the conceptualized aspects of the event in RVCs. But locating the two aspectual events of RVCs on a time scale can be very complicated. Let us explain this by interpreting explicitly the example of (70), which is provided here again as (102).

(102) 我 最近 喜歡 上 了 運動.

Wǒ zuìjìn *xǐhuān shang le* yùndong (B x A = D)

I recently enjoy up *asp* sports

'I fell in love with sports recently.'

The RVC aspect is a Type D, starting from the aspect denoted by 上 *shang* 'up onto (a new stage)' and continuing with 喜歡 *xǐhuān* 'enjoy, like'. But, no one could deny that the state of 喜歡 *xǐhuān* 'like' or 有一點兒喜歡 *yǒudiǎnr xǐhuān* 'to like a little bit' actually occurs before 上 *shang* in real time. In the causal continuum of complex events, the aspect of 有一點兒喜歡 *yǒudiǎnr xǐhuān* 'enjoy/like a little bit' accumulates and changes qualitatively till a moment when the speaker 我 *wǒ* 'I' feels that he really loves or likes sports, and the moment is the aspect of 上 *shang* becoming a reality. The 喜歡 *xǐhuān* preceded by 上 *shang* is manifested in a new aspect and grammaticalized in the RVC of 喜歡上 *xǐhuān shang*. However, 喜歡 *xǐhuān* as a causing event preceding the qualitative change is not windowed and thus backgrounded in the event aspects manifested in 喜歡上 *xǐhuān shang* 'start to enjoy'. On the contrary, the RVC 喜歡上 *xǐhuān shang* gives us the impression that the state of 喜歡 *xǐhuān*, meaning "be fond of", starts from the moment that 上 *shang* denotes. We illustrate the windowed aspect of 喜歡上 *xǐhuān shang* by Figure 3.5 as follows:

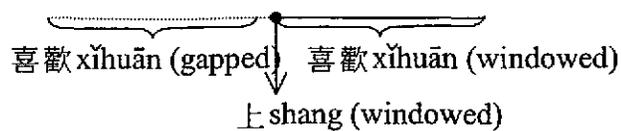


Figure 3.5 Windowed Aspects of 喜歡上 *xǐhuān shang*

The iconic expression of this causal chain should truly be 上喜歡 *shang xǐhuān* if Tai's PTS is observed. The winding up of two events in RVCs may also vary in many ways. It may be the case that the causing event ends at the moment denoted by the caused event, as 跑到 *pǎo dào* 'ran and arrive' denotes, where the aspect of 到 *dào* 'end at' terminates clearly the end of the event 跑 *pǎo* 'run'. In many other cases, the occurrence of the caused event may not imply the end of the causing event, as I have explained before, such as 哭紅 *kū hóng* 'cry and redden', where the duration of the caused event becomes prominent regardless of the termination of the causing event in 他眼睛哭紅了 *tā yǎnjīng kū hóng le* 'his eyes became red by crying'. 紅 *hóng*, instead of being Type B, is Type D because becoming red takes place at an instant during the process of crying and the state of being red lasts with no ending discerned. It is possible for the case that "he" either keeps or stops crying after his eyes turned red.

The three aspectual forms of RVCs—D, E, or F—manifest two aspectual categories: Result-Durational and Result-Terminating. The former includes Type D and Type F RVCs, indicating a composite aspect without end, such as 哭紅 *kū hóng* 'cry and become red', 逗笑 *dòu xiào* 'tease and laugh', and 愛上 *ài shang* 'fall in love with'. The latter is shown by Type E only, where the composite aspects have scopes reaching the ends of both the causing and the caused events, such as 跑到 *pǎo dào* 'run to', 關上 *guān shang* 'shut', and 吃完 *chī wán* 'eat and finish', etc.

In sum, I present the properties of Mandarin RVCs, referring to Talmy's (2000: 480-495) characterization of basic causative situations, as follows:

1. An RVC is a complex causal situation, consisting of two causally connected events: a causing event and a caused event. The aspect of a more complex RVC is a reapplication of Aspectual Compositions from less complex event aspects. Any RVC falls into one of the composition types D, E, or F.
2. The two events are casually connected by shared components, at least on the time scale, in that the caused event takes place no later than the occurring of the end point of the causing event.
3. The composite aspect of RVCs is either Result-Durational (Type D and Type F), or Result-Terminating (Type E).

3.4.2 Distinctions of RVCs from Other Verb-Complement Structures

Abstracting from the properties of RVCs, I now reveal how Aspectual Composition provides a practical tool for a natural account of RVCs, characteristically distinguished from other verb-complements.

Structures of verb-complement commonly recognized as RVCs include Directional verb-complements (DVCs), Potential verb-complements (PVCs), Extent verb-complements (EVCs), and Stative verb-complements (SVCs) (Zhu 1982). As a composition of two event aspects, any structure of verb-complement falls naturally into one of the above types of Aspectual Composition. Traditional studies of verb-complements (Chao 1968, Li & Tompson 1986, Zhu 1982) make decisions on the characteristics of — and differences among — these various types, based on instincts shared by linguists. By employing Aspectual Compositions, we may distinguish RVCs

from other verb-complement structures by the distinct compositional types of Type D, E, or F. Other verb-complements fall uniformly into Composition 11 ($B \times F = B$). In what follows, I present how aspects of RVCs differ from those of other verb-complements.

3.4.2.1 DVCs and RVCs

DVCs consist of two verb aspects, one denoting a motion and the other the direction of the motion. There are nine g-verbs denoting the direction of motion in Mandarin: 來 *lái* ‘come, toward’, 去 *qù* ‘go, away’, 進 *jìn* ‘enter, into’, 出 *chū* ‘go out, out’, 上 *shàng* ‘ascend, up’, 下 *xià* ‘descend, down’, 過 *guò* ‘pass, over’, 回 *huí* ‘return, back’, 起 *qǐ* ‘rise, up’. Besides functioning as directional verbs, these eight verbs can sometimes form DVCs with each other. Complex DVCs are composed of one verb, which may or may not be motion-denoting, and one of the eight direction-denoting compositions.

Aspectual Compositions show that all DVCs, no matter simple or complex, are RVCs.

This is because all of these nine verbs except for 去 *qù* (Type D, Result-Durational) are of the type D, E or F (i.e., Result-Terminating). Based on Aspectual Compositions, the composing of Type F, with a D, E, or F type, will result in one of the three types. This will be true even if in complex RVCs, the direction-denoting verbs composes into one of the three RVC types, as shown in Table 3.6 (see next page). Table 3.6 shows neatly that compositions of direction-denoting verbs result exclusively in Type E, when the direction

	進 <i>jìn</i> (E)	出 <i>chū</i> (E)	上 <i>shàng</i> (E) ¹⁴	下 <i>xià</i> (E)	過 <i>guò</i> (F)	回 <i>huí</i> (F)	起 <i>qǐ</i> (E)
來 <i>lái</i> (E)	進來(E) <i>jìnlai</i>	出來(E) <i>chūlai</i>	上來(E) <i>shànglai</i>	下來(E) <i>xiàlai</i>	過來(E) <i>guòlai</i>	回來(E) <i>huílai</i>	起來(E) <i>qǐlai</i>
去 <i>qù</i> (D)	進去(F) <i>jìnqu</i>	出去(F) <i>chūqu</i>	上去(F) <i>shàngqu</i>	下去(F) <i>xiàqu</i>	過去(D) <i>guòqu</i>	回去(D) <i>huíqu</i>	X

Table 3.6 Aspectual Compositions of Directional RVCs

complement is Type E (i.e., 來 *lái* ‘come (toward the reference)’), and in Type D, or F, when the complement is Type D (i.e., 去 *qù* ‘go (away from the reference)’).

The close similarity between RVCs and DVCs in terms of Aspectual Composition is evidenced in some grammar books, such as by Li & Thompson (1981), which ascribe these two kinds of verb-complements to the category of RVC. More evidently, the metaphoric use of direction-denoting verbs is exclusively considered as RVCs. In Liu’s (1998) explicit study of DVCs, verbs that can be associated with each resultative meaning of DVCs are exhaustively examined. These verbs are predominantly of Type F, implying that metaphoric use of DVCs (i.e., RVCs) denotes composed aspect, either Result-Durational or Result-Terminating. Aspectual Composition thus provides cognitive evidence for the categorization of DVCs as a special category of RVCs.

3.4.2.2 PVCs vs. RVCs

The structure of PVC is characterized by the potential infix (Li & Thompson 1981: 39) -得 *de*-, denoting “can” or “be capable of”, between a verb and its complement. Since -得 *de*- in PVCs denotes that of the state expressed by the complement is achievable, the semantics of the -得 *de*- in PVCs is thus Type B. And it is an HV in terms of CCG. In the SSrr of PVCs, -得 *de*- is singled out as the A(ction) while the verb and its complement function as a gestalt to be the R(eceiver). To understand this, let us take a look at the SSrr of 看得見 *kàn de jiàn* ‘look-can-see → able to see’ exemplified in Figure 3.6 (Here I omit the details of SSr for 看見 *kànjiàn*, focusing on the SSr of -得 *de*- in PVCs). Therefore, regardless of the event type of the RVC in a PVC (e.g., 看見 *kàn-jàn* in 看得見 *kàn-de-jiàn*), the aspect of a PVC is unanimously Type B because the type of the Aspectual Composition resulted from the RVC (e.g., Type E in 看見 *kàn-jàn*) does

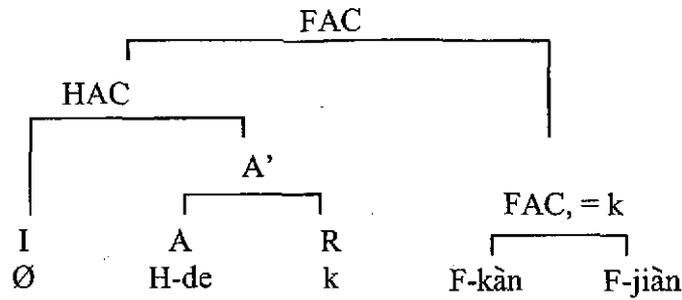


Figure 3.6 A Partial SSr for 看得見 *kàn de jiàn*

not determine the aspect of the structure (i.e., 看得見 *kàn-de-jiàn*).

3.4.2.3 EVCs vs. RVCs

The structure of EVCs is characterized by a g-verb with a complement such as 極了 *jíle* 'extremely', 多了 *duōle* 'much (better/worse)', 透了 *tòule* 'thoroughly', and 死了 *sǐle* 'to the extent of death', denoting the aspect of the event to a measurable extent, i.e., 極 *jí* 'top' and 多 *duō* 'much' or hyperbole (透 *tòu* 'thorough' and 死 *sǐ* 'die').

Somewhat, as in PVCs, it is the complement and not the verb preceding the complement that functions as the A(ction) in SSr for EVCs; whereas the complement denotes Type B aspect. This may be illustrated by the SSr for 好吃極了 *hǎochī jíle* 'extremely delicious' in Figure 3.7 (Similarly, we sidestep the details of the SSr for 好吃 *hǎochī* and concentrate on the minute part of SSr related to *jíle*). Obviously, it is not the aspectual

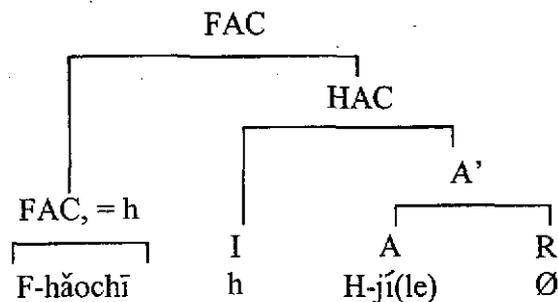


Figure 3.7 Partial SSr for 好吃極了 *hǎochī jíle*.

type of the verb (i.e., *hǎo-chī* 'good-eat → delicious', Type B) that determines or affects the aspectual type of EVCs. But rather, it only functions as an I(nitiator) in the SSr for the EVCs.

3.4.2.4 SVCs vs. RVCs

The situation for SVCs is a little more complicated than the other three patterns. The complement in an SVC may be a simple AC, such as 多 *duō* 'many, much' in 吃得多 *chī-de-duō* 'eat a lot'. It may also be a complex AC, such as 很快 *hěn kuài* 'very fast' in 走得很快 *zǒu-de-hěn kuài* 'walk very fast'. It may even be a much more complex structure such as 走得滿頭大汗 *zǒu-de-mǎn tóu dà hàn* 'walk (so much/so fast) that one's face is bathed in sweat'. However, the SSr for an SVC is the same as one for an EVC or PVC, despite the complexity of the complement. Consider the partial SSr for 走得很快 *zǒu-de-hěn kuài* 'walk very fast' in Figure 3.8.

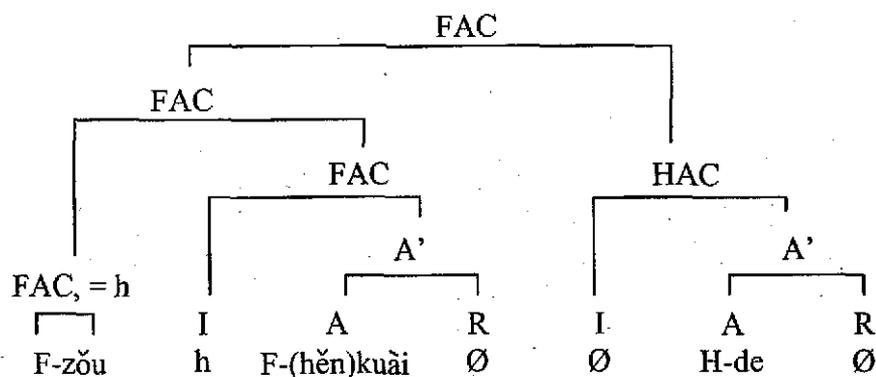


Figure 3.8 A Partial SSr for 走得很快 *zǒu-de-hěn kuài*

The complexity of the SVCs can be interpreted as follows. The structural-*de* in SVCs functions only as an HV, which has a purely grammatical function and does not denote any aspect. For the SSr aside from -得 *de*- (i.e., 走得很快 *zǒu hěn kuài* 'the walking is fast'), we can see that the complement, i.e., (很)快 (*hěn kuài* 'fast', functions as the A(ct)

and the verb, i.e., 走 *zǒu* 'to walk'. The verb determines the aspect of the SVC.

Therefore, the aspect SVCs is dependent upon the aspect of the complement, and it is invariably Type B.

The study in this section illustrates that the distinction between RVCs and other verb-complements can be precisely expressed in terms of their difference in Aspectual Compositions. That is, the distinction justifies our assertion that the Aspectual Composition for RVCs falls into only one of the three composite aspectual types, i.e., D, E, or F, while any other structures of verb-complement (PVCs, EVCs, and SVCs) are unanimously Type B.

In this chapter, starting with *schematizing event structure*, I investigated various aspect schemas that are conceptualized in g-verbs of Mandarin. Inspired by previous studies of verb aspects in English and Mandarin, I extended Vendler's categories and Tai's analyses in another way, categorizing Mandarin g-verbs into six types. I then postulated Aspectual Compositions, an operation presenting the lively moment of interaction between two events, for the *organization of aspects from lexicon into compounds and other more complex structures*. It has been demonstrated that Aspectual Composition is of considerable significance because we can show its intriguing cognitive plausibility in the analysis of complex events of including various idiosyncratic structures such as RVCs and in the distinguishing RVCs from other verb-complement structures. Thus it makes achievements toward *accounting for difficult examples that explanations in previous studies failed to clear up*.

Notes

- ¹ For instance, Teng's classification of Chinese verbs, as correctly pointed out by He (1992), amounts to analyzing Mandarin verbs in terms of temporal structure, instead of the aspectual or situational types.
- ² The notion of "aktionsart" in Szeto (1988: 2) is defined as a notion concerning the inherent temporal nature of a situation, in contrast to "aspect", which concerns the temporal perspective or point of view taken of a situation.
- ³ MW stands for Measure Word.
- ⁴ "Nondetachability" indicates a process that is not detachable from its final result, according to Smith.
- ⁵ This interpretation is also questioned in He (1993). I have also asked about a half a dozen Mandarin native speakers about their reaction to Smith's second interpretation. They all disagree with it. No statistic survey is conducted about the acceptance of the second interpretation.
- ⁶ He has another criticism of Szeto's ignorance of direct object in affecting the situation type of a sentence, but it is not accurate, as I have shown in Section 3.1.2.2, and Szeto does point out the importance of object.
- ⁷ As I argued in the previous section, the start point can be considered as the end point of a following stage when the whole world is regarded as a network of causal chains. Thus, 成 *chéng* 'become' can also be a Type C word in another sense, i.e., when they compose with and following other verbs.
- ⁸ What are called "directional verbs" such as 起來 *qǐlái* and 上 *shàng*, etc., have more than one resultative meaning, as extensively studied in Liu (1998). When I exemplify

these words, I specify their respective meanings in quotation marks corresponding to the event type denoted.

⁹ In CCG, an adverb is the A(ct) in the complex AC where the I(nitiator) is the event of the verb. In (26), the AC can be associated as AC = <<他, <看, 书>>, <正, 0>>.

¹⁰ In a study by Li (1981), verbs such as 見 *jiàn* 'perceive (looking)' and 到 *dào* 'arrive, reach the destination' are considered to denote a "succeeding phase" (p. 20), which is an ACH in Vendler's (1967) terms.

¹¹ These two types differ from a subtype of Type F such as 閃 *shǎn* 'to flash' in that they do not comply with a duration expression such as 用/花 *yòng/huā* 'take (a period of time)'.¹²

¹² In CCG, a Type F CSr is formed by SSrr composition, which is detailed in Section 3.3.

¹³ The "compatibility" here indicates that the possibility of the temporal expression can function as the A(ct) for the event denoted by the verb functioning as the I(nitiator) in a complex AC.

¹⁴ By categorization, both 上 *shàng* 'moving upward' and 下 *xià* 'moving downward' denote a Type E aspect. This is supported by Szeto (1988), who suggests that both verbs may be construed as denoting that a motion, either factual or fictive, comes to an end after the moving entity "has come into contact with" (pp. 237-238) the highest or the lowest point of the reference.

CHAPTER 4

THEMATIC ROLES AND THEIR COMPOSITIONS

The previous chapter rigorously discussed event aspects in detail in terms of “Aspectual Composition”. This chapter will deal with the ways in which participants in an event are identified by their relation to the event. The participants in an event are related as “thematic roles” in an event. Exploring the participants’ thematic roles in an event enables us to understand the complex transformation from images to their corresponding linguistic realizations.

This chapter starts with reviewing previous studies of thematic relations of RVCs and exposes some problems with these studies. Then I investigate thematic roles in terms of Thematic Structure Representations (TSrr) in the framework of CCG. I show a unique way of identifying various thematic roles in the transformation from SSrr to TSrr, which enables thematic role identification possible by integrating the contents of conceptual and formal structures. Then I illustrate, by composition, how thematic roles in an event, either simple or complex, are organized in a systematic way, permitting a description of complex event structures to be formulated and discussed with some rigor.

4.1 Thematic Relations

Whether thematic relations are a part of syntax or a part of conceptual structure is not empirical, but actually quite theoretical. To formal linguists, thematic relations are recognized in relation to the term “argument structure” and are expressed by Chomsky (1981) and his followers as “theta-roles”. By grammarians holding a cognitive view,

such as Jackendoff (1987: 405), thematic relations are considered as an abbreviation for the part of conceptual structure that is “visible” to the syntax. In general, both the two main schools recognize the importance of thematic relations in a sentence. Regarding the relevance of thematic roles to the current research, I review three important studies on thematic relations exemplified with English, and two to three applications of these studies in analysis of Chinese with a focus on RVCs. These reviews draw our attention to two issues about (a) the key thematic roles that need to be identified, and (b) correlation of these key thematic roles besides their relation with the predicate verbs.

4.1.1 Recapitulations of Studies by Fillmore, Jackendoff, and Dowty

A pioneering and influential study of thematic relations may be traced back to Fillmore’s (1968) often-cited paper. In trying to establish a base applicable to universal grammar, Fillmore argues for a case role for each NP in a sentence having semantic relevance to verbs at the underlying level of a grammar. These roles correspond to varying syntactic labels in surface structure. It was the Case Grammar that he developed that made linguists understand cases with the functions of their associated NPs. Fillmore’s case system includes a series of notions that are strongly motivated by semantic considerations: agentive, instrumental, dative, factive, locative, objective, and benefactive, all of which are characterized by their corresponding semantic properties at deep structure, although they may be represented by the corresponding overt realizations in the surface structure. A few examples will suffice to reveal his ideas in brief.

- (1) The door was opened by John with a key.
- (2) John opened the door with a key.
- (3) The key opened the door by John.

For the three sentences, “the door”, “John”, and “the key” correspond to cases of the instrumental, the agentive, and the objective, respectively. Fillmore’s endeavor, notwithstanding being revisited by both formal and functional linguists, patterns an archetype of investigating thematic relations. It has called our attention, through the modification of Fillmore’s approach by linguists from both schools, to the fact that a model of a semantically justified syntactic approach, or a syntactically constrained semantic revelation would be very useful. This is because it can explain the systematic *correspondence from the conceptual structure to the formal structure*. I will show in the second section (Section 4.2) of this chapter that this call by Fillmore and others may be answered by investigations conducted in a particular operational level— SSrr in CCG – because it is a level postulated to bridge “the discoverable semantic deep structure and the observationally accessible surface structure” (Fillmore 1986: 88).

In GB Theory, Case Grammar is extended to explore argument structure, and further, theta roles, which consist of important content in the famous “Theta-Theory”. The main principle of this theory is “Theta-Criterion”, which requires that each NP of a verb be assigned one and only one theta role (Chomsky 1981: 36, 139) and vice versa. Thematic roles have since been labeled as what are used to describe the relation of NPs to the event of which they are a part. A series of core thematic roles, such as “agent”, “theme” or “patient”, “source”, “goal” and “location”, etc., are commonly recognized, which are differently defined. The identification of thematic roles, in general, has been more restricted to the number of language forms at surface level due to the restrictions from Theta-Criterion.

Jackendoff (1972) has made the notion “thematic roles”, corresponding to the deep cases of Fillmore, widely known to linguists. However, observing the difficulties that Theta Theory confronts, Jackendoff (1987) discerns its strong empirical claim about natural-language predicates, pointing out that the thematic relations linking directly to certain syntactic positions result from the pure formal perspective of GB theory. Jackendoff thinks that, in spite of the tradition of linking conceptual constituents in a sentence to associated syntactic constituents, thematic roles should be termed argument positions in conceptual structure. He thus rigorously promotes the linking of the configurations of thematic roles to conceptual structure notions. Correspondingly, Jackendoff (1972) defines thematic roles as relational notions in a conceptual structure, although these relational notions may be in a status that is comparable to that of the notions “subject” and “object” in many syntactic theories. He puts forth multiple argument structures of a three-tier system (Jackendoff 1987):

Thematic Tier: Source, Goal, Theme
 Action Tier: Agent, Patient
 Temporal Tier: Point, Region

The Thematic Tier deals with motion and location particularly. In the Action Tier, the “agent” role is a volitional actor, and the “patient” is an affected role. The two primitives in the Temporal Tier are alternatives in defining an event with different aspectual properties on a time scale. The nature of a multiple structure makes it possible for the “theme” and “agent” roles to be assigned to one and the same argument in sentences like (4) (from Jackendoff 1987: 395).

(4) Peter entered the room.
 Theme Goal
 Agent

This approach eliminates the need to add new thematic roles for complex situations. The agent role is generally an actor and can be tested by the “what NP (that can be regarded as agent role) did was...”. In light of this approach, in Mandarin sentence (5), 風 *fēng* ‘wind’ may be considered as an agent, and 房頂 *fāng dǐng* ‘house-roof’ is a patient and theme.

- (5) 風 吹 跑 了 房 頂。
fēng chuī pǎo le fāng dǐng
wind blow run *asp* house roof
‘The wind blew away the roof (of the house).’

Thematic roles are thus not strictly restricted to pure syntactic positions. Jackendoff therefore contributes significantly in establishing a correspondence between syntactic and conceptual arguments of a verb. This lays proper foundations for us to work toward a more refined account of thematic roles at the level of TSrr that is transformed from the level of SSrr. Of particular interest to us is Jackendoff’s suggestion of distinguishing Action tier and Theme tier, which leads to our later work of discussing thematic roles in categories of motion events and non-motion events.

Similar to Jackendoff, Dowty (1991) argues at pains against the necessity of associating the role of agent to the grammatical position of subject, and the role of patient to the grammatical position of object absolutely, although there is such a strong tendency in linguistic studies. Starting by examining the traditional empirical difficulties of previous studies, Dowty recognizes the fundamental problem in the lack of consensus about what thematic roles are, although in most analyses of thematic relations, the roles of “agent”, “theme”, “source”, “goal”, and “location”, etc., are identified. To solve this problem, he suggests that all thematic roles are event-dependent, instead of

perspective/discourse-dependent, in meaning. Any striving for an explicit list of thematic roles of a language would be a futile effort. In contrast to any such laborious exertion, Dowty puts forth two general categories of thematic roles: Agent Proto-Role and Patient Proto-Role. The corresponding properties are as follows (Dowty: 1991: 572):

- A. Contributing properties for the Agent Proto-Role:
 - a. volitional involvement in the event or state
 - b. sentience (and/or perception)
 - c. causing an event or change of state in another participant
 - d. movement (relative to the position of another participant)
 - e. exists independently of the event named by the verb)

- B. Contributing properties for the Patient Proto-Role:
 - a. undergoes change of state
 - b. incremental theme
 - c. causally affected by another participant
 - d. stationary relative to movement of another participant
 - e. does not exist independently of the event, or not at all)

Dowty emphasizes that the distinction between these two types (Type A and Type B), instead of being discrete, is one of degree, because the boundary between these two are far from clear-cut. An argument of a predicate may be comparatively “high” in one property and “low” in another. Moreover, the hierarchical relation among these two proto-roles and other traditional roles (Dowty 1991: 578) tells us that the Agent and Patient Proto-roles do not encompass all thematic roles:

$$C. \text{ Agent} > \left\{ \begin{array}{l} \text{Instrument} \\ \text{Experiencer} \end{array} \right\} > \text{Patient} > \left\{ \begin{array}{l} \text{Source} \\ \text{Goal} \end{array} \right\}$$

There is also an additional ranking that deals with other possible argument selections in Dowty’s list:

- D. causing event > caused event
- moving argument > Source, Goal, Argument¹
- Experiencer > Argument

Dowty's approach generalizes various thematic relations into two proto-roles, and describes the fundamental correlation among NPs in an individual event. One Proto-role initiates an event and the other that undergoes the events. This effort makes the Proto-Agent role suitable to the solutions of many Chinese linguists who assign the NP that acts upon another NP in an event a role of "that which applies action-*shìshì* (施事)", which is sometimes identified as "agent" in English. Moreover, the ranking and hierarchy of other traditional thematic roles with the proto-roles justify other roles in motion.

4.1.2 Studies of Thematic Roles of RVCs

Thematic role studies are particularly interesting to Chinese linguists, because the semantics of NPs associated with particular event g-verbs are more easily used to deal with complex structures in Mandarin. I have shown with examples (4) to (11) in Chapter 1 the implicit thematic relations existent in Mandarin RVCs, and I have suggested that the thematic relations of RVCs form a testing ground for various syntactic theories. Therefore, studying the thematic roles of RVCs may allow us to examine the plausibility of a thematic-role. What is called the valence study of RVCs (Wang 1995, 1999, Wu 1998, among others) regulates the quantity of valence of each RVC, and it seems that it does not actually delve into the depth of the properties of the associated NPs. The thematic roles of RVCs are discussed in slightly greater detail in four articles, which I will review below by adopting either a formal or a functional approach.

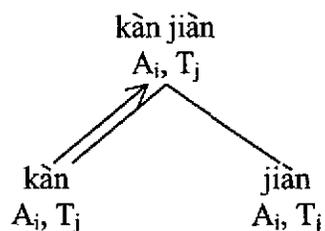
4.1.2.1 Head-Feature Percolation Approaches

Approaches featured by head percolation try to identify the determining verb for the thematic relation in RVCs. Given the fact that there are only two composing g-verbs

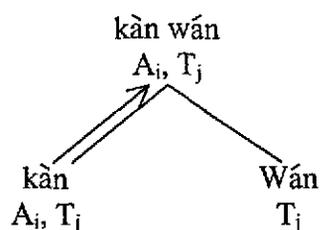
in an RVC, argument percolation rules prefer the first verb as the determinant, as in both Chang's (1989) study and Li's (1990) study, and also in Cheng and Huang's (1994) study. My review pays more attention to Chang's study in that I can find more semantic motivation there than in the other two works.

Chang claims that the thematic roles of an RVC are primarily determined by the argument structure of the left-handed stem. Specifically, the argument structure of the left-handed verb percolates up to the branch node dominating the structure of RVCs and presents thematic roles of the whole RVCs. This proposal can be summarized as three main patterns.

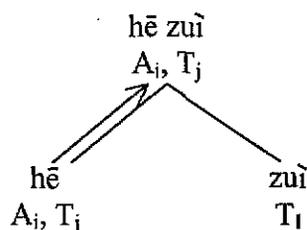
First, the percolation rule applies to situations in which two stems (two g-verbs of an RVC) have identical argument structures. For example, the thematic structure of 看見 *kànjiàn* 'look-see → see' is exactly the same as the one of *kàn* because it percolates up, as illustrated in the following, cited from Chang (p. 73). (A = Agent, T = Theme²)



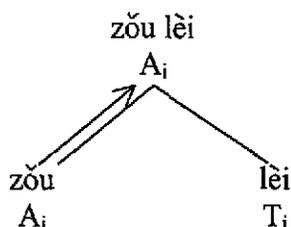
Second, this rule applies to situations in which the thematic roles of the two stems are partly identical. For example, in 看完 *kàn wán* 'read-end → finish reading', the left stem 看 *kàn* 'read' has both an "agent" and a "theme" role, where only the "theme" role is identical with the thematic role of the right stem 完 *wán* 'finish'. The thematic structure of 看完 *kàn wán* thus inherits the argument structure of 看 *kàn*, also cited from Chang (p. 73).



This pattern also includes the situation in which the different roles of the two verbs are co-indexed. As the following example from Chang (p. 74) shows, the “agent” role of 喝 *hē* ‘drink’ and the “theme” role of 醉 *zuì* ‘get drunk’ are co-indexed. The argument structure of 喝醉 *hē zuì* ‘drink-drunken’ copies the one of 喝 *hē* ‘drink’.



Even if in a situation, where each stem verb bears only one thematic role, the thematic role from the left verb percolates up as the one for the RVC, such as 走累 *zǒulèi* ‘walk-tired → be tired by walking’, cited from Chang (p. 74):



Chang points out that these three situations manifest an absorbing of the theme role of the second verb by the agent role of the first verb, and this absorbing is exemplified by the two different realizations in sentences (6) and (7):

- (6) 他看 完 了 书。
 tā kàn wán le shū
 he read finish *asp* book

'He finished reading the book.'

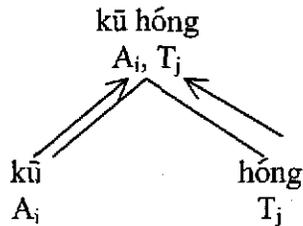
(7) 書 看 完 了 .

shū kàn wán le

book read end *asp*

'(The) book was finished (by someone reading it).'

Third, a supplementary rule is applied to the situation when there is not an identical role from the two stems. This supplementary rule combines thematic roles from both stems into the roles of RVCs. For example, 哭紅 *kū hóng* 'cry-red → become red by crying' bears the argument structures from both 哭 *kū* and 紅 *hóng*, as illustrated below.



Further, Chang formulates a constraint based on Theta-Criterion, asserting that the agent is associated with subject and the theme with object. Chang attempts to show the adequacy of her approaches by the ambiguity in sentence (8):

(8) 他 騎 累 了 馬 .

tā qí lèi le mǎ

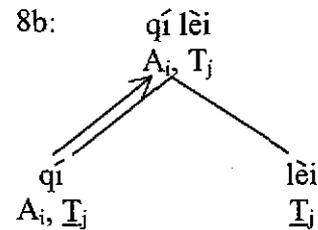
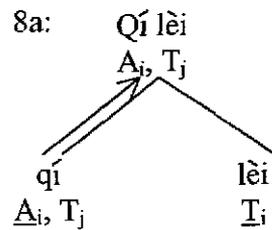
he ride tired *asp* horse

a. 'He was tired from riding a horse.'

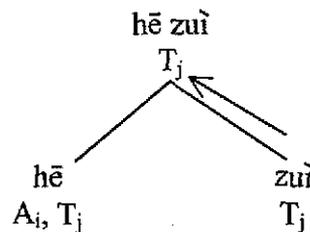
b. 'The horse was tired because of his riding.'

The contrast of the two readings in (8a) and (8b) can be explained by the following two argument structures, which show that the differences result purely from the right stems:

(see next page)

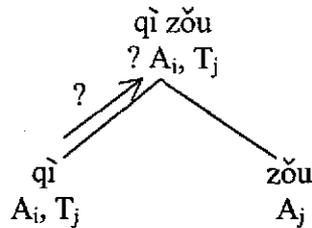


For many of Chang's examples, her argument would have been entirely convincing if we only considered sentences of transitive RVCs with both subject and object. One problem of Chang's approach, swiftly rebutted by Ross (1990), lies in that she considers the first verb of RVCs as a preferential thematic role donator. Ross presumes that Chang's argument structures take Jackendoff's (1972) definitions (Ross 1990: 70), and argues that there does not exist a favored thematic role provider as Chang assumed. Ross claims that the argument structure of 喝醉 *hē zuì* 'get drunk by drinking' in sentence (9) 他喝醉了 *tā hē zuì le* 'He got drunk from drinking' is actually as follows:



Ross is right when we understand "theme" role as denoting an entity that achieves the effect of action. Thus, as shown by Ross, it is the right-handed stem *zuì* that donates the thematic role for the RVC 喝醉 *hē zuì*, because it is the state of 醉 *zuì* 'get drunk' that 他 *tā* 'he' undergoes that are asserted in sentence (9). 喝醉 *hē zuì* therefore bears a "theme" role, instead of an "agent" role as Chang shows. In addition, in the example of 看見 *kàn jiàn*, it is arbitrary for Chang to claim that only the left-stem verb (i.e., 看 *kàn*) contributes to the argument structure of the RVC since the right-stem verb 見 *jiàn* bears exactly the same argument structure with 看 *kàn*.

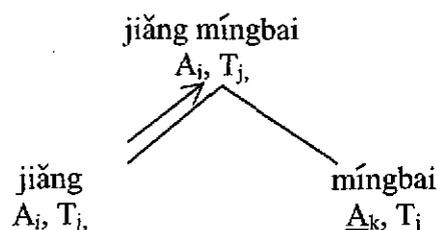
Another language fact that is controversial in Chang's observation is that the right-handed stem, i.e., the resultative complement, does not always bear a "theme" role. It may, however, carry an "agent" role that is co-indexed with "theme" role. To pursue this further, consider the thematic structure of 氣走 qì zǒu 'to make somebody leave by enraging (him)' in following.



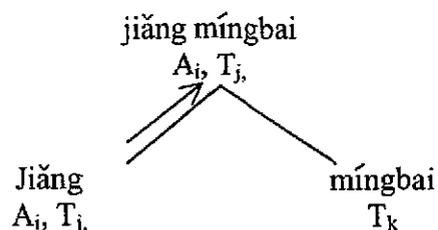
With the "agent" role of 走 zǒu 'leave' co-indexed with the "theme" role of 氣 qì 'to enrage (somebody)', it seems that there are two possible interpretations. For one possibility, if the "agent" role of 走 zǒu is "absorbed" by the theme roles of 氣 qì, it would be against Chang's suggestion that it is "theme" that is always absorbed. For another, if we assume that the "agent" role of 氣 qì absorbs the "agent" of 走 zǒu, we would be in trouble in trying to identify two non-coindexed thematic roles as one. This example and others make Chang's claim about absorbing invalid and thus makes the large part of Chang's percolation rules lose their factual base. Actually, Chang's postulation of percolators results from the formally biased theoretical basis, because the Theta-Criterion based constraints leave certain thematic roles in a complex situation such as in (10) unassigned.

- (10) 老師 講 明白 了 這 道 題。
 lǎoshī jiǎng míngbai le zhè dào tí
 teacher explain understand *asp* this MW exercise-problem
 'The teacher explained this exercise so that it became understood.'

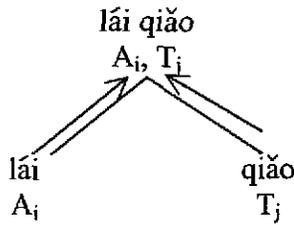
Somewhat similar to the problem of (9), if we take Chang's approach, the percolation of argument structure of the left stem 講 *jiǎng* 'explain' would make the agent role of 明白 *míngbai* 'to understand' unassigned, which is absolutely against the Theta-Criterion.



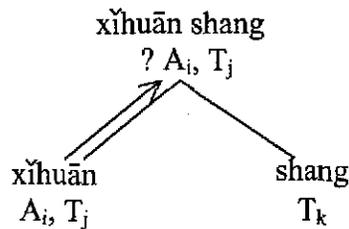
Moreover, I cannot agree with another proposal such as the next one where 明白 *míngbai* bears a theme role that is not identified with any role in 講 *jiǎng*, because this approach would leave this role unassigned. At the same time, this approach ignores the fact that 明白 *míngbai* actually bears two thematic roles, although neither of them occurs in sentence (11) 老師講明白了 *lǎoshī jiǎng míngbai le* 'the teacher explained (it) clear'.



On the other hand, the percolation approach may distort the thematic relations in an expression like 來巧 *lái qiǎo* 'come at the right moment', and other similar expressions such as 醒晚 *xǐng wǎn* 'wake up late', 找對 *zhǎo duì* 'find the right one', etc. If we follow the third pattern of Chang's percolating rules, we can only illustrate the argument structure of 來巧 *lái qiǎo* 'come fortuitously' as follows (see next page). Different from the argument structure of 哭紅 *kū hóng* 'cry-red → become red by crying', evidently, the semantics of 來巧 *lái qiǎo* manifests that it is the event of 來 *lái* 'come → (someone's) coming' that bears the theme role of 巧 *qiǎo* 'fortuitous', not the agent that should be in



the subject position. This example also illustrates our earlier statement in Chapter 3 that the semantics of RVCs is a compositional realization of the meanings from all components, but not from any single one, nor a simple summation. Also, the “theme” role of 巧 *qiǎo*, if Chang’s approach is applied, would not be realized in any sentence containing 來巧 *lái qiǎo*. In a similar vein, the argument structures in 喜歡上 *xǐhuān shang* ‘fall in love with’ hold up our above argument.



The 喜歡 *xǐhuān* ‘like’ bears two thematic roles: agent and theme. The 上 *shang* ‘start up (a course of)’ bears a theme role, which is functioned by the event 喜歡 *xǐhuān*, whose beginning is denoted by the 上 *shang*. The theme role of 上 *shang* is not co-indexed with either agent role or theme role of 喜歡 *xǐhuān*. Moreover, this role cannot be identified in the RVC 喜歡上 *xǐhuān shang*.

Compared to Chang, Li’s (1990) work is more formally biased because it follows strictly on the framework of GB theory, although it also claims the headhood of the first verb. Li emphasizes the obligatory percolation of the argument structure of the head to the whole RVC. Due to Case reasons, the total number of arguments selected by the two verbs of an RVC is restricted. This leaves some arguments of either verb unexpressed.

But the theoretical and empirical problems, mainly concerning the “causative paradigm” postulated by Li, although modified in his later work (Li 1993), are still existent. Li’s work focuses on the transitivity relations of RVC, but it does not follow the transitivity properties of either of the components of RVCs, even if to Chomskian linguists, such as Cheng and Huang (1994) (refer to examples in Cheng and Huang 1994: 193-194).

Therefore, it is problematic to assume a “predominating” thematic role provider from any particular component verb of an RVC. We thus agree with Cheng and Huang in arguing that the notion of a head is a syntactic one, instead of a conceptual one, which is, from the very basic sense, against the motivation for the notion of thematic relations. Also, it is groundless to assert that thematic roles of an RVC may be obtained from a simple combination of all contributing g-verbs because, as we will show in Section 4.2, the semantics of an RVC is compositional, and both components contribute to the total meaning of an RVC.

4.1.2.2 Thematic Role Hierarchy in RVCs

That the thematic relation in an RVC is not a pile-up of all identifiable thematic roles can also be evidenced in my review of two relevant studies: Ross (1990) and Li (1995), both of whom are motivated from the insufficiency of percolation approaches, adopt Jackendoff’s multiple-tier thematic structures (see Section 4.1.1 for details).

Ross illustrates her approach with the following groups of sentences, indicating the accountability of her approach and the failure of Chang’s approaches.

(12) *他吃 壞 了 蝦仁.

tā chī huài le xiārén

he eat bad *asp* shrimp

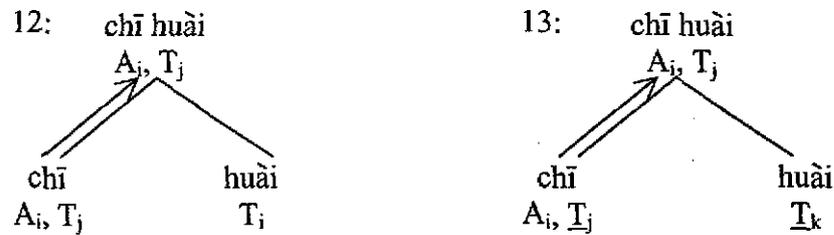
‘?He ate to the point that the shrimp (became) perished.’

(13) 他吃壞了肚子。
 tā chī huài le dùzi
 he eat bad asp stomach
 ‘He ate to the point that his stomach turned bad.’

(14) *蝦仁吃了肚子。
 xiārén chī le dùzi
 shrimp eat asp stomach
 ‘*The shrimp ate stomach.’

(15) 蝦仁吃壞了肚子。
 xiārén chī huài le dùzi
 shrimp eat bad asp stomach
 ‘The eating of shrimp made the stomach turn bad.’

Ross points out that, if Chang’s approach is applied, the thematic relation of吃壞 *chī huài* ‘eat (and become) perished’ would be illustrated as followings. And this results in the ungrammatical sentence (12) would be grammatical, whereas the grammatical form in (13) would be ungrammatical by following Chang’s percolation rule.



Carrying her argument through, Ross employs Jackendoff’s multiple-tiered thematic structures and posits the thematic roles of吃壞 *chī huài* as follows (Ross 1990: 76):

	chī	huài
Thematic:	S _i , T _j	T _j
Action:	A _i , P _j	

Ross assigns these two sets of thematic roles to吃壞 *chī huài*, with observation of Theta-Criterion at the same time. The “source” and “agent” roles are assigned to the subject

position, whereas the “theme” and “patient” roles are assigned to the object position. According to Ross, it is 肚子 *dùzi* ‘stomach’, but not 蝦仁 *xiārén* ‘peeled-shrimp’, that is the affected object of 壞 *huài* ‘(turn) bad’. Thus we have the grammatical readings of (13) and (15) but the ungrammatical readings of (12) and (14).

The position that Ross takes seems to be in agreement with that of Jackendoff’s multi-tier framework. However, I found that her application is problematic in two ways. The most questionable is the indexing of “theme” and “patient” roles. In the Thematic tiers, the themes of 吃 *chī* and 壞 *huài* are co-indexed. Thus, when 肚子 *dùzi* is identified as the “theme” of 壞 *huài*, it would neither be the “theme” nor the “source” of 吃 *chī* ‘eat’, and it could not be co-indexed with any thematic role for 吃 *chī*. Furthermore, Ross’ co-indexing of the patient of 吃 *chī* in the Action tier and the theme of 壞 *huài* is untenable, because this attempt would lead to the same result as Chang’s, incorrectly allowing the ungrammatical form in (12). The second debatable point is Ross’ assigning of “source” role, which is defined for motion events, to 吃 *chī*. If Ross considers the event of 吃 *chī* as related to a motion, she should also include a “goal” role since the movement of food has a destination. Ross’ operation would lead to sentence (13) being grammatical, since 蝦仁 *xiārén* is the source of *chī*, which is counterintuitive. Ross’ problem is further evidenced by the co-indexing of “source” and “agent” even if these two roles are from different thematic tiers. This problem is similarly troublesome in her analysis of 吃飽 *chī bǎo* ‘eat and be full’, the thematic structure of which is illustrated by Ross as follows (see next page). Ross eliminates the “source” role from 吃 *chī* because of the stative verb ending of 飽 *bǎo* (p. 77), which she does not employ in her treatment of 吃壞 *chī huài*, where 壞 *huài* is also stative. This elimination, however, would lead to the incorrect



conclusion that sentence (16) is ungrammatical since 飯 *fàn* ‘meal’, if identified as the “theme” of 吃 *chī* (because it experiences a movement) according to her above suggestion, cannot occur in a subject position.

- (16) 飯 吃 飽 了。
fàn chī bǎo le
meal eat stuffed *asp*
‘(Someone) is full by eating a meal.’

This conclusion would also give the wrong account to make the grammatical sentence (17) ungrammatical, because 肚子 *dùzi* ‘stomach’ as the theme of 飽 *bǎo* should occupy the object position, not the subject position.

- (17) 肚子 吃 飽 了。
dùzi chī bǎo le
stomach eat full *asp*
‘The stomach is full (by someone’s eating).’

This conclusion would definitely lead us to claim the grammatical sentence (18) as ill-formed:

- (18) 一 鍋 飯 吃 飽 了 五 個 人。
yì guō fàn chī bǎo le wǔ ge rén
one MW rice eat full *asp* five MW people
‘A pot of rice made five people full.’

Since 五個人 *wǔ ge rén* ‘five people’ bears “agent” of 吃 *chī* and “theme” of 飽 *bǎo*, it should occupy the subject position in Action tier, but not the object position in Thematic tier for sentences with 吃飽 *chī bǎo*. Whereas 一鍋飯 *yì guō fàn* ‘a potful of rice’ as the “patient” of 吃 *chī* should occupy the object position, Ross does not provide any solution to regulate the priority of different thematic role, occupying different syntactic positions.

The inadequacy of Ross’ treatment is clear because the suggestion of applying Jackendoff’s approach mechanically fails to receive support from her solution. In the first place, as I pointed out above, the problem relates to the way by which she applies Jackendoff’s approach. Jackendoff’s multi-tier framework distinguishes “theme” in the Thematic tier from “agent” and “patient” in the Action tier, and the Thematic tier is confined to situations of movement only. Ross’ excessive identification of action verbs like *chī* as “theme” and “source” role bearer would lead to her dealing with other verbs such as *hē* ‘to drink’, *tù* ‘to spit’, and *tūn* ‘to swallow’ as bearing similar thematic roles in all situations³. Further, whether a certain role should be identified with the semantics of a verb, adding or eliminating “source” role concerning 吃 *chī*, may be largely dependent upon the semantics of the verb in context.⁴ This is an issue that is both essentially and directly related to the definition of “thematic role”, which I will discuss in greater detail in the following section. Finally, this issue is also related to whether we should adopt Jackendoff’s conceptually motivated multi-tier framework. And, if we should, to what extent should we do so?

4.1.3 Three Critical Thematic Roles: “Agent”, “Patient” and “Theme”

My discussion above allows us to address these two critical questions: (a) What participants in an event, either simple or complex, are supposed to be labeled as certain thematic roles? and (b) How is a thematic role properly identified so that both its conceptual property and structural confinement are taken into consideration? Concerning the first issue, it seems to be a common practice for linguists to label only those NPs that occur actually in an event and also are depicted in language forms, although the potential participants may be many and may vary in different situations. That is to say, only entities that are windowed and expressed by language forms may be identified on a substantial base. If we base our analysis only on this, little would be left to rebuke.

Related to the richness of thematic relations, no thematic role is consistently associated with a certain participant that is extracted to be the individual argument of a g-verb. In common practice, “agent”, “patient” and/or “theme” are generally identified. Formal approaches to thematic roles, mostly in observation of Theta-Criterion, identify “theme” as alternating with the “patient” role and as contrastive to the “agent” role. Similarly in functionalism, the role of “agent” is identified with characteristics of volition and causation, and considered more active and salient in an event, and its opposite property in an event would be the “patient” or “theme”, with the former emphasizing affectedness, physically or imperceptibly involved, and thus less volitional, and the latter focusing on undergoing experiences. However, the feasibility of this practice has been questioned by both formalists and functionalists when the role of “experiencer” occurs, because it seems to neutralize the contrast of the “agent” and “patient”/ “theme” roles.

- (19) 我 買 兩 張 票, 請 張 三 和 他 太 太 看 電 影。
wǒ mǎi liǎng zhāng piào qǐng Zhāng Sān hé tā tàitai kàn diànyǐng
I buy two MW ticket treat Zhang San and his wife watch movie

‘I bought two tickets to treat Zhangsan and his wife to watch a movie.’

In (19), 張三和他太太 *Zhāng Sān hé tā tàitai* ‘Zhang San and his wife’ is the “theme” (or “patient”) of 請 *qǐng* ‘treat’ and one of the agents of 看 *kàn* ‘watch’. In fact, the so-called “pivot” NP like 張三和他太太 *Zhāng Sān hé tā tàitai* is a thorny issue for any solution constrained by Theta-Criterion and formal approaches.

For the second issue, I have provided counter examples to Chang’s claims in her approach and have shown that the problems occur in various formal approaches in Section 4.1.2. The problem remains unresolved in Ross’ adoption of Jackendoff’s conceptually motivated system even though her mistakes may result from misapplication. In Jackendoff’s multi-tier thematic system, three roles co-exist. The “patient” role is closely associated with but contrastive to “agent” in the Action tier. The “theme” role in the Thematic tier, similar to “agent” role in perspectives of activity and volition, is actually a more agent-like role in situations of factual motion. It is natural to identify “agent” and “theme” with the same NP “Peter” in an English sentence like “Peter entered the room”. However, we have to identify “theme” and “patient” as the same NP 一只鞋 *yì zhī xié* ‘one shoe’ in Mandarin like (20).

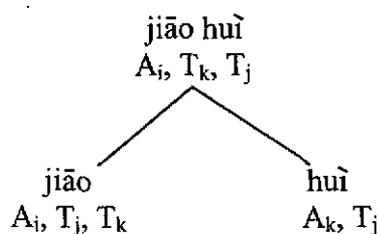
(20) 他 扔 出 來 一 只 鞋。
tā rēng chū lai yì zhī xié
he throw out come one MW shoe
‘He threw out a piece of shoe’.

The NP 一只鞋 *yì zhī xié* ‘one shoe’ bears the patient role of 扔 *rēng* ‘throw’ and the theme role of 出來 *chū lai* ‘out come’ in (20), but it occupies the object position, in discordance with Jackendoff’s rule about the connection of thematic roles with syntactic positions. The failure of Jackendoff’s approach in accounting for Mandarin sentences

such as (21) has shown us that a conceptually based solution has to be very much constrained by the structural notions such as “subject” and “object”. To give another example:

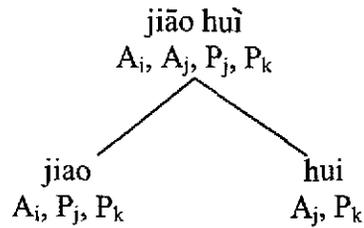
- (21) 我 教 會 了 他 中文。
 Wǒ jiāo huì le tā Zhōngwén
 I teach know *asp* him Chinese
 ‘I taught him (so that he was able to do) Chinese.’

Note that 教 *jiāo* ‘teach’ bears an “agent” and a “theme” or “patient” role, which may be assigned to its subject and object positions respectively, and that 會 *huì* ‘to know (as a language)’ also bears “agent” and “theme” roles, which may be assigned to its subject and object positions respectively. The indexing in 教會 *jiāo huì* may be like this:

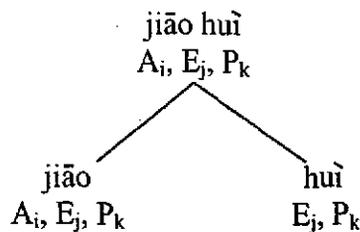


Following the Theta-Criterion, formalist approaches (Chang 1988; Li 1990, 1995; Cheng and Huang 1994, etc.) cannot assume three theta roles for 教 *jiāo* in its underlining structure, otherwise it would be difficult to explain (22) 我教中文 *wǒ jiāo Zhōngwén* although they may find balance in (23) 我教他中文 *wǒ jiāo tā Zhōngwén*. They avoid presenting a direct account for the “agent” of 會 *huì* becoming the “theme” of 教會 *jiāo huì* ‘make (somebody) know (something) by teaching’, because the motivation behind it would be beyond purely syntactic.

If the multi-tier system is observed for more conceptual motivation, the roles in the thematic structure of 教會 *jiāo huì* may be indexed as follows:



All thematic roles come from only the Action-Tier since no factual motion event is involved. Both 他 *tā* ‘him’ and 中文 *Zhōngwén* ‘Chinese’ are eligible to be affected patients because the former is given the knowledge about Chinese, and the latter becomes a part of the former’s knowledge or ability. How to deal with the multiple thematic roles of 教會 *jiāo huì* from both 教 *jiāo* and 會 *huì* is unclear in Jackendoff’s suggestion, since the complex event of 教會 *jiāo huì* is not related to any movement. We may be able to make adjustment by applying Dowty’s hierarchical relation among proto-roles and other traditional roles: 他 *tā* is assigned the role of “experiencer” and 中文 *Zhōngwén* the role of “patient”.



However, “experiencer” as a thematic role is vaguely defined as an entity undergoing a psychological state. Comparing the properties of 他 *tā* and 中文 *Zhōngwén*, it seems that only 他 *tā* can be chosen as the experiencer, and 中文 *Zhōngwén* as the patient. But clearly, 他 *tā* is more affected than 中文 *Zhōngwén* in the event of 教 *jiāo* ‘teach’, because 中文 *Zhōngwén* as (knowledge about the) Chinese language would not be actually affected anyway. What makes one consider 中文 *Zhōngwén* instead of 他 *tā* as “patient” at first might be for the reason that it is the direct object of 教 *jiāo*, whereas 他 *tā* is

generally considered as the indirect object. Once again the identification of thematic roles inevitably yields to constraints based on syntactic positions.

In short, thematic relations, on semantic grounds, are motivated by conceptual structure involved in the event; on syntactic grounds, they have eventually to be identified by discernible forms that are associated to syntactic positions. Thus it seems to me that the discussion of thematic relations could be seen from a somewhat better perspective if the assignment of thematic roles were viewed in a template where the harmonious union of these two perspectives is achieved. What is at hand is SSrr in CCG, which provide an ideal template where various thematic relations can be identified with correspondence to their structural positions, and these positions are correlated semantically with their relation to a single event. When thematic roles are identified at SSrr, they are transformed to the level of TSrr, where more thematic relations in complex situations are asserted by compositions of simple roles.

4.2 Thematic Relations in CCG

I am going to suggest below that thematic relations can be distinctively identified in the level of SSrr, and transformed *systematically to the level of TSrr*. I am also going to show that thematic roles interact with each other in more complex structures such as RVCs to form thematic relations of more complexity.

4.2.1 Transformation from SSrr to TSrr

With this study broadly located within the framework of CCG, I start my work at the level of SSrr. The twenty-eight building blocks (ACFs) for the SSrr (see Table 2.2,

p.36) enable us to examine various thematic relations in a compact template, where components are most conceptually motivated and syntactically connected. Two assumptions are essential to the development of my investigation-assumptions that are taken for granted by linguists, but that can be justified with good reasons. The first of these is that thematic roles are identifications of NPs. This eliminates our working on GACs, i.e., ACs with Grammatical Verbs, which deals with grammatical particles and with compositions related to grammatical forms such as NPs with demonstratives and determiners. It thus seems to me that a discussion of thematic roles could be seen in the study of ACs with FVs and HVs only. The second assumption is that thematic roles are much determined in particular relationship where each NP is associated with the g-verb in each ACF. My presentation of thematic realization will focus on SACs because there is no unsaturated constants contained (see Chapter 2: Section 2.2.2). They thus manifest the most direct relations between NPs and g-verbs in a simple event. RACs, except for SSr <27>, contain ACs with one unsaturated constant, parallel to the array of SACs and I will show the parallel after I present a full picture of thematic role identification in SACs. WACs contain two constants requiring saturation, and the two ACs are completely compatible with those in SACs. I assimilate thematic roles in WACs with their parallel ACs in SACs.

There are eight SACs in CCG (refer to Table 2.2). There are four SACs are FACs and another four HACs. FAC-SAC <4> and HAC-SAC <13> contain neither initiator ("I") nor recipient ("R") and thus no thematic relation is involved. I thus concentrate on six ACFs, i.e., ACFs <1> to <3> and <10> to <12>, and illustrate how the Is and Rs in each SSrr of the six ACFs are identified as corresponding thematic roles. The letter "m"

in a “<m>” below corresponds to the original number in the classified ACFs of CCG. The symbol “→” means “is the role of”. For each SSr, six sentences are exemplified, every two of which show the same way in which thematic roles are identified. In each example sentence, NPs corresponding to each thematic role are underlined, and verbs that make an NP bearing a specific role are in italics.

Thematic relations are categorized into non-motion events and motion events, based upon the semantics of the verb in each SSr. I employ three notions: “agent”, “patient”, and “theme” to identify roles in non-motion events.

<1> x_i FV y_j I → Agent, R → Patient

FVs fitting ACF <1> mostly connect two NPs and they are recognized as semantic subject and semantic object respectively. I make “I” correspond to “agent” and “R” correspond to “patient”, and indicate that the “I” is the one that initiates the act, and the “R” is the recipient of the act. Thus they are semantically engaged in the current event.

(24) 我 打 球.
wǒ *dǎ* qiú
 I play ball
 ‘I play ball.’

(25) 他 喜 歡 酒.
tā *xǐhuān* jiǔ
 he like wine
 ‘He likes wine.’

Associating “agent” and “patient” with their corresponding positions in <1>, we see that 爸爸 *bàba* ‘father’ and 他 *tā* ‘he’ are “agents”, and 老師 *lǎoshī* ‘teacher’ and 驚 *jīng* ‘surprise’ are “patient” in (26) and (27) respectively.

(26) 爸爸 是 老師.
bàba shì lǎoshī
 father be teacher
 ‘(My) father is a teacher.’

(27) 他吃 了 一 驚.
tā chī le yì jīng
 he take *asp* one surprise
 ‘He was surprised.’

Similarly, 問題 wèntí ‘issue’ and 意見 yìjiàn ‘opinion’ are “patient” roles in (28) and (29), because they occupy the R position in their corresponding AC <1>.

(28) 他思考 問題.
tā sīkǎo wèntí
 he think-over issue
 ‘He thinks over problems.’

(29) 我發表 意見.
wǒ fābiǎo yìjiàn.
 I present opinion
 ‘I present (my) opinion.’

The examples above show that agent and patient roles are generally represented in the same way in the level of SSrr as the level of CSrr.

To illustrate the explanatory power of this method, it may keep this characteristic intact by discussing a special ACF <1>, which is $y_j=0_j$, as follows:

<1> x_i FV 0_j I → Theme

This is the case when the content of y_j is implied in the semantic meaning of FV, or the context, but not spelled out. Consider:

(30) 你 吃 了 嗎?

nǐ chīle ma
you eat *asp particle*
'Did you eat (meal/or something)?'

(31) 我是。

wǒ shì. (as answer to a question like *shéi shì Zhāng Sān* 'who is Zhang San?')

I be
'I am (Zhang San).'

(32) (他没熬夜,) 我熬了。

(tā méi áo yè,) wǒ áo le

he not go-through night I go-through *asp*

'(He did not stay up,) I stayed up.'

<2> x_i FV 0 I → Theme

ACF <2> contributes to imposing a classification of the FVs in Mandarin. Those that fit ACF <2> are adjectives or unergative verbs. Unergatives are intransitive and thus do not have semantic object. "I" in <2> is identified as a "theme" role and no other NP is involved in the A(ct) denoted by the FV.

(33) 他走了。

tā zǒu le

he leave *asp*

'He left.'

(34) 天很蓝。

tiān hěn lán.

sky very blue

'The sky is blue.'

Verbs like 撒謊 *sāhuǎng* ‘to lie’ in (35), where 謊 *huǎng* ‘a lie’ denotes the idiosyncratic properties of the verb 撒 *sā* ‘to lie’, fits ACF <2> and is considered intransitive because they are not associated with any other semantic object in its ACF.

- (35) 她 經常 撒謊。
tā jīngcháng sāhuǎng
 she often lie
 ‘She often lies.’

This treatment is also supported by Li’s (1971) study. Li considers the semantic object of verbs, such as 謊 *huǎng* ‘a lie’ in 撒謊 *sāhuǎng*, 澡 *zǎo* ‘(a) bath’ in 洗澡 *xǐ zǎo* ‘to take a bath’, and 錢 *qián* ‘money’ in 有錢 *yǒuqián* ‘be rich’, etc., “closely related to the verbs, ... [and] the verbs may be considered indivisible units” (p. 104).

- (36) 你 總是 嘟嘟囔囔。
nǐ zǒngshì dūdūnāngnāng
 you always mumble
 ‘You always mumble.’

The examples in (37) and (38) show that the “theme” role in <2> is the NP that initiates the Act.

- (37) 哲學家 常常 沉思。
zhéxuéjiā chángcháng chénstī
 philosopher often meditate
 ‘Philosophers often meditate.’

- (38) 太陽 出來 了。
tàiyang chū lai le
 sun out come *asp*
 ‘The sun came out.’

Similar to ACF <2>, ACF <3> contains only one NP that functions as the semantic object in its AC.

<3> 0 FV y_j R → Theme

The NP in the CSr of <3> may be represented by the seemingly identical form of the NP in <2>. FVs in <3> may be transitive when the semantic subject is absent, such as (39) and (40).

(39) 衣服 洗 了。

yīfu xǐ le

clothes wash *asp*

‘The clothes were washed.’

(40) 舞 跳 了 一 年， 没 有 进 步。

wǔ tiào le yì nián, méi yǒu jìnbù

dance dance *asp* one year not have progress

‘(Someone) has danced for a year and has not made any progress.’

FVs in ACF <3> may be unaccusative, as (41) and (42) show.

(41) 水 蒸 发 了。

shuǐ zhēngfā le

water vaporize *asp*

‘Water vaporized.’

(42) 樹 葉 紅 了。

shù yè hóng le

leaves redden *asp*

‘Leaves turned red.’

Actually, the semantic subject in each ACF may sometimes not be identifiable, such as (43) and (44).

(43) 辦法 有 了。
bànfǎ yǒu le
 method have *asp*
 ‘The solution is worked out.’

(44) 建設 社會主義!
jiànshè shèhuìzhǔyì
 build socialism
 ‘(Let’s) build (our) socialism.’

We have seen that, where there is only one NP in an SSr (i.e., ACF <2> or <3>), it would be the most appropriate that its NP serves as the theme role, instead of an agent or a patient. The choosing of the only NP in <2> and <3> as theme role seems to result in a neutralization of the distinction between unergatives and unaccusatives. However, from the point of view taken here, by which thematic roles are identified by their position in ACFs on the level of SSrr, it would be easy for us to regard thematic roles as NPs corresponding to their positions at the integrated level of SSrr, instead of their distinctions of intransitivity at the lexical level.

Now I show the three SACs with HVs as their Abstract Verbs. HVs that occur in ACF <10> are mostly prepositions and conjunctions. ACF <10> can be categorized as “把 *bǎ*-type” and “被 *bèi*-type” because the thematic realizations are inverse to each other in these two types.

<10> x_i HV y_j

***bǎ*-type: I → Agent, R → Patient**

(45) 我 把 他 打 了。
wǒ bǎ tā dǎ le
 I *ba* him beat *asp*

'I beat him.'

- (46) 風 把 樹 吹 倒 了。
fēng *ba* shù chuī dǎo le
wind *ba* tree blow down *asp*
'The wind blew down the tree.'

HVs of 把 *bǎ*-type are not limited to 把 *bǎ* only. Prepositions and conjunctions such as 對 *duì* 'toward' and 跟 *gēn* 'and, with', etc., also fit the situation shown in ACF <10>.

- (47) 你 跟 這 事 兒 有 牽 連。
nǐ *gēn* zhè shìr yǒu qiānlián
you with this affair have connection
'You are involved in this affair.'

- (48) 我 對 球 類 有 興 趣。
wǒ *duì* qiú lèi yǒu xìngqu
I toward ball-kind have interest
'I am interested in (playing) ball.'

bei-type: I → Patient, R → Agent

- (49) 他 被 人 打 了。
tā *bèi* rén dǎ le
he *bei* people beat *asp*
'He was beaten by somebody.'

- (50) 大 家 被 他 騙 了。
dàjiā *bèi* tā piàn le
everyone *bei* him cheat *asp*
'Everyone was cheated by him.'

Similar to 把 *bǎ*, the 被 *bèi*-type has HVs that are not limited to the word 被 *bèi* only.

讓 *ràng*, 給 *gěi*, and 叫 *jiào*, etc., bear the similar semantics with 被 *bèi* in this type.

- (51) 我 讓 他 迷 倒 了。

wǒ ràng tā mí dǎo le
 I rang him fascinate fall asp
 'I am fascinated with him.'

(52) 他給合同 拴 住 了。
 tā gěi héttong shuān zhu le.
 he gei contract tie stick asp
 'He is tied up by contract.'

<11> x_i HV 0 I → Theme

HVs in <11> are mostly 被 *bèi*-type. They are actually <11>' x_i HV 0_j since the semantic object of 被 *bèi*-type HVs is not spelled out.

(53) 他被打 了。
 tā bèi dǎ le
 he bei beat asp
 'He was beaten.'

(54) 孩子給訓 了 一頓。
 háizi gěi xùn le yí dùn
 child gei scold asp one MW
 'The child was scolded.'

It is evident that 把 *bǎ*-type HVs are not compatible with <11> because 把 *bǎ*-types needs an obligatory semantic object to indicate the receiving of the Act.

<12> 0 HV y_j R → Theme

In contrast to the situation in <11>, HVs in <12> are mostly 把 *bǎ*-type and they are actually ACs when $x_i = 0_i$, since the semantic subject of 把 *bǎ*-type HVs sometimes may not be spelled out.

(55) 對 他 說 反 而 不 好。
duì tā shuō fǎn ér bù hǎo
 to him speak but not good
 ‘It is not good to talk to him (about it).’

(56) 把 革 命 進 行 到 底。
bǎ gémìng jìnxíng dào dǐ
ba revolution conduct arrive end
 ‘Carry the revolution through to the end!’

For motion events, we define roles of “source”, “goal”, “locative”, “path” and “landmark” besides the three major roles. According to Talmy (2000: 97-254), motion events can be recognized as two sub-categories: factual motion and fictive motion. In either situation, the main verb denotes events relating to movement in a broad sense: *fictive motion or location is a particular form of motion.*

<1> x_i FV y_j I → Agent/theme, R → Goal/Landmark/Path/Locative

In a complementary fashion, “I” in <1> is defined as “agent” in factual motion events and “theme” in fictive motion events. In factual motion, “I” displays Dowty’s (1991) properties of proto-agent role, because it is a volitional motion. In fictive motion, it has Dowty’s semantic nature for a proto-patient role.

(57) 我 們 回 北 京。
wǒmen huí Běijīng (wǒmen: agent; Běijīng: goal)
 we return Beijing
 ‘We are returning to Beijing.’

回 *huí* in (57) obviously denotes a factual motion and thus 我們 *wǒmen* ‘we’ is the agent and 北京 *Beijing* is ‘goal’. Differently, 樹林 *shùlín* ‘forest’ is not actually moving and thus sentence (58) depicts a fictive motion.

- (58) 樹林 延伸 到 海邊.
shùlín yánshēn dào hǎibiān (shùlín: theme; hǎibiān: goal)
 forest stretch arrive beach
 ‘The trees stretch to the beach.’

It seems to better capture its nature to identify *shùlín* as a theme than as an agent.

Sentences (59) to (64) are more examples concerning other oblique roles related to motion, either factual ((59), (61)), or fictive ((60), (62), (63), (64)).

- (59) 汽車 過 了 小鎮.
qìchē guò le xiǎo zhèn (qìchē: agent; xiǎozhèn: landmark)
 car pass *as* small town
 ‘The car passes (a) small town.’

- (60) 書 在 桌子 上.
shū zài zhuōzi shang (shū: theme; zhuōzi: landmark)
 book locate table on
 ‘The book is on the table.’

- (61) 你 走 鐵路 比較 快.
 nǐ zǒu tiělù bǐjiào kuài (nǐ: agent; tiělù: path)
 you go-by railway comparatively fast
 ‘It is faster if you go by railway.’

- (62) 這 批 貨 走 船.
 zhè pī huò zǒu chuán (huò: theme; chuán: path)
 this MW goods go-by ship
 ‘The goods will be delivered through the sea.’

- (63) 中國 位于 亞洲.
 Zhōngguó wèiyú Yàzhōu (Zhōngguó: theme; Yàzhōu: locative)
 China locate Asia
 ‘China is in Asia.’

(64) 我 的 心 在 中 國 .
 wǒ de xīn zài Zhōngguó (xīn: theme; Zhōngguó: locative)
 my of heart locate China
 ‘My heart is in China.’

Note that even though both are identified as fictive motions, sentence (63) differs from (64) in that (63) denotes a factual location whereas (64) a fictive location.

<2> x_i FV 0 I → Theme

From the fact that there is only one NP in ACFs <2> and <3>, it becomes possible for us to identify the NP as “theme”, the same as in non-motion events because there is not a related oblique role spelled out. Thus the NP is a theme that the whole event is talking about. Sentences (65) and (66) show the theme roles in a factual motion, either volitional (65) or non-volitional (66).

(65) 我 走 了 .
 wǒ zǒu le.
 I leave *asp*
 ‘I am leaving.’

(66) 火 車 停 了 .
 huǒchē tíng le
 train stop *asp*
 ‘The train stopped.’

Similarly, sentences (67) and (68) show the theme in a fictive motion, which is volitional in (67) and non-volitional in (68).

(67) 觀 衆 散 布 在 廣 場 上 .
 guānzhòng sànbù zài guǎngchǎng shang
 viewer scatter locate square on
 ‘Viewers scattered on the square.’

(68) 腳印 還在。
 jiǎoyìn hái zài
 footprint still exist
 'The footprint is still (here/there).'

<3> 0 FV y_j R → Theme

The "R" in <3> is defined as "theme" since it is the only NP in this ACF although it may be represented by different overt forms, either the subject, i.e., (a)s, or the object, i.e., (b)s, in (69) through (72), in the CSr, or an obligatory semantic object, such as in (73):

(69) 北京 到 了。
 Běijīng dào le
 Beijing arrive *asp*
 '(We have) arrived Beijing.'

(70) 到 北京 了。
 dào Běijīng le
 arrive Beijing *asp*
 '(We have) arrived Beijing.'

(71) 七十 歲 過 了, 老 啦!
 qīshí suì guò le, lǎo la
 seventy age pass *asp* old *particle*
 '(I've) passed seventy. (I) became old now!'

(72) 過 七十 歲 了, 老 啦!
 guò qīshí suì le, lǎo la
 pass seventy age *asp* old *particle*
 '(I've) passed seventy. (I) became old now!'

(73) 朝 西 不好。
 cháo xī bù hǎo
 toward west not good.
 'It is not good if (it is) facing west.'

<10> x_i HV y_j I → Agent/Theme, R → Source/Goal/Landmark/Path/Locative

Whether “I” is an “agent” or “theme” in the HV ACFs is secondary to its role in an FAC. It is agent if it is also in ACF <1>; or a theme if it is also in ACF <2> or <3>. This choice is made based on the degree of primacy, according to which an FAC is always superior to an HAC. In (74), 信號 *xìnhào* ‘signal’ is a “theme” in the AC taking 發出 *fāchū* ‘send out’ as the A(ct) <0, <*fā (chū), xìnhào*>> ‘send signal’. It is thus a “theme” in the SSr of <10> <*xìnhào, <cóng, dànǎo*>>.

(74) 信號 從 大腦 發出。
xìnhào cóng dànǎo fā chū (xìnhào: theme; dànǎo: source)
command from brain send out
‘The signal is sent from the brain.’

(75) 你 打 哪兒 聽說 這 件 事 兒 的？
nǐ dǎ nǎr tīngshuō zhè jiàn shìr de (nǐ: agent; nǎr: source)
you from where hearsay this MW affair *particle*
‘From where did you hear about this affair?’

Similarly, 他 *tā* in (76) is a theme in the FAC <*tā, <bàogào, 0*>>, and thus a theme role in HAC <*tā, <xiàng, jǐngchá*>>.

(76) 他 向 警察 報告 了。
tā xiàng jǐngchá bàogào le (tā: theme; jǐngchá: goal)
he toward police report *asp*
‘He reported to the police.’

In (77), 我們 *wǒmen* ‘we’ in HAC <*wǒmen, <jīng, Tiānjīn*>> is an “agent” since it is an “agent” in the FAC <*wǒmen, <dào, Běijīng*>>, which denotes a factual motion.

- (77) 我們 經 天津 到 北京.
wǒmen jīng Tiānjīn dào Běijīng (wǒmen: agent; Tiānjīn: path)
 we through Tianjin arrive Beijing
 ‘We arrived Beijing through Tianjin.’

However, 卡車 *kǎchē* ‘truck’ in (78) is a “theme” in accordance with its theme role in the FAC of <*kǎchē*, <*jīngguò*, 0>>.

- (78) 卡車 由 門 前 經過.
kǎchē yóu mén qián jīngguò (kǎchē: theme; ménqián: landmark)
 truck through door front pass
 ‘The truck passed in front of the door.’

But 張生 *Zhāng shēng* ‘Scholar Zhang’ is “agent” in HAC <*Zhāng shēng*, <*yú*, *shūfāng*>> in accordance with its agent role in the FAC <*Zhāngshēng*, <*wēn*, *shū*>>.

- (79) 張 生 於 書房 溫 書.
Zhāng shēng yú shūfāng wēn shū (Zhāngshēng: agent; shūfāng: locative)
 Zhang scholar at study study book
 ‘Scholar Zhang studies in (his) study.’

I have made it clear that the distinctions between agent and theme of HACs in motion events are subject to the role in FACs. This is justified in the computation rules for α -type ACs: the result of computation of an FAC with an HAC is always an FAC, which has higher primacy over the other two α -type ACs (see Table 2.3 and Table 2.5 for details). I have also pointed out that no NP can be accommodated in ACFs <11> or <12> in motion events, given the fact that HVs are prepositions and conjunctions and hence require a semantic object obligatorily.

Thematic roles in ACFs of RACs can be assimilated to those in FAC-SACs and HAC-SACs that corresponding to these RACs. This adaptation is a convenient operation,

because the difference between SAC and RAC lies in the number of constants, which, if saturated, equal a single “x” or “y” in the “I” or the “R” position. This correspondence may be illustrated in Table 4.1 (see next page). Table 4.1 shows that the thematic relations in embedded sentences, i.e., with RACs, may be analogized to those with SAC. Also parallel to what has been provided before, ACFs <14> through <17> include both 把 *bǎ*-types and 被 *bèi*-types.

Correspondence of ACFs	RAC		SAC	Thematic Roles in RACs
<5> → <1>	h FV y_j	→	x_i FV y_j	h → agent, y_j → patient
<6> → <2>	h FV 0	→	x_i FV 0	h → theme
<7> → <1>	x_i FV k	→	x_i FV y_j	x_i → agent, k → patient
<8> → <3>	0 FV k	→	0 FV y_j	k → theme
<14> → <10>	h HV y_j	→	x_i HV y_j	h → agent, y_j → patient (<i>bǎ</i> -type) h → patient, y_j → agent (<i>bèi</i> -type)
<15> → <11>	h HV 0	→	x_i HV 0	h → theme (<i>bèi</i> -type only)
<16> → <10>	x_i HV k	→	x_i HV y_j	x_i → agent, k → patient (<i>bǎ</i> -type) x_i → patient, k → agent (<i>bèi</i> -type)
<17> → <12>	0 HV k	→	0 HV y_j	k → theme (<i>bǎ</i> -type only)

Table 4.1 Correspondences between Thematic Roles in SACs and RACs.

In the following examples, underlined words are considered as a thematic role as a whole. The italicized verbs are Abstract Verbs in each corresponding ACF.

(80) 喜歡 張 三 的 人 是 李 四。

xǐhuān Zhāng Sān de rén *shì* Lǐsì (ACF <5>, agent, patient)

like Zhang San of person be Lisi

‘The one who likes Zhangsan is Lisi.’

(81) 喜歡 張 三 的 人 走 了。

xǐhuān Zhāng Sān de rén *zǒu* le (ACF <6>, theme)

like Zhang San of person leave *asp*

‘The one who likes Zhangsan left.’

- (82) 張 三 說 李四很 快樂.
Zhāng Sān shuō Lǐsì hěn kuàilè (ACF <7>, agent, patient)
 Zhang San say Lisi very happy
 'Zhangsan said that Lisi was happy.'
- (83) 死 了 二 十 多 個 人.
 sǐ le èrshí duō ge rén (ACF <8>, theme)
 die *asp* twenty more MW person
 'About twenty something people died.'
- (84) 穿 藍 襯衫 的 人 把 文件 偷 走 了.
chuān lán chènshān de rén bǎ wénjiàn tōu zǒu le
 wear blue shirt of person *ba* document steal leave *asp*
 'The one in the blue shirt stole the document.'
 (ACF <14>, agent, patient, *bǎ*-type)
- (85) 抽屜 里 的 文件 被 人 拿 走 了.
chōuti li de wénjiàn bèi rén ná zǒu le
 drawer inside of document *bei* person take leave *asp*
 'The documentation inside the drawer was taken away.'
 (ACF <14>, patient, agent, *bèi*-type)
- (86) 那 個 人 的 家 給 燒 了.
 nà ge rén de jiā gěi shāo le
 that MW person of house *gei* burn *asp*
 'That person's house was burnt down.'
 (ACF <15>, theme, *bèi*-type only)
- (87) 他 對 弱 小 的 動 物 有 愛 心.
 tā duì ruò xiǎo de dòngwù yǒu ài xīn
 he toward weak small of animal have love heart
 'He loves weak and small animals.'

(ACF <16>, agent, patient, *bǎ*-type)

- (88) 汽車 讓 來 的人 修 好 了。
 qìchē ràng lái de rén xiū hǎo le
 car rang come of person repair well asp
 ‘The car was fixed by the one who came.’

(ACF <16>, patient, agent, *bèi*-type)

- (89) 把我 說 的話 記住。
 bǎ wǒ shuō de huà jìzhu
 ba I speak of words remember
 ‘Remember what I said.’

(ACF <17>, theme, *bǎ*-type only)

Similarly, the two WACs bearing thematic roles may be analogized to SAC’s corresponding to SAC, as the following table shows:

ACFs	WAC		SAC	Thematic roles
<9> → <1>	h FV k	→	x_i FV y_j	h → agent, k → patient
<18> → <2>	h HV k	→	x_i HV y_j	h → agent, k → patient (<i>bǎ</i> -type) h → patient, k → agent (<i>bèi</i> -type)

Table 4.2 Correspondences between Thematic Roles in SACs and WACs

These correspondences may be exemplified by the following sentences:

- (90) 穿 藍 襯衫 的人 說 李四 丟 了 車。
 chuān lán chènshān de rén shuō Lǐsì diū le chē
 wear blue shirt of person say Lisi lose asp car
 ‘The person in blue shirt said that Lisi lost his car.’

(ACF <9>, agent, patient)

- (91) 上 邊 的人 把 下 邊 的人 壓 死 了。
 shàng biān de rén bǎ xià biān de rén yā sǐ le
 up side of person ba down side of person press die asp

‘The person underneath was pressed to death by the above person.’

(ACF <18>, agent, patient, *bǎ*-type)

(92) 賣 掉 的 車 被 一 部 分 顧 客 退 回 來 .

mài diào de chē bei yí bùfēn gùkè tuì huí lái

sell off of car *bei* one part customer return back come

‘The sold cars were returned by some customers.’

(ACF <18>, patient, agent, *bèi*-type)

The above exemplifying sentences have provided evidence that, in CCG, the role environment, which is the nature of individual ACs, is involved — along with the semantics of each verb — in determining the thematic role of each NP. In what follows, I propose a definition for each thematic role by considering the correspondence between a thematic role and its position in an AC.

4.2.2 About the Definitions of Thematic Roles

I must clarify again that thematic roles are modified and redefined in the framework of CCG although I adopt the commonly used terms, such as agent, patient, and theme. This study has confirmed that distinctions must be drawn between “theme” and “agent”, as well as “theme” and “patient”. In non-motion events, “agent” and “patient” are notions that interplay in each single AC. In motion events, only “agent” is connected with roles such as “source”, “goal”, “path”, etc. “Agent” is thus a thematic role that is always associated with another entity in a single SSr, in contrast to “theme”, which is a solitary role in an ACF of an SSr. Our accounting of thematic roles thus seems to be well motivated and solidly discernible in a template that is connected with structures of both form and meaning.

Other roles in motion events are identifiable with “R” in ACFs <1> or <10>, and they can be defined as follows⁵:

Source: an entity denoting the start point for a motion.

Goal: an entity denoting the end point for a motion.

Location: an entity denoting the place where an event is present.

Path: an entity denoting the route taken toward a particular goal.

Landmark: an entity to which a motion makes reference.

All of these definitions that I have presented in this section have the advantage that all thematic roles are identified definitely by the positions they appear in each ACF, where both their conceptual content and syntactic features are in harmony. No case-by-case justification needs to be made in each particular use of the thematic roles, because they are definable by their positions at the level of SSrr.

4.2.3 Thematic Role Compositions

Thematic roles for individual NPs now are clearly identifiable by their positions in each ACF in an SSr. This tells us that the transformation from SSrr to TSrr is ready. Simple SSrr mostly compose into complex SSrr before the transformation to TSrr is carried out, we therefore need to investigate how thematic roles in each single AC compose into thematic relations in more complex SSrr. It will be suggested below that, if there are two thematic roles, which includes an “empty” role, in an SSr, these two thematic roles compose into a new thematic relation consisting of the thematic relation of the whole sentence.

Somewhat similar to the Aspectual Composition of Event that we have postulated in Chapter 3, the compositions of thematic role that we are postulating below are also

presented in a binary way. We can see the details in Table 4.3, which is based on the definitions of thematic roles used here.

	Patient		Theme		Agent	Others
Agent	Agent (<i>bǎ</i> -type)	Patient (<i>bèi</i> -type)	Agent when theme is not directly from <2>	Theme when theme is from <2>	Agent	Agent
Theme	Theme		Theme			Theme

Table 4.3 Compositions of Thematic Roles.

Note that the category of “Other” in Table 4.3 includes such thematic roles as “goal”, “path”, and “location”, etc., in various motion events. In what follows, I discuss Table 4.3 in detail with examples. I try to provide three example sentences for each compositional situation. For each group of example sentences, I offer one simple clause (AC), one sentence containing RVCs, and one complex sentence composed from multiple clauses (at least two ACs). Following each example sentence, I illustrate an SSr that contains the relevant thematic relations. A symbol “ \frown ” above every two underlined thematic role bearers represents a process of composition between them. An arrow “ \uparrow ” points to the thematic role each NP bears. The italicized verbs are those that function as either FVs or HVs in each AC containing the thematic relations. The order of composition follows the general compositional rules for SSr listed in Table 4.3. The final composition in each sentence exemplifies the current operation corresponding to each rule that is listed.

Agent x Patient → Agent (in *bǎ*-type ACs)

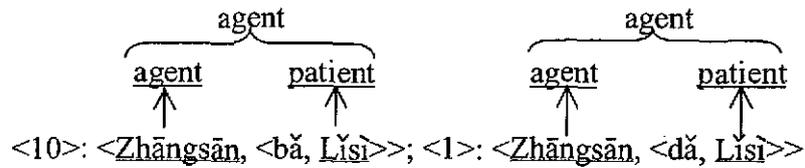
The HAC <10> and FAC <1> in sentence (93) bear similar compositions based on this rule.

(93) 張 三 把 李 四 打 了 .

Zhāng Sān bǎ Lǐsì dǎ le

Zhang San ba Lisi beat asp

'Zhangsan beat Lisi.'



(94) 我 聽 懂 了 你 的 話 .

wǒ tīng dǒng le nǐ de huà

I listen-to understand asp you of words

'I understood your words by listening to them.'

<1>: <wǒ, <tīng, huà>>; <1>: <wǒ, <dǒng, huà>>

(95) 他 請 大 家 吃 飯 .

tā qǐng dàjiā chī fàn

he treat everybody eat meal

'He treat everybody a meal.'

<1>: <tā, <qǐng, dàjiā>>; <1>: <dàjiā, <chī, fàn>>

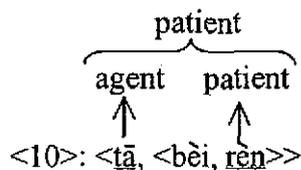
Agent x Patient → Patient (in *bèi*-type SSrr)

(96) 他 被 人 打 了

tā bèi rén dǎ le

he bei people beat asp

'He was beaten by somebody.'

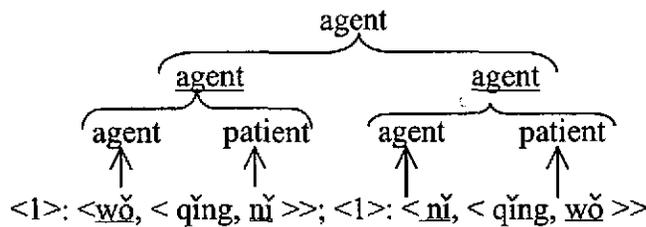


(97) 我 給 他 們 灌 醉 了。
 wǒ gěi tāmen guàn zuì le
 I gei them pour drunk asp
 'I got drunk by force from them.'
 <10>: <wo, <gei, tamen>>

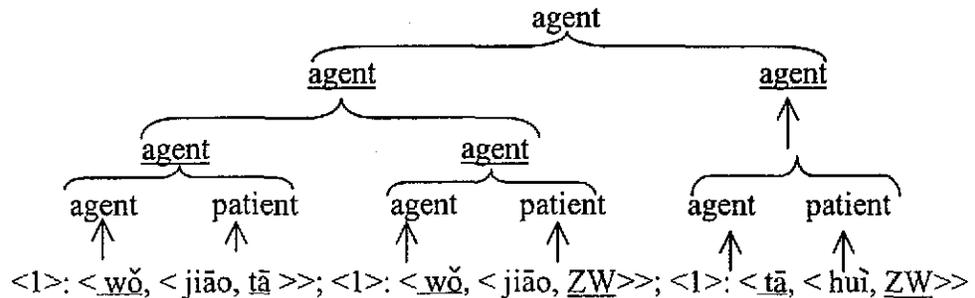
(98) 她 讓 這 人 迷 住 了。
 tā ràng zhè rén mí zhù le
 she rang this person fascinate stick asp
 'She was fascinated by this person.'
 <10>: <ta, <rang, (zhe) ren>>

Agent x Agent → Agent

(99) 我 請 你, 你 請 我。
 wǒ qǐng nǐ, nǐ qǐng wǒ
 I treat you you treat me
 'I treat you, and you treat me.'



(100) 我 教 會 了 他 中 文。
 wǒ jiāo huì le tā Zhōngwén
 I teach know asp him Chinese
 'I taught him (so that he is able to do) Chinese.'



(101) 他買書，你買筆。

tā mǎi shū, nǐ mǎi bǐ

he buy book you buy pen

'He bought books and you bought pens.'

<1>: <tā, <mǎi, shū >>; <1>: <nǐ, <mǎi, bǐ >>

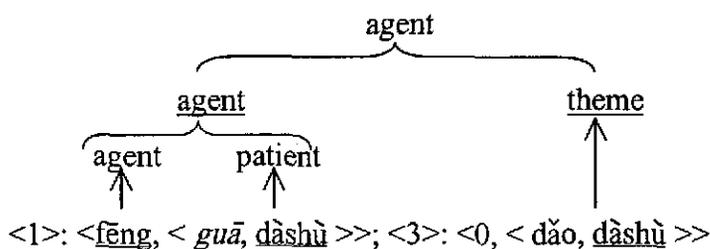
Agent x Theme → **Agent** (condition: when "theme" in an AC is not directly from ACF <2>, as exemplified in sentence (102))

(102) 風刮倒了大樹。

fēng guā dǎo le dà shù

wind blow fall asp big tree.

'The wind blew down the big tree.'



(103) 老百姓熱愛他，擁護他。

lǎobǎixìng rè ài tā, yōnghù tā

citizen love him, support him

'People love him and support him.'

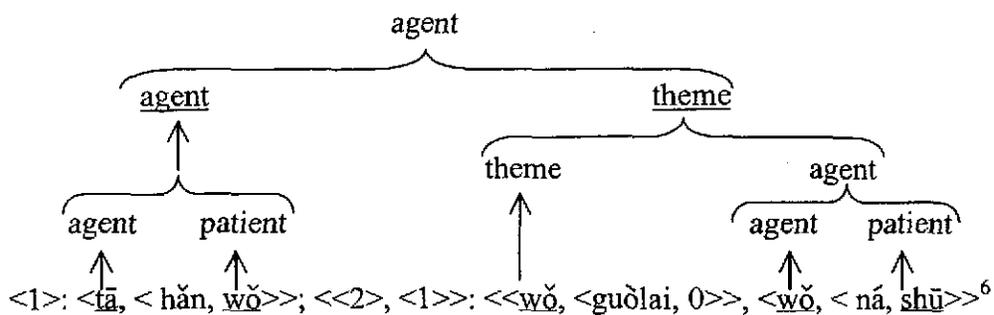
<1>: <lǎobǎixìng, <rè ài, tā >>; <3>: <0, <yōnghù, tā >>

(104) 他喊我過來拿書。

tā hǎn wǒ guò lai ná shū

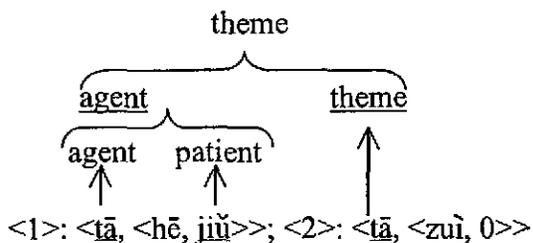
he call me pass come take book

'He called me to come to get the book.'



Agent x Theme → Theme (condition: when “theme” in an ACF is an “T” of <2>)

(105) 他喝 醉 了 酒。
 tā hē zuì le jiǔ
 he drink drunk *asp* wine
 ‘He got drunk by drinking wine.’



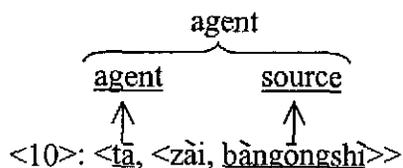
(106) 我來 接 你。
 wǒ lái jiē nǐ
 I come pick-up you
 ‘I come to pick you up.’
 <2>: <wǒ, <lái, 0>>; <1>: <wǒ, <jiē, nǐ>>

(107) 他吃了 飯, 就 睡 了。
 tā chīle fàn, jiù shuì le
 he eat *asp* meal soon sleep *asp*
 ‘He fall asleep right after he finished eating.’
 <1>: <tā, <chī, fàn>>; <2>: <tā, <shuì, 0>>

Agent x Others → Agent (“Others” includes: locative, path, source, goal, landmark, etc.)

In (108), 他 *tā* ‘he’ in the HAC event <*tā*, <*zài*, *bàngōngshì*>> is agent because it is an agent in the FAC event <*tā*, <*hē*, *chá*>>, and so is the 賊 *zéi* in (109).

(108) 他在辦公室 喝 茶。
tā zài bàngōngshì hē chá (*bàngōngshì*: locative)
 he at office drink tea
 ‘He has tea in his office.’



(109) 賊 打 樓梯上 了 樓。
zéi dǎ lóutī shàng le lóu (*lóutī*: path)
 thief from stairs ascend *asp* building
 ‘The thief came upstairs by the stairs.’
 <10>: <*zéi*, <*dǎ*, *lóutī*>>

In a very similar way, 我 *wǒ* ‘I’ in sentence (110) and 你 *nǐ* ‘you’ in sentence (111) are both identified as agents because they are agents in the FAC event, i.e., <*wǒ*, <*zhīdào*, *xiāoxi*>> in sentence (110), and <*nǐ*, <*jiǎng*, (*zhè*)*xiē shìr*>> in sentence (111), based on our discussion earlier.

(110) 我 常常 從 報 上 知道 消息。
wǒ chángcháng cóng bào shang zhīdào xiāoxi ((*bào*)*shang*: source)
 I often from newspaper on know news
 ‘I often get news from newspaper.’
 <10>: <*wǒ*, <*cóng*, *bàoshang*>>

(111) 你 對 我 講 這些 事兒。
nǐ duì wǒ jiǎng zhèxiē shìr (*wǒ*: goal)
 you toward me talk these issue

'You talked about these issues with me.'

<10>: <nǐ, <duì, wǒ>>

Theme x Theme → Theme

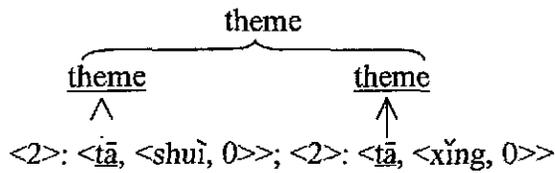
It is straightforward to comprehend that the composition of two theme roles is a theme role, as the following sentences show.

(112) 他睡 醒 了.

tā shuì xǐng le

he sleep awake *asp*

'He woke up.'



(113) 你們 來 晚 了.

nǐmen lái wǎn le

you-all come late *asp*

'You came late.'

<2>: <nǐmen, <lái, 0>>; <6>: <<nǐmen, <lái, 0>>, <wǎn, 0>>

Actually, 你們 *nǐmen* 'you' is the theme for the FAC event <nǐmen, <lái, 0>> only. It functions as the theme role for sentence (113) after computation since the theme role in the composite event <<<nǐmen, <lái, 0>>, <wǎn, 0>> is <nǐmen, <lái, 0>>. Example

(114) presents a less complex situation.

(114) 飛 進 來 一 隻 鳥.

fēi jìn lái yì zhī niǎo

fly enter come one MW bird

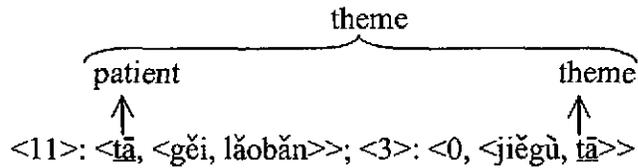
'A bird flew in.'

<2>: <niǎo, <fēi, 0>>; <<2>, <2>>: <<niǎo, <jìn, 0>>; <niǎo, <lai, 0>>>

Patient x Theme → Theme

As sentence (115) shows, 他 *tā* ‘he’ is a patient because the HAC event <*tā*, <*gěi*, *lǎobǎn*>> is a “*bèi*-type”. (cf. example sentences (53) and (54)).

- (115) 他給老板解雇了。
tā gěi lǎobǎn jiěgù le
 he *gei* boss layoff *asp*
 ‘He was laid off by his boss.’



One might argue that FAC <3> <0, <*jiěgù*, *tā*>> could be a <1> <*lǎobǎn*, <*jiěgù*, *tā*>>, the event in sentence (116) provides counter evidence since 這出戲 *zhè chū xì* ‘this play’ does not initiate the act of 感動 *gǎndòng* ‘move’ directly.

- (116) 我被這出戲感動了。
wǒ bèi zhè chū xì gǎndòng le
 I *bei* this MW drama move *asp*
 ‘I was moved by this play.’

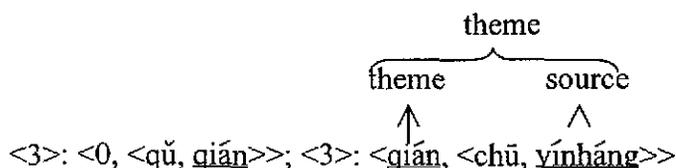
<11>: <*wǒ*, <*bèi*, (*zhè chū*) *xì*>>; <3>: <0, <*gǎndòng*, *wǒ*>>

Theme x Others → Theme

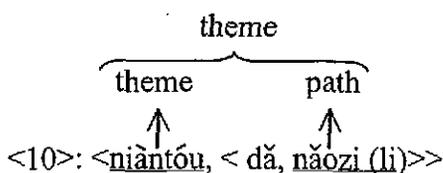
Somewhat similar to the agent role, the theme role generally has priority over other roles in composition. Moreover, the identification of “theme” role in an HAC event is dependent upon the FAC event, with which the HAC event is associated.

- (117) 錢取出了銀行。
qián qǔ chū le yínháng (yínháng: source)
 money withdraw out *asp* bank

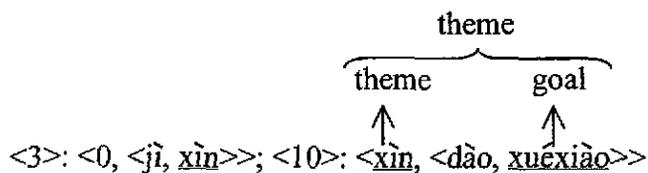
'The money was withdrawn out of bank.'



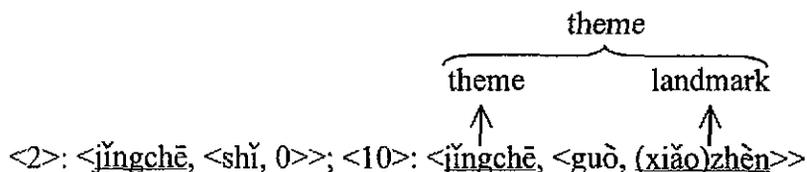
- (118) 一 個 念 頭 打 腦 子 裏 掠 過。
 yī ge niàntóu dǎ nǎozi li luè guo (nǎozili: path)
 one MW idea from brain inside sweep pass
 'An idea passed (his) brain quickly.'



- (119) 信 寄 到 學 校。
 xìn jì dào xuéxiào (xuéxiào: goal)
 letter send arrive school
 'Letters are sent to school.'



- (120) 警 車 駛 過 小 鎮。
 jǐng chē shǐ guò xiǎo zhèn ((xiǎo)zhèn: landmark)
 police car run pass small town
 'The police car passed the small town.'

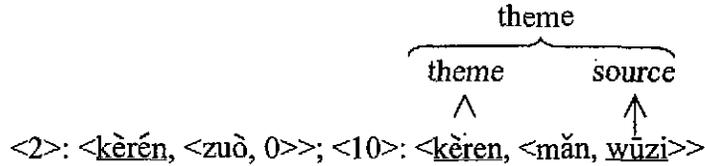


(121) 客人坐满了屋子。

kèrén zuò mǎn le wūzi (wūzi: location)

guest sit full asp room

‘Guests filled the room (by sitting inside).’



4.2.4 Advantages of Thematic Role Compositions

The most advantageous characteristics of “Thematic role composition” lie in its compositional outcome, which results from binary operations based on Table 4.3. This advantage laid the ground for deciding the thematic role for the whole sentence that integrates conceptual content and syntactic position, relieving us from such subjective arbitration that occurs in the studies by Chang, Ross, and Cheng and Huang.

Compositions of thematic roles, subject to process of SSrr combination, may be applied in a straightforward way to account for thematic roles in more complicated sentences beyond complex RVCs. To see how this works, consider <122>:

(122) 他叫大家在食堂门口集合。

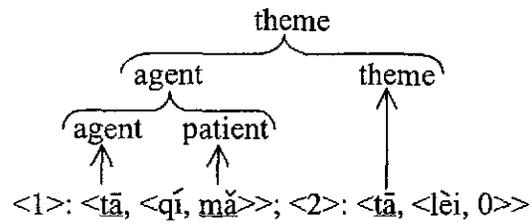
tā jiào dàjiā zài shítáng ménkǒu jíhé

he tell everyone be-at cafeteria doorway gather

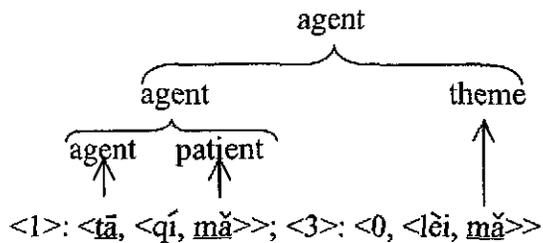
‘He told everybody to gather at the doorway of cafeteria.’

Sentence (122) contains three AC events: <1>: <tā, <jiào, dàjiā>>, <1>: <<dàjiā, <zài, ménkǒu>>, and <2>: <dàjiā, <jíhé, 0>>. Its thematic role composition is as follows:

The thematic role composition (124a) results as “theme”, denoting the process that 他 *tā* ‘he’ has experienced.



In contrast, the composition of thematic roles in (124b) leads to “agent”, denoting that it was 他 *tā* ‘he’ who agentively made the horse tired. This difference results from (i) the ACF that contains FV 累 *lèi*, an unaccusative that makes 馬 *mǎ* ‘horse’ a semantic object; (ii) the compositional rules based on Table 4.3, where the composition of an agent and a theme is a theme, when the theme role is in an ACF <3>.



In short, my approach in this chapter is an attempt to see the thematic relations from the point of view by which thematic roles integrate notions from both conceptual structure and formal structure. By this approach, both idiosyncratic and productive alternations in argument structure can be formulated in the framework without loss of generality, which is an ideal that is enthusiastically pursued by Jackendoff (1987: 393).

Notes

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- ¹ According to Dowty (1991: 578), “Argument” is one with no Proto-Agent and no Proto-Patient entailment.
- ² The “theme” role in Chang’s study seems to denote an entity undergoing the effect of an action, or an entity to which a property is attributed.
- ³ I agree that there exist roles such as “theme”, “source” or “goal” in 吃進去 *chī jìnqu* ‘eat in’, 喝下去 *hē xiàqu* ‘drink down’, 吐出來 *tù chūlai* ‘spit out’, etc., but the movement-related roles, i.e., “source” and “goal”, are related to the directional RVCs 進去 *jìnqu*, 出來 *chūlai*, instead of the action verbs 吃 *chī*, 喝 *hē*, and 吐 *tù*.
- ⁴ For instance, 吃 *chī* may be considered to contain a “source” role in 吃下去 *chī xiàqu*. And it would be appropriate to contain a “source” in 吃飽 *chī bǎo* ‘eat-full’ or 吃累 *chī lèi* ‘eat tired-of’, etc.
- ⁵ My definitions for these roles refer to “Lecture Notes” on principle thematic roles by O’Grady (1986).
- ⁶ Please note that the composing result in <1> <wǒ, <ná, shū>> is the agent 我 *wǒ*, which composes with the theme from <2> <wǒ, <guòlai, 0>. This composition is actually based on the rule I am proposing right after, i.e., “Agent x Theme → Theme”. The composing result from <<2>, <1>> “theme” is not directly obtained from <2>, thus meeting the condition for the rule “Agent x Theme → Agent”. Therefore, the composition result of thematic role for the whole sentence (95) is agent.
- ⁷ This result obeys the composition of “agent x theme” when “theme” is not from an ACF <2>, not the other way around, because the “theme” here is an outcome of “theme” from <2> and “agent” from <1>, thus from <2, 1>.

CHAPTER 5

CLOSING REMARKS

This chapter will close my presentation in two steps. I first show the implications of my research for teaching Mandarin RVCs. In the contrast of English with Mandarin concerning images expressed by a sequence of verbs, I reiterate my view in previous chapters that the fundamental differences are determined at the conceptual level and can be described at a level integrating cognitive contents and formal forces, i.e., SSrr. I then review research on pedagogy concerning teaching Mandarin and on Mandarin textbooks that are commonly used in the U.S., with respect to their treatment of RVCs. Then, I show how my study may serve to facilitate the teaching of Mandarin RVCs by incorporating a cognitively-motivated methodology. After the presentation of pedagogical implications, I conclude that my study has both theoretical importance and practical utility for Mandarin.

5.1 Pedagogical Implications

Before discussing the pedagogical implications of my study, I need to profile the differences of Mandarin and English when they express the same universal event.

5.1.1 Divergence of Mandarin and English

As we have observed, a Mandarin RVC contains at least two parts in an image series. They represent two consecutive stages in time. When expressing an event scene, Mandarin may adopt different perspectives from English, as I pointed out in Chapter 1. In Chapter 3, I have also shown that there is no concise English equivalence to Mandarin

RVCs which could be formed by aspectual composition. These two types of differences may be generalized.

For one type, many Mandarin RVCs are more appropriately translation-equivalent to English expressions of verb series or clauses than English resultative complements. For the two major categories of Mandarin RVCs that I have described in the last two chapters, neither of them is necessarily expressed by English verbs with resultative complements. Consider (1) and (2):

(1) 張 三 哭 濕 了 手 絹 .

Zhāng Sān kū shī le shǒujuàn

Zhang San cry wet *asp* handkerchief

‘Zhangsan cried so sad that the handkerchief got soaked.’

(2) John soaked his handkerchief with his tears.

In describing Zhangsan’s sadness, Chinese sentence (1) presents both the action 哭 *kū* ‘to cry’ and the resultative state: 手絹濕了 *shǒujuàn shī le* ‘the handkerchief is wet/soaked’. In contrast, English sentence (2), describing John’s sadness, focuses on the resultative states ‘soaked’ and the material ‘tears’, and downplays the action ‘to cry’. More clearly, we can contrast them by showing their different SSrr from which Chinese sentence (3) and English sentence (4).

(3) 爸 爸 把 孩 子 穿 醒 了 .

bàba bǎ háizi chuān xǐng le

father *ba* child put-on wake-up *asp*

‘Daddy dressed his child and woke him up (accidentally).’

(4) Daddy woke up his child (accidentally) when dressing him.

Similar to the contrast in (1) and (2) are the two aspects of the event series, namely: to put on and resultatively wake up, may be presented in the condensed form 穿醒 *chuān*

xǐng in Chinese. And its SSr contains two ACs <2>: <bàba, <chuān, 0>>, <2>: <háizi, <xǐng, 0>>. However, it is not possible for English to have an expression that directly connects two expressions such as ‘put on’ and ‘wake up’ as ‘put on and wake up’, as sentence (5) show: (5) *Daddy put on and wake up his child. This is due to the fact that the English verb ‘put on’ requires an R in its AC, and a thematic role ‘patient’. Obviously, this thematic role, or R, may not be functioned by ‘child’.

For another type of difference, some English verbs with complements may be expressed by Chinese RVCs, such as ‘come over’, (i.e., *zǒu guòlái* in Chinese), but some may not, such as ‘speak up’, ‘shut up’. Consider (6) and (7), for example:

(6) She spoke out her ideas.

(7) 他 大 聲 說 出 自 己 的 想 法 .

tā dà shēng shuō chū zìjǐ de xiǎngfǎ

she big voice speak out oneself of idea

‘She loudly spoke out her ideas.’

Instead of using a verb and a resultative complement, the Chinese sentence (7) uses an adverb – verb combination 大聲說出 *dà shēng shuō chū* to match the English idiomatic expression ‘speak out’. Although there is an RVC *shuō chū* ‘speak (out)’ in (7), it actually corresponds to the verb ‘spoke’ in English. For the English expression ‘shut up’, the corresponding Chinese expression is 閉嘴 *bì zuǐ* ‘shut/close (your) mouth-shut up’ or 住嘴 *zhù zuǐ* ‘stop (your) mouth-shut up’. Both 閉 *bì* ‘to close, to shut’ and 住 *zhù* ‘stop’ denotes an end (of the talking) aspect for the status of closing. But the English word ‘shut’ denotes two aspects: a duration and an end (because we can say ‘he is shutting his

mouth'). The end-denoting complement 'up' composes with 'shut' to emphasize the end aspect.

Differences between Chinese and English, when expressing a resultive state, may lie either in thematic roles, such as sentences (3) and (4), or in aspectuality, such as sentences (5) through (7), which proves an obvious fact that language diversities may not be due to purely formal factors. Other factors, such as language specific ways of conceptualization (i.e., SSrr in terms of CCG), as my analyses have hopefully shown in the previous chapters, may determine the eventual syntax, making languages morphosyntactically differ from each other. In particular, the diversities concerning resultative-complement constructions between English and Chinese make it very difficult for English speaking students to learn and use Chinese RVCs correctly. In order to be effective in teaching sentence patterns, language teaching should make use of revealing cognitive comparisons and contrasts between the (learner's) native language and the target language (Doughty 2001). This makes learners pay more attention to features of target language constructions (i.e., Chinese RVCs) before students have target-like interlanguage output.

5.1.2 Teaching RVCs in Previous Approaches

Although many linguists have studied RVCs from a theoretical point of view, pedagogical research that has been conducted to directly benefit teaching RVCs directly are rare. I have scrutinized as many journals and proceedings as I could, and found only four articles (Thompson's 1972, 1973, Light 1977, Lu1984) which aim at applying the results of the theoretical study of RVCs to teaching. After reviewing these pedagogically oriented research, I will look through a few sets of textbooks that are commonly used in

the U.S. to examine their approaches to RVCs. My investigations show that suggestions of applying theoretical studies to pedagogical practices are not well attended. This is due to specific adopted syllabi and principles guiding the compilation of textbooks.

5.1.2.1 Suggestions about Teaching RVCs

Rejecting a transformational derivation of RVCs from “deep structure”, Thompson’s (1972, 1973) papers present a series of rules of lexical combination for English speaking learners to create RVCs productively. Thompson thinks that Chinese RVCs consist of an open subset and a closed subset. The open subset may be obtained by applying the rules freely as long as a semantic constraint is observed: for each RVC, the complement “has to present a state or action which could be a result of receiving the action” of the verb (1972: 2). The closed subset should be listed in the lexicon because these words “correspond to individual words over which only the speaker (of Chinese) has control” (1973: 377).

Thompson’s two categories are helpful but insufficient. A large amount of RVCs may be productively created by connecting two g-verbs representing events that are causally related. In her list for RVCs to be included in the lexicon, every word is supposed to be learned as an individual item. However, we found many words in the list that may be generated by rules. Based on these rules, we can create more RVCs. For example, 過慣 *guò guàn* is interpreted as ‘live-be accustomed → get used to spending (time) in a certain way’. But we can create many RVCs by combining a verb of a similar type as 過 *guò* (i.e., related to actions of daily routine) with 慣 *guàn* ‘be accustomed to’. Consider:

(8) 吃慣 *chī guàn* ‘eat-be accustomed → get used to eating something/in a certain way’

(9) 用慣 *yòng guàn* ‘use-be accustomed → get used to using something’

(10) 走慣 *zǒu guàn* ‘walk-be accustomed → get used to walking by a certain/particular way’

(11) 睡慣 *shuì guàn* ‘sleep-be accustomed → get used to sleeping on a certain/particular kind of bed’

(12) 穿慣 *chuān guàn* ‘wear-be accustomed → get used to wearing something’

I could list more RVCs with 慣 *guàn* as the complement. Similarly, I can thus formulate a rule for RVCs with 慣 *guàn*, as Thompson has made for other RVCs:

$V_{\text{action}} + \text{慣 } guàn \text{ ‘be used to’} \rightarrow [V - guàn]_{RV}$

This fact shows that only a limited number of rules may not cover the rich varieties of RVCs. My analyses in the previous chapters have shown that RVCs may be more freely formed than what only 9 or 10 formulas can cover. In addition, RVCs may also be very idiomatic for linguists to exhaustively include in their lists. For instance, if we list 碰見 *pèng jiàn* ‘bump-perceive → run into’, and 看見 *kàn jiàn* ‘see-perceive → see’ in the lexicon as Thompson does, are we supposed to include a more idiomatic 碰上 *pèng shang* ‘bump-upon → run into’, which has the same meaning as 碰見 *pèng jiàn*, as well? If so, it is no problem for us to add 看上 *kàn shang* ‘see-upon → be fond of, fall in love with’ in our list also. We all know that the meaning of 上 *shang* ‘upon’ in 碰上 *pèng shang* is different from its meaning in 看上 *kàn shang*. The different aspectual contents of 上 *shang* make the difference, and they must be distinguished. It seems that the different

meanings of 上 *shang* should be distinguished in the lexicon. If so, all RVCs containing different aspectual meanings of 上 *shang* should also be distinguished and listed as individual words for students to learn. So, we should treat other RVCs in the same way. This would no doubt lead to a huge lexicon for Chinese learners.

To increase the use of RVCs in appropriate situations by English-speaking students, Light (1977) applies linguistic research to language teaching. Based on his analysis of the structure of sentences containing RVCs, Light suggests that RVCs such as 看見 *kàn jiàn* ‘see’ and 聽見 *tīng jiàn* ‘hear’ should be introduced before verbs 看 *kàn* ‘look’ and 聽 *tīng* ‘listen’. Similarly, Light thinks that RVCs contains both predictable and non-predictable items, with the former corresponding to Thompson’s (1972, 1973) open set and the latter to her closed set. For the predictable items, Light expands Thompson’s rule by specifically adding ‘inflictive’ complements, such as 死 *sǐ* ‘die’, 病 *bìng* ‘sick’, 破 *pò* ‘damaged’, 倒 *dǎo* ‘fall over’, 暈 *hūn* ‘dizzy’, 壞 *huài* ‘ruined’, etc., “as effecting a change in the speaker” (p. 32). He also suggested that the early presentation of the notion of ‘resultative’ should be limited to RVCs containing selective inflictives (such as the examples cited above), because “in this way, the basic and most general idea behind resultative compounding can be presented.” (p. 33).

Directional RVCs such as 下去 *xiàqu* ‘go down’ and 進來 *jìnlai* ‘come in’, according to Light, should be taught as early as 看見 *kàn jiàn* ‘see’, and before their metaphorical usages such as 吃下去 *chī xiàqu* ‘eat (down)’, 照進來 *zhào jìnlai* ‘shine into’. Since RVCs with both directional and inflictive complements are two productive constructions, students can then analogize more freely upon these two forms.

Light does not explain why he considers ‘inflictive’ complement as one of the basic RVC forms. His proposal that the “concept of resultatives should be taught with exclusive references to selected inflictives” (p. 39) is thus not sufficiently supported. In a later study, Lu (1984) suggests that it is better to start teaching RVCs with two “basic patterns”. Lu’s suggestion is based on his statistical study of written materials with about 265,000 characters. He finds that “V + resultative complement + 來 *lái* / 去 *qù*” and “V + 來 *lái* / 去 *qù*” are the most commonly used patterns, and thus they should be taught first. Given that both patterns are directional RVCs, Lu suggests that directional RVCs such as 坐起來 *zuò qǐlái* ‘sit up’ should be introduced before the RVCs with the metaphoric contents of the directional complements, such as 想起來 *xiǎng qǐlái* ‘think – up → remember, recall’.

In sum, all three of the studies suggest that RVCs should be introduced step by step. They also agree that directional RVCs should be taught, along with some very commonly used RVCs, at an earlier stage of introduction.

5.1.2.2 Approaches Adopted in Textbooks

Integrated Chinese (Yao et al. 1997) and *Practical Chinese Reader* (BLI 1990) are perhaps the two most commonly used textbooks in the U.S., according to two surveys (GITCST 2000, Ke et al. 2001). I therefore review briefly the teaching of RVCs in these two textbooks.

It seems that *Integrated Chinese* (IC) incorporates briefly the suggestions from the above three studies. IC starts introducing RVCs with 回來 *huílái* / 去 *qù* ‘come/go back’, 進來 *jìnlái* / 去 *qù* ‘come/go in(to)’. Later, it teaches some commonly used complements such as -好 *hǎo* (indicating completion or readiness), -完 *wán* (indicating

completion), -錯 *cuò* ‘wrong’, and -清楚 *qīngchū* ‘clear’, etc. IC also makes suggestions to take “the combination of the verb and the complement as a whole unit” (p. 9). This strategy treats RVCs with these complements as lexical items.

However, some introductions of more complex RVCs in IC are vague and confused. For example, both 拿些水果來 *ná xiē shuǐguo lái* and 拿來些水果 *ná lái xiē shuǐguo* ‘get some fruits and bring them (here)’ are grammatical expressions, and they bear the same meaning. IC provides illustrative patterns as rules for the student to apply when the student creates sentences containing directional RVCs. However, it does not explain why for some metaphoric uses of directional RVCs resulting combinations would be ungrammatical. Let us compare:

(13) 你 拿 (些) 主意 來。
nǐ ná (xiē) zhúyì lái
you take some idea come
‘Show (me) your ideas/solutions.’

(14) *你 拿 來 些 主意。
nǐ ná lái xiē zhúyì
you take come some idea
‘You bring some ideas.’

Sentence (13) is grammatical but sentence (14) is not. Furthermore, IC explains RVCs such as 存起來 *cún qǐlai* ‘to store/save’ as individual words, i.e., words to be listed in lexicon, to memorize. If so, words as 收起來 *shōu qǐlai* ‘to store/save’ 放起來 *fàng qǐlai* ‘to store/save’, etc., should also be memorized as individual words, because they bear the same meaning with 存起來 *cún qǐlai*. They all can be generated by a rule such as:

“V_{action} + *qǐlai*” → “to take away”

At the same time, they should be distinguished from another group of words that can be created by the same rule but with a different meaning of -起來 *qǐlai*, such as *tán qǐlai* ‘begin chatting’, 胖起來 *pàng qǐlai* ‘become fat’, etc.

Different from IC, *Practical Chinese Reader* (PCR) does not seem to have been compiled bearing in mind any suggestions by Thompson or Light. Instead, it teaches RVCs by presenting some frequently used complements such as 懂 *dǒng* ‘understand’, 錯 *cuò* ‘wrong’, 好 *hǎo* ‘completion, or a desired state’, etc. PCR then introduces the resultative meaning and metaphoric meaning of some complements at the same time. For instance, for 到 *dào*, PCR states that it indicates the continuation of an action up to a certain point such as in 回到 *huí dào* ‘return (to)’, and denotes the successful completion or execution of an action such as in 買到 *mǎi dào* ‘buy (and get)’. Similarly, PCR introduces 住 *zhù* as indicating something to be fixed on a position such as 站住 *zhàn zhù* ‘stop’, and its metaphoric extension such as 記住 *jì zhù* ‘to remember, to bear something in mind’, and 盯住 *dīng zhù* ‘stare at, to keep one’s eyes on’. Later, PCR teaches directional RVCs, including both simple forms such as 進來 *jìn lai* ‘come in’ and complex forms such as 把石頭搬走 *bǎ shítou bān zǒu* ‘move away the stones’.

The approaches that IC and PCR employ to make students produce RVCs are similar: they provide English sentences and the complements or RVCs that are intended to be used when students translate these English sentences into Chinese. Based on my experience of using these two textbooks, I have found that students are not able to produce RVCs as efficiently as they are expected to, even if they are required to make sentences with given words. Studies about second language acquisition (Long and Robinson 1998, Doughty 2001) have shown that teacher’s intended pedagogical focus

and students' actual attentional focus often differ substantially. How can we draw student's attention to particular language forms, such as RVCs, to make them produce RVCs as competently as Chinese speakers do?

5.1.3 Implications for Pedagogy

Should RVCs be solely introduced as individual words listed in the lexicon? Our analysis above has shown that it is not a good idea: the productivity of RVCs will make students feel overwhelmed if every RVC is taught individually. Or, should we provide a set of rules covering a large quantity of RVCs? In this way, there will still be quite a large number of idiomatic and commonly used RVCs that may not be covered under these rules. Again, should we integrate these two options, teaching students two subsets of RVCs, as Thompson (1972, 1973) suggests? I have pointed out that Thompson's effort is far from satisfying. Moreover, as suggested in Section 3.1, to distinguish lexicalized RVCs from grammaticalized RVCs is actually unnecessary. Should we ignore this distinction, and simply teach RVCs as a special structure in Mandarin? If so, what might be most efficient and pedagogically recommendable approaches benefiting a student's learning of RVCs?

5.1.3.1 Focus on Form and Its Pedagogical Advantages

For the past decade, an instructional expedient called "focus on form" has been highly promoted for efficient language teaching by second language acquisition researchers (Doughty 2001). It is considered a method for facilitating input from the teacher to students to enable them to produce more target-like sentences and expressions. Theoretically, focus on form "overly draws student's attention to linguistic elements as

they arise incidentally in lessons whose overriding focus is on meaning or communication” (Long 1991: 45-46). Practically, focus on form involves an occasional shift in attention to linguistic code features by the teacher or the student, triggered by perceived problems with comprehension or production (Long and Robinson 1998: 23).

Both IC and PCR seem to accord with the spirit of “focus on form” because they introduce RVCs by focusing students’ attention on the combination of verb and resultative complement when RVCs occur in lessons. Specifically, IC organizes its lessons based on the development of topics when communicative purposes evolve from simple to complex. Thus such simple directional RVCs as 進來 *jìnlai* ‘come in’ and 出去 *chūqu* ‘go out’ are introduced in an earlier lesson (Lesson 4). More commonly used RVCs with different complements such as -好 *hǎo* ‘be ready, to complete’, -懂 *dǒng* ‘understand’, and 錯 *cuò* ‘wrong’, etc., are introduced in later lessons (Lesson 12) as communicative needs arise. PCR, which organizes its lessons in different principles from IC, does not introduce RVCs until much later lessons (Lessons 38 through 41), when many other grammatical patterns have already been taught and basic vocabulary and sentences patterns are ensured. Simple and complex forms of RVCs are presented together. For example, 坐好 *zuò hǎo* ‘sit well’, a simple RVC, 回到辦公室去 *huí dào bàngōngshì qù* ‘go back to the office’, a complex directional RVC, and 打回(電話)來 *dǎ huí (diànhuà) lái* ‘call back’, a more complex directional RVC with metaphoric meaning, are all grouped together in one or a few successive lessons.

In practice, an individual teacher has more freedom in presenting RVCs in his/her own ways, instead of being obligated by the approaches of specific textbooks. In what follows, I would like to suggest an approach based on focus on form that makes use of

cognitive patterns in the target language, in order to boost learner's knowledge about grammar and other language phenomena. The purpose of focus on form is to make learners form a memory in their mind, to enable them to use the intended language forms, whenever it is appropriate to. Our studies in previous chapters have shown that, expressions in different languages for the same scene may have universal image structures at the more cognitively motivated level. It is thus possible for the teacher to activate the students' cognitively motivated patterns such as RVC, and to compare and contrast them with forms in their native language.

5.1.3.2 Further Pedagogical Implications

The effort of form-focused instruction may draw the learner's attention to new language forms either implicitly or explicitly. The procedures of form-focused instruction may have the potential of influencing language comprehension, acquisition and production. Thus the most sufficient influence from instruction would be what conforms with the nature of the language encoding (Doughty 2001). Therefore, it might be more efficient if we apply the results of this study and employ them along with the focus-on-form approach to teaching RVCs. The suggested pedagogical approach may proceed as follows.

First, textbook designers or teachers may present, besides the meanings, the aspectual types of Mandarin and English verbs; or, more precisely, identify g-verbs when a verb is introduced in a lesson. If a g-verb appears with a different aspect from its previously studied aspect, the aspect, which may be related to a different meaning, should be explicated and exemplified. For instance, 上 *shang* 'be on/at/in' as a locative g-verb is Type B, in expressions such as 桌子上 *zhuōzi shang* 'on the table', 心上 *xīn shang* 'in

someone's heart', etc. It is Type F, when it means "to get in (a vehicle)" such as 上車 *shàng chē* 'get in car', and 'to go to' in 上班 *shàng bān* when it means "to go to work, to work". It is Type A when it follows a Type B verb, such as 喜歡 *xǐhuān* 'like', or 恨 *hèn* 'hate'. The two g-verbs combine into 喜歡上 *xǐhuān shang* 'be fond of, (start) to like', and 恨上 *hèn shang* '(start to) hate'. Different aspects of a g-verb reflect not only different meanings, but also different functions. Teachers may guide students to make cognitive comparison of the Chinese g-verbs with their translation-equivalence in the students' native languages. The comparison should reinforce the student's interlanguage knowledge, and eventually contribute to their second language processing and production.

Second, when verbs with the six types of aspects are introduced, the teacher may lead the student to learn the notion of "Aspectual Composition". The teacher may simplify this into the notion that any two g-verbs may compose into a new aspectual type, which is still one of the six types. The teacher may clue the student with these two ideas: a sentence with a simple verb may either manifest a simple aspect, such as 他畫畫 *tā huà huà* 'he paints', or it may manifest a complex aspect such as 他每天畫一張畫 *tā měitiān huà yì zhāng huà* 'he paints one picture a day'. Since 一張畫 *yì zhāng huà* 'one picture' demarcates the aspect of Type F 畫 *huà* 'to paint', this makes the sentence containing it a composed Type F. Different composed types may make students more conscious of the different temporal expressions and of other adverbials (See Chapter 3.3 for details).

Third, when RVCs occur in a lesson, the teacher may analogize them to one type of aspectual composition. The students' special attention to RVCs may be guided to two facts about RVCs: (i) any individual RVC manifests one of the composed types D, E, or

F, thus containing at least two aspects of an event; and (ii) the semantic contents of RVC aspects are associated with each other, which means that these aspects are either causally and/or temporally sequenced one after another. The idea of aspect composition may be more efficient for adults, because second language acquisition studies have shown that adults tend to learn isolated words and put them together when learning a new language, while children learn word collocations (Long 1998). These two facts about RVCs provide students with the most desired freedom to produce RVCs whenever (a) a situation presents a need to connect two event aspects; and (b) a causal relation is implied between these two aspects. This approach may function as a catalyst for student's maximum production of RVCs in their interlanguage when appropriate and thus become more target language-like.

To summarize, this study may have a practical component that contributes to teaching RVCs. I injected a cognitive dimension into the "focus on form" method. This approach draws the learner's attention to the linguistic bridge that may be conceptually illuminating between a student's native language and the target language. Therefore, I advocate it as an efficient way of introducing RVCs. Strategically, the teacher may start to direct the student's attention to aspectual types of individual Chinese g-verbs, and compare them with English g-verbs. Then the rules and conditions for aspectual composition are derived through induction and on later taught to the students.

5.2 Closing Remarks

In this study I have developed and discussed my ideas in five chapters. During my investigation of the relation between images and expressions in Chinese, I started from verifying the necessity of studying RVCs, viewed as the morphologically and semantically complex but syntactically simple construction that provides a testing ground for a theory of compositional grammar, such as CCG. Given that CCG is a novel theory, I spent the second chapter introducing its cognitive and formal underpinnings. I also explicated the most cognitively motivated ISr and its characteristics, emphasizing its general feature as an exemplar of the ISr. In Chapter 3, I investigated Chinese g-verbs and their functions in the conceptualization of event aspects. I categorized Chinese g-verbs into six aspectual types, and then postulated “Aspectual Compositions”, showing that any composed type results in one of the six original types. Each RVC in CCG, as a composition of at least two aspectual g-verbs, is one of the three composite types. In Chapter 4, I furthered my study by investigating the transformation from SSrr to TSrr, and postulated rules of composition for thematic roles. As a result, an ultimate thematic role for a sentence after composition may be an agent, or a theme, or a patient. Finally, I briefly showed that my study may benefit the teaching of RVCs to English speaking students, and thus it has pedagogical values besides its theoretical claims.

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a	爆发	[bao4 fa1]	/to break out/
a	出发	[chu1 fa1]	/to start out/to set off/
a	触发	[chu4 fa1]	/trigger/spark/
a	创	[chuang4]	/begin/initiate/inaugurate/start/create/
a	发	[fa1]	/to send out/ to come into existence/
a	就	[jiu4]	/at once/right away/
a	就业	[jiu4 ye4]	/get a job/start a career/
a	开	[kai1]	/start/
a	启	[qi3]	/to open/to start/
a	始	[shi3]	/begin/start/
b	挨	[ai2]	/next to/
b	爱	[ai4]	/to like/
b	安	[an1]	/calm/still/quiet/
b	安顿	[an1 dun4]	/undisturbed/peaceful/
b	按	[an4]	/according to/in the light of/
b	暗	[an4]	/unilluminated/
b	凹	[ao1]	/hollow/
b	望	[wang4]	/towards/
b	霸	[ba4]	/tyrant/
b	白	[bai2]	/white/snowy/empty/blank/bright/clear/plain/pure/gratuitous/
b	摆	[bai3]	/to display/
b	板	[ban3]	/stiff/
b	包含	[bao1 han2]	/contain/embody/include/
b	扎	[za1]	/thorny/
b	奔	[ben4]	/towards/
b	逼	[bi1]	/towards/
b	比	[bi3]	/compaitvely/fairly/
b	比喻	[bi3 yu4]	/analog/
b	闭塞	[bi4 se4]	/out of the way/inaccessible/unenlightened/blocking/
b	别	[bie4]	/contrary/difficult/awkward/
b	濒临	[bin1 lin2]	/on the verge of/close to/
b	冰	[bing1]	/icy/
b	冰镇	[bing1 zhen4]	/iced/
b	驳	[bo2]	/argue/parti-colored/
b	博	[bo2]	/extensive/ample/rich/obtain/aim/
b	彩	[cai3]	/colored/variegated/
b	侧重	[ce4 zhong4]	/place extra emphasis on/
b	畅	[chang4]	/smooth/fluent/joyful/happy/
b	沉	[chen2]	/deep/profound/
b	衬	[chen4]	/give alms/to line/lining/contrast/assist/
b	称	[cheng1]	/to address/to call/
b	呈	[cheng2]	/to appear/
b	承	[cheng2]	/owing to/due to/
b	耻	[chi3]	/shame/disgrace/
b	充	[chong1]	/suffcient/full/
b	冲	[chong4]	/of great force/towards/
b	丑	[chou3]	/ugly/
b	除	[chu2]	/except/
b	穿	[chuan1]	/penetrate/pass through/
b	传	[chuan2]	/to convey/to express/
b	传染	[chuan2 ran3]	/contagious/
b	传说	[chuan2 shuo1]	/it is said/they say/

b 垂	[chui2]	/hang down/approaching
b 垂直	[chui2 zhi2]	/perpendicular/vertical/
b 聪	[cong1]	/quick at hearing/wise/clever/sharpwitted/intelligent/acute/
b 错	[cuo4]	/cross/uneven/wrong/
b 达	[da2]	/convey/
b 打	[da3]	/since/from/
b 怠	[dai4]	/idle/lazy/negligent/careless/
b 胆敢	[dan3 gan3]	/dare/
b 当	[dang1]	/should/out to/
b 当	[dang4]	/suitable/adequate/fitting/proper/
b 倒	[dao3]	/upset/to the contrary/inverted/
b 得	[dei3]	/to have to/must/ought to/to need to/
b 等	[deng3]	/equal to/same as/et cetera/and so on/
b 颠	[dian1]	/inverted/jolt/
b 妒	[du4]	/jealous/
b 断	[duan4]	/absolutely/decidedly (in negative constructions)/
b 对	[dui4]	/to be opposite/to oppose/to face/for/to/correct
b 繁	[fan2]	/complicated/many/in great numbers/
b 反	[fan3]	/wrong side out or up/anti-/
b 疯	[feng1]	/insane/mad/wild/
b 腐	[fu3]	/decay/rotten/
b 负	[fu4]	/lose/negative (math. etc.)/
b 附	[fu4]	/to add/to attach/to be close to/to be attached/
b 该	[gai1]	/to deserve/should/ought to/
b 干	[gan1]	/dry/
b 跟	[gen1]	/with/and/
b 够	[gou4]	/to be enough/
b 固	[gu4]	/hard/strong/solid/sure/
b 怪	[guai4]	/queer/
b 惯	[guan4]	/accustomed to/used to/
b 好	[hao4]	/be fond of/good/
b 好像	[hao3 xiang4]	/look like/similar (to)/look/to seem/
b 和	[he2]	/and/
b 核	[he2]	/examine/check/
b 横	[heng4]	/unruly/
b 弘	[hong2]	/great/liberal/
b 后	[hou4]	/behind/
b 胡	[hu2]	/recklessly/
b 互	[hu4]	/mutual/
b 坏	[huai4]	/bad/
b 欢	[huan1]	/joyous/happy/pleased/
b 还	[huan2]	/pay back/return/
b 灰	[hui1]	/grey/
b 活跃	[huo2 yue4]	/active/
b 激	[ji1]	/sharp/fierce/violent/
b 挤	[ji3]	/crowded/
b 忌	[ji4]	/avoid as taboo/to be jealous/
b 假	[jia3]	/false/fake/
b 兼	[jian1]	/double/twice/simultaneous/ /holding two or more (official)posts at the same time/
b 贱	[jian4]	/inexpensive/lowly/
b 娇	[jiao1]	/lovable/pampered/tender/delicate/frail/

b 叫	[jiao4]	/to (be) call(ed)/
b 接近	[jie1 jin4]	/near/close to/
b 紧	[jin3]	/tight/nervous/strict/
b 谨慎	[jin3 shen4]	/cautious/prudent/
b 精	[jing1]	/perfect/excellent/refined/very/proficient/
b 精通	[jing1 tong1]	/proficient/
b 具	[ju4]	/to possess/to have/
b 剧	[ju4]	/severe/
b 绝	[jue2]	/extinct/absolutely/by nomeans/
b 可	[ke3]	/can/may/able to/certain(ly)/
b 可能	[ke3 neng2]	/might (happen)/possible/probable/
b 可以	[ke3 yi3]	/can/may/possible/able to/
b 渴	[ke3]	/thirsty/
b 肯定	[ken3 ding4]	/to be sure/to be certain/sure/certain/definite/toconfirm/ /to affirm/
b 恳	[ken3]	/earnest/
b 抠	[kou1]	/stingy/
b 枯	[ku1]	/dry/
b 酷	[ku4]	/ruthless/strong (as of wine)/
b 困	[kun4]	/sleepy/doze off/
b 阔	[kuo4]	/rich/wide/broad/
b 辣	[la4]	/hot (spicy)/pungent/
b 烂	[lan4]	/overcooked/rotten/soft/
b 涝	[lao4]	/flooded/
b 离	[li2]	/(distant) from/
b 利	[li4]	/profit/sharp/
b 例如	[li4 ru2]	/for example/for instance/such as/
b 凉	[liang2]	/cool/cold/
b 乱	[luan4]	/in confusion/disorderly/
b 麻烦	[ma2 fan5]	/troublesome/
b 慢	[man4]	/slow/
b 忙	[mang2]	/busy/
b 冒	[mao4]	/brave/bold/
b 霉	[mei2]	/bacteria/fungi/moldy/
b 闷	[men1/men4]	/melancholy/
b 蒙	[meng2]	/dim sighted/ignorant/
b 迷	[mi2]	/bewilder/crazy about/fan/enthusiast/lost/confused/
b 明	[ming2]	/clear/bright/next/
b 默	[mo4]	/silent/
b 耐	[nai4]	/to be unbearable/unable to endure/
b 能	[neng2]	/can/may/capable/able/
b 黏	[nian2]	/sticky/
b 浓	[nong2]	/concentrated/dense/
b 怒	[nu4]	/indignant/
b 暖	[nuan3]	/warm/
b 虐	[nu:e4]	/oppressive/tyrannical/
b 偏	[pian1]	/one-sided/to lean/to slant/prejudiced/inclined to one side/
b 迫	[po4]	/pressing/urgent/
b 歧	[qi2]	/divergent/
b 潜	[qian2]	/hidden/latent/secret/
b 切	[qie4]	/close to/
b 清	[qing1]	/clear/distinct/complete/pure/

b 确	[que4]	/authenticated/solid/firm/
b 热	[re4]	/heat/to heat up/feverent/hot (of weather)/
b 热闹	[re4 nao5]	/bustling with noise and excitement/lively/
b 融	[rong2]	/harmonious/mild/
b 柔	[rou2]	/soft/
b 如	[ru2]	/as (if)/such as/
b 润	[run4]	/smooth/moist/
b 弱	[ruo4]	/weak/feable/young/inferior/
b 煞	[sha4]	/baleful/very/
b 善	[shan4]	/good/
b 上	[shang4]	/on/upon/previous or last/upper/higher/above/
b 湿	[shi1]	/moist/wet/
b 实	[shi2]	/real/true/honest/really/solid/
b 实	[shi2]	/be filled with/
b 是	[shi4]	/is/are/am/yes/to be/
b 属	[shu3]	/belong to/
b 竖	[shu4]	/vertical/
b 顺	[shun4]	/along/favorable/
b 死	[si3]	/impassable/uncrossable/inflexible/rigid/
b 松	[song1]	/loose/
b 替	[ti4]	/for/on behalf of/to stand in for/
b 同	[tong2]	/like/same/similar/together/alike/with/
b 歪	[wai1]	/askew/
b 外	[wai4]	/outside/in addition/foreign/external/
b 弯	[wan1]	/bend/bent/
b 伪	[wei3]	/false/fake/forged/bogus/
b 温	[wen1]	/(luke)warm/
b 喜	[xi3]	/to like/to be fond of/happy/
b 喜欢	[xi3 huan5]	/to like/to be fond of/
b 细	[xi4]	/fine/minutely/thin/slender/
b 瞎	[xia1]	/blind/
b 下	[xia4]	/under/underneath/down(wards)/
b 嫌	[xian2]	/to dislike/
b 显	[xian3]	/prominent/conspicuous/
b 相反	[xiang1 fan3]	/opposite/contrary/
b 向	[xiang4]	/towards/facing/
b 像	[xiang4]	/(look) like/similar (to)/look/
b 象征	[xiang4 zheng1]	/symbol/signify/
b 小	[xiao3]	/small/tiny/few/young/
b 斜	[xie2]	/incline/lean/slant/slope/tilt/
b 羞	[xiu1]	/shy/ashamed/shame/bashful/
b 虚	[xu1]	/devoid of content/void/false/empty/vain/
b 讯	[xun4]	/rapid/speedy/fast/news/information/
b 要	[yao4]	/important/vital/to be going to/must/
b 耀	[yao4]	/brilliant/glorious/
b 依	[yi1]	/according to/depend on/near to/
b 以	[yi3]	/according to/so as to/in order to/by/with/because/
b 隐	[yin3]	/secret/hidden/concealed/
b 有	[you3]	/to have/there is/there are/to exist/to be/
b 有关	[you3 guan1]	/to have something to do with/to relate to/
b 预	[yu4]	/in advance/
b 愿	[yuan4]	/hope/wish/desire/ready/willing/

b 杂	[za2]	/mixed/miscellaneous/various/
b 在	[zai4]	/(located) at/in/exist/
b 暂时	[zan4 shi2]	/temporary/provisional/
b 诈	[zha4]	/crafty/dishonest/
b 照	[zhao4]	/according to/in accordance with/to shine/
b 针对	[zhen1 dui4]	/in connection with/directed toward/
b 整	[zheng3]	/exactly/in good order/whole//complete/entire/in order/orderly/
b 正	[zheng4]	/just (right)/main/upright/straight/correct/
b 知道	[zhi1 dao5]	/know/be aware of/
b 值	[zhi2]	/(to be) worth/to happen/
b 重	[zhong4]	/heavy/serious/
b 蛀	[zhu4]	/to bore (of insects)/
b 准	[zhun3]	/accurate/
b 总	[zong3]	/always/gather/total/overall/head/chief/general/in every case/
b 纵	[zong4]	/even if/
c 哀	[ai1]	/to grieve for/to pity/to lament/
c 罢	[ba4]	/to finish/
c 毙	[bi4]	/die violently/
c 超	[chao1]	/to exceed/overtake/surpass/transcend/ultra-/super-/to pass/ /to cross/
c 成	[cheng4]	/finish/complete/accomplish/become/turn into/win/succeed/
c 成立	[cheng2 li4]	/establish/set up/
c 承认	[cheng2 ren4]	/recognize/to acknowledge/to admit/
c 酬	[chou2]	/to fulfil/to realize/
c 酬	[chou2]	/to present sb with a gift as a reward/
c 吹	[chui1]	/end in failure/
c 达	[da2]	/attain/pass through/achieve/reach/realise/
c 逮	[dai4]	/catch/seize/
c 到	[dao4]	/to (a place)/until (a time)/up to/to go/to arrive/
c 抵	[di3]	/to reach/to arrive
c 断	[duan4]	/break/to judge/
c 公布	[gong1 bu4]	/publicly announce/to make public/to publish/
c 够	[gou4]	/to reach/
c 过	[guo4]	/(indicates an experience)/
c 好	[hao3]	/to complete/to finish/be ready/
c 核准	[he2 zhun3]	/approve/
c 见	[jian4]	/to perceive/
c 竭	[jie2]	/exhaust/
c 尽	[jin4]	/to use up/to exhaust/to end/to finish/to the utmost/ /exhausted/finished/to the limit (of sth)/
c 绝	[jue2]	/cut short/to disappear/to vanish/
c 磕	[ke1]	/to tap/knock/
c 停	[ting2]	/to stop/to halt/
c 误	[wu4]	/lapse/miss/
c 致	[zhi4]	/result in/
c 终	[zhong1]	/end/finish/
c 中	[zhong4]	/hit (the mark)/
d 安	[an1]	/to pacify/
d 败	[bai4]	/be defeated/
d 暴露	[bao4 lu4]	/expose/reveal/lay bare/
d 奔	[ben4]	/go to/
d 闭	[bi4]	/to close/stop up/shut/obstruct/

d	蔽	[bi4]	/to cover/to shield/to screen/to conceal/
d	放	[fang4]	/to release/to free/to let go/to let out/
d	忽	[hu1]	/suddenly/
d	继	[ji4]	/then/afterwards/to go on with/
d	结婚	[jie2 hun1]	/to marry/to get married/
d	离	[li2]	/to leave/
d	裂	[lie4]	/crack/split/
d	满意	[man3 yi4]	/to be satisfied/to be pleased/satisfied/pleased/
d	蔫	[nian1]	/fade/wither/
d	破	[po4]	/to break/to split/broken/damaged/worn out/
d	弃	[qi4]	/abandon/relinquish/to discard/to throw away/
d	去	[qu4]	/to go/to leave/
d	丧	[sang4]	/lose (by death)/
d	胜	[sheng4]	/win/
d	饰	[shi4]	/to decorate/
d	输	[shu1]	/to lose/
d	熟	[shu2]	/familiar/skilled/ripe/done/ripe/cooked/
d	死	[si3]	/to die/dead/
d	碎	[sui4]	/to break down/to break into pieces/fragmentary/
d	瘫	[tan1]	/paralyzed/
d	透	[tou4]	/to penetrate/thorough/penetrating/to pass through/to pierce/
d	醒	[xing3]	/to wake up/to be awake/
d	锈	[xiu4]	/rust/
d	淹	[yan1]	/drown/submerge/
d	腌	[yan1]	/to salt/pickle/
d	遗	[yi2]	/to lose/to leave behind/
d	赢	[ying2]	/to beat/to win/to profit/
d	油	[you2]	/be stained with grease/
d	遇	[yu4]	/meet with/
d	愈	[yu4]	/heal/
d	砸	[za2]	/smashed/
d	睁	[zheng1]	/to open (eye)/
d	止	[zhi3]	/to stop/
d	注定	[zhu4 ding4]	/be doomed/be destined (to failure, etc.)/
d	醉	[zui4]	/intoxicated/
d	尊	[zun1]	/to honor/
d	纵	[zong4]	/release/
e	出	[chu1]	/to go out/to come out/to occur/to produce/to go beyond/ /to rise/to put forth/to occur/to happen/
e	出生	[chu1 sheng1]	/to be born/
e	蹬	[deng1]	/step into (as tight shoe)to kick/
e	掉	[diao4]	/to drop/to fall/
e	跌	[die1]	/to drop/to fall/to tumble/
e	丢	[diu1]	/to lose/to put aside/to throw/
e	冻	[dong4]	/to freeze/
e	进	[jin4]	/advance/enter/to come in/
e	就	[jiu4]	/to approach/to move towards/
e	来	[lai2]	/to come/
e	没	[mo4]	/drowned/to end/to die/to inundate/
e	起	[qi3]	/to rise/to raise/to get up/
e	入	[ru4]	/to enter/
e	上	[shang4]	/to go up/

e 下	[xia4]	/to go down/
e 现	[xian4]	/to appear/to arise/to emerge/
e 消	[xiao1]	/disappear/vanish/
f 挨	[ai2]	/suffer (hunger)/endure/
f 爱	[ai4]	/to love/to be fond of/
f 碍	[ai4]	/to hinder/to obstruct/to block/
f 安顿	[an1 dun4]	/help settle down/arrange
f 安排	[an1 pai2]	/to arrange/to plan/to set up/to set up/
f 安慰	[an1 wei4]	/comfort/console/
f 按	[an4]	/to press (with the hand)/to push/to control/to restrain/to
f 按摩	[an4 mo2]	/massage/
f 按捺	[an4 na4]	/restrain/control/
f 熬	[ao2]	/endure/to boil/
f 巴	[ba1]	/to wish/
f 扒	[pa2]	/climb/crawl/snatch/
f 拔	[ba2]	/pull up/pull out/select/promote/
f 把	[ba4]	/to control/
f 罢	[ba4]	/to stop doing/
f 霸	[ba4]	/rule by force/
f 掰	[bai1]	/to break with both hands/
f 摆	[bai3]	/to place/to display/to swing/to oscillate/to show/to move/
f 败	[bai4]	/to defeat/loss/
f 拜	[bai4]	/to pay respect/worship/visit/salute/
f 拜别	[bai4 bie2]	/take leave of/
f 颁	[ban1]	/promulgate/send out/issue/to grant or confer/
f 搬	[ban1]	/remove/transport/move/shift/
f 办	[ban4]	/to do/to manage/to handle/to go about/to run/to set up/ /to deal with/
f 理	[li3]	/to handle, to deal with/
f 伴	[ban4]	/to accompany/
f 扮	[ban4]	/to disguise oneself/to dress up/adorn/
f 拌	[ban4]	/to mix/mix in/to toss (a salad)/
f 绊	[ban4]	/to trip/stumble/hinder/
f 帮	[bang1]	/to assist/to support/to help/
f 绑	[bang3]	/to tie/bind or fasten together/
f 谤	[bang4]	/to slander/defame/speak ill of/
f 包	[bao1]	/to cover/to wrap/to hold/to include/to take charge of/
f 扎	[za1]	/bind/
f 煲	[bao1]	/to boil/cook or heat/
f 保	[bao3]	/to defend/to protect/to insure or guarantee/to maintain/ /hold or keep/to guard/
f 保送	[bao3 song4]	/recommend (for admission to school)/
f 保养	[bao3 yang3]	/take good care of (or conserve) one's health/ /keep in good repair/
f 保重	[bao3 zhong4]	/take care of oneself/
f 报	[bao4]	/to announce/to inform/report/newspaper/recompense/ /revenge/
f 报答	[bao4 da2]	/repay/repay/
f 报导	[bao4 dao4]	/to cover (report) news/news reporting/story/article/
f 报复	[bao4 fu4]	/make reprisals/retaliate/revenge/
f 报名	[bao4 ming2]	/enter one's name/apply/sign up/
f 报销	[bao4 xiao1]	/submit an expense account/apply for reimbursement/

		/write-off/wipe out/
f	报效 [bao4 xiao4]	/render service to repay kindness/
f	抱 [bao4]	/to hold/to carry (in one's arms)/to hug or embrace/surround/ /cherish/
f	暴动 [bao4 dong4]	/to rebel/
f	爆 [bao4]	/to crack/to explode or burst/
f	爆发 [bao4 fa1]	/to erupt/to explode/
f	备 [bei4]	/to prepare/get ready/to provide or equip/
f	背 [bei4]	/learn by heart/
f	背叛 [bei4 pan4]	/betray/
f	焙 [bei4]	/to dry over a fire/to bake/
f	迸 [beng4]	/to burst forth/to spurt/to crack/
f	蹦 [beng4]	/to jump/bounce or hop/
f	逼 [bi1]	/compel/
f	比 [bi3]	/compare/contras/
f	比赛 [bi3 sai4]	/[athletic or other] compete/
f	比试 [bi3 shi4]	/have a competition/measure with one's hand or arm/ /make a gesture
f	闭塞 [bi4 se4]	/stop up/close up
f	避 [bi4]	/avoid/shun/flee/escape/leave/to keep away/to leave/to hide/
f	编 [bian1]	/we are/plait/organize/group/arrange/edit/compile/write/ /compose/fabricate/
f	编辑 [bian1 ji2]	/edit/compile/(assistant) editor/compiler/
f	编纂 [bian1 zuan3]	/compile/
f	鞭打 [bian1 da3]	/whip/lash/flog/thrash/
f	贬 [bian3]	/to diminish/to demote/reduce or devalue/disparage/ /censure/depreciate/
f	变 [bian4]	/to change/to become different/to transform/to vary/
f	变卖 [bian4 mai4]	/sell off (one's property)/
f	辨 [bian4]	/distinguish/recognise/
f	标 [biao1]	/to mark/
f	辩 [bian4]	/dispute/debate/argue/discuss/
f	标志 [biao1 zhi4]	/symbolize/to indicate/to mark/
f	表 [biao3]	/to watch/to show/express/
f	表决 [biao3 jue2]	/decide by vote/vote/
f	表现 [biao3 xian4]	/display/manifest/to show(off)/to display/
f	表扬 [biao3 yang2]	/to praise/to commend/
f	裱 [biao3]	/hang (paper)/mount (painting)/
f	憋 [bie1]	/hold in (urine)/to hold (breath)/to choke/stifle/restrain/ hold back/
f	别 [bie2]	/to differ/
f	摒除 [bin4 chu2]	/discard/get rid of/dispense with/
f	屏气 [bing3 qi4]	/hold one's breath/
f	并 [bing4]	/amalgamate/combine/
f	病 [bing4]	/fall ill/sick/defect/
f	拨 [bo1]	/to push aside/to appropriate (money)/to move/to set aside/ /group/batch/to poke/to stir/
f	剥 [bo1]	/peel/to skin/
f	剥落 [bo1 luo4]	/peel off/
f	剥削 [bo1 xue1]	/exploit/
f	播 [bo1]	/sow/scatter/spread/broadcast/
f	驳 [bo2]	/argue/

f 博	[bo2]	/to win/to get/to gamble/
f 搏斗	[bo2 dou4]	/to wrestle/to fight/to struggle/
f 补	[bu3]	/to repair/to patch/to mend/to make up for/to fill (a vacancy)/ /to supplement/
f 哺育	[bu3 yang3]	/feed/rear/
f 捕	[bu3]	/to catch/to seize/to capture/
f 布	[bu4]	/diffuse/extend/notify/
f 步	[bu4]	/walk/march/
f 部署	[bu4 shu3]	/dispose/deploy/
f 擦	[ca1]	/to wipe/to erase/to clean/to polish/
f 猜	[cai1]	/to guess/
f 裁	[cai2]	/cut out (as a dress)/cut/trim/reduce/diminish/
f 裁决	[cai2 jue2]	/rule/adjudicate/
f 采	[cai4]	/to pick/to adopt/
f 采办	[cai3 ban4]	/buy on a considerable scale/purchase/
f 采访	[cai3 fang3]	/cover (a news story)/
f 踩	[cai3]	/step upon/tread on/stamp/
f 参观	[can1 guan1]	/to look around/to inspect/visit and observe/
f 参加	[can1 jia1]	/to participate/to take part/to join/
f 参考	[can1 kao3]	/consultation/reference/to consult/to refer/
f 藏	[cang2]	/to store/to hide/collect/
f 操	[cao1]	/to hold/to drill/to exercise/to act/to do/to take in hand/ /to keep/to manage/
f 操心	[cao1 xin1]	/to worry about/
f 操作	[cao1 zuo4]	/to operate/
f 操纵	[cao1 zong4]	/to operate/to control/
f 草	[cao3]	/careless/rough/hasty/
f 测	[ce4]	/to lean/to survey/to measure/to test/
f 策划	[ce4 hua4]	/plot/scheme/bring about/engineer/
f 插	[cha1]	/insert/attack in/pierce/to take part in/to interfere/to interpose/
f 查	[cha2]	/to check/to investigate/
f 搽	[cha2]	/apply (ointment/powder)/smear/paint on/
f 察	[cha2]	/to watch/to look carefully at/to observe/
f 拆	[chai1]	/to tear open/to tear down/to tear apart/to open/
f 掺	[chan1]	/to mix/to blend/
f 缠	[chan2]	/entangle/to worry/
f 产	[chan3]	/to reproduce/to produce/give birth/
f 铲	[chan3]	/to shovel/
f 尝	[chang2]	/to taste/
f 偿	[chang2]	/to compensate/pay back/to recompense/
f 倡	[chang4]	/to promote/to advocate/
f 唱	[chang4]	/sing/to call loudly/to chant/
f 抄	[chao1]	/to copy/to plagiarize/to search and seize/to go/to transcribe/ /to take a shortcut/to search and confiscate/
f 抄袭	[chao1 xi2]	/to plagiarize/
f 吵	[chao3]	/to quarrel/to make a noise/noisy/ /to disturb by making a noise/
f 炒	[chao3]	/saute/pan-fry/to fry/
f 撤	[che4]	/remove/take away/withdraw/
f 沉	[chen2]	/submerge/immerse/sink/to lower/to drop/
f 闯	[chuang3]	/to rush/break through/
f 称赞	[cheng1 zan4]	/to praise/to acclaim/to commend/to complement/

f 撑	[cheng1]	/support/prop-up/to pole a boat/to open/to overfill/
f 呈	[cheng2]	/to submit/to petition/to show/to present/to offer/
f 承	[cheng2]	/to bear/to carry/to hold/to continue/to undertake/ /to take charge/to receive/
f 乘	[cheng2]	/ride/mount/make use of/take advantage of/multiply/ /to avail of/to ride/
f 惩	[cheng2]	/punish/discipline/
f 澄	[cheng2]	/settle (liquid)/
f 持	[chi2]	/to grasp/to hold/support/manage/direct/maintain/
f 斥	[chi4]	/blame/reprove/reprimand/
f 充	[chong1]	/fill/fulfil/to act in place of/substitute/
f 崇拜	[chong2 bai4]	/adore/worship/
f 宠	[chong3]	/to love/to pamper/to spoil/to favor/
f 抽	[chou1]	/to draw out/to smoke (cigarettes)/to pump/
f 愁	[chou2]	/worry about/
f 筹	[chou2]	/manage/
f 出版	[chu1 ban3]	/to publish/to come off the press/to put out/
f 出风头	[chu1 feng1 tou5]	/to create a stir/to enjoy the limelight/
f 出席	[chu1 xi2]	/attend/be present/
f 出租	[chu1 zu1]	/to rent/
f 除	[chu2]	/remove/do away with/wipe out/divide/
f 锄	[chu2]	/to hoe or dig/to weed/get rid of/
f 储	[chu3]	/to store/to stockpile/
f 处	[chu3]	//to get along with/to deal with/
f 处罚	[chu3 fa2]	/penalize/punish/
f 处理	[chu3 li3]	/to handle/to treat/to deal with/to process/
f 触	[chu4]	/knock against/touch/to feel/
f 存	[cun2]	/to store/to deposit/
f 揣	[chuai3]	/estimate/guess/figure/surmise/
f 踹	[chuai4]	/kick/trample/
f 穿	[chuan1]	/to bore through/pearce/to dress/towear/to put on/to thread/
f 传	[chuan2]	/to spread/to pass on/to hand down/
f 传染	[chuan2 ran3]	/infect/
f 传授	[chuan2 shou4]	/impart/
f 喘	[chuan3]	/to gasp/to pant/
f 串	[chuan4]	/to string together/to mix up/to conspire/to connect/
f 创	[chuang4]	/launch/to found/
f 创作	[chuang4 zuo4]	/to create/to produce/to write/
f 吹	[chui1]	/to blow/blast/puff/boast/brag/
f 捶	[chui2]	/beat with the fist/to hammer/to cudgel/
f 戳	[chuo1]	/poke/pierce/prick/
f 辞	[ci2]	/bid farewell/resign/say goodbye/take leave/decline/
f 刺	[ci4]	/to pierce/stab/thrust/assassinate/murder/
f 刺探	[ci4 tan4]	/pry/
f 从事	[cong2 shi4]	/go for/engage in/undertake/to deal with/to handle/to do/
f 凑	[cou4]	/assemble/put together/press near/come together/
f 促	[cu4]	/to hurry/to rush/to hasten/near/to promote/
f 促进	[cu4 jin4]	/to promote (an idea or cause)/to advance/boost/
f 篡	[cuan4]	/to tamper with/to falsify/
f 催	[cui1]	/urge/press/expedite/prompt/hurry/
f 摧	[cui1]	/to ravage/to ruin/
f 存	[cun2]	/exist/deposit/store/keep/survive/

f 存在	[cun2 zai4]	/to exist/to be/
f 搓	[cuo1]	/to rub or roll between the hands or fingers/to twist/
f 挫	[cuo4]	/oppress/repress/lower the tone/bend back/dampen/
f 搭	[da1]	/build (scaffolding)/take (boat/train)/hang/join/match/ take passage/
f 搭救	[da1 jiu4]	/rescue/
f 答应	[da1 ying5]	/reply/promise/
f 答	[da2]	/reply/answer/return/respond/echo/
f 答辩	[da2 bian4]	/to reply (to an accusation, e.g.)/
f 打	[da3]	/beat/strike/break/mix up/build/fight/fetch/make/tie up/to play/ /to give or have an injection/
f 打扮	[da3 ban4]	/dress up/
f 打开	[da3 kai1]	/to break/to open/
f 打扰	[da3 rao3]	/disturb/
f 打扫	[da3 sao3]	/to clean/to sweep/
f 打算	[da3 suan4]	/to plan/to intend/to calculate/
f 打听	[da3 ting5]	/ask about/inquire about/
f 打印	[da3 yin4]	/to print/to seal/to stamp/
f 代	[dai4]	/substitute/replace/
f 代表	[dai4 biao3]	/to represent/to stand for/
f 带	[dai4]	/wear/carry/lead/bring/
f 待	[dai4]	/wait/treat/deal with/need/
f 贷	[dai4]	/lend on interest/borrow/loan/make excuses/
f 担	[dan1]	/undertake/assume (responsibility, etc.)/
f 担心	[dan1 xin1]	/to worry/
f 耽搁	[dan1 ge1]	/to delay/
f 掸	[dan3]	/brush away/dust off/to dust/
f 当	[dang1]	/to work as/to bear/to manage/
f 挡	[dang3]	/to block/to keep off/
f 导	[dao3]	/to transmit/to lead/to guide/to conduct/to direct/
f 捣	[dao3]	/pound/beat/hull/attack/disturb/stir/
f 倒	[dao4]	/turn over/to tip/to pour/
f 悼	[dao4]	/mourn/lament/
f 盗	[dao4]	/steal/rob/plunder/a thief/bandit/robber/
f 道	[dao4]	/to say/to speak/to talk/
f 登	[deng1]	/ascend/to mount/go up/register/note/to publish/to issue/ /to record/
f 等	[deng3]	/wait for/await/
f 瞪	[deng4]	/stare at/
f 滴	[di1]	/to drip/
f 抵	[di3]	/hold up/push against/to support/to resist/
f 抵押	[di3 ya1]	/mortgage/
f 抵制	[di3 zhi4]	/resistance/refusal (to cooperate)/boycott/
f 地震	[di4 zhen4]	/earthquake/
f 递	[di4]	/to hand over/to pass/to give/
f 点名	[dian3 ming2]	/rollcall/
f 垫	[dian4]	/to put something under something else/
f 雕	[diao1]	/to carve/to engrave/
f 吊	[diao4]	/to hang a person or something/
f 钓	[diao4]	/to fish with a hook and bait/
f 调	[diao4]	/to transfer/to allocate/
f 调查	[diao4 cha2]	/to investigate/to survey/survey/(opinion)

f 叠	[die2]	/fold up/repeat/
f 叮	[ding1]	/sting (of mosquito)/to ask/
f 盯	[ding1]	/stare/gaze/
f 钉	[ding4]	/to nail/to sew on/
f 定	[ding4]	/to set/to fix/to determine/to decide/to order/
f 订	[ding4]	/to agree/to conclude/to draw up/ /to subscribe to (a newspaper, etc.)/to order/
f 动	[dong4]	/to use/to act/to move/to change/
f 动员	[dong4 yuan2]	/tomobilize/to arouse/
f 兜	[dou1]	/to wrap up/to move around/
f 抖	[dou3]	/shake out/tremble/
f 斗	[dou4]	/fight/incite/
f 逗	[dou4]	/linger/to tease/
f 督促	[du1 cu4]	/supervise/
f 读	[du2]	/to read/to study/
f 堵	[du3]	/stop up/
f 赌	[du3]	/bet/gamble/
f 镀	[du4]	/plated/to plate/
f 度	[du4]	/to spend/to pass/to consider/
f 堆	[dui1]	/to stack/to pile/
f 对	[dui4]	/to answer/to reply/to direct (towards sth)/
f 对比	[dui4 bi3]	/to contrast/to compare/
f 对付	[dui4 fu4]	/to deal with/to get by/
f 兑	[dui4]	/to cash/
f 兑现	[dui4 xian4]	/to cash/to realize/to fulfil/
f 蹲	[dun1]	/crouch/squat/
f 炖	[dun4]	/stew slowly/
f 顿	[dun4]	/to pause/to arrange/to stamp (one's foot)/
f 夺	[duo2]	/rob/snatch/
f 躲	[duo3]	/avoid/get out of way/to hide/to go into hiding/
f 讹	[e2]	/extort/to blackmail/
f 发	[fa1]	/to issue/to utter/
f 发布	[fa1 bu4]	/to release/to issue/to distribute/
f 发挥	[fa1 hui1]	/bring to bear/bring into play/unleash/
f 发烧	[fa1 shao1]	/to have a fever/
f 发扬	[fa1 yang2]	/to develop/to foster/to carry on/
f 发展	[fa1 zhan3]	/to develop/to grow/to expand/
f 罚	[fa2]	/to punish/to penalize/
f 翻	[fan1]	/flit about/translate/turn over/
f 反	[fan3]	/to turn over/to oppose/
f 反馈	[fan3 kui4]	/to feedback/
f 返	[fan3]	/to return (to)/
f 犯	[fan4]	/to violate/to offend/
f 贩	[fan4]	/deal in/trade in/to peddle/to sell/
f 防	[fang2]	/to protect/to defend/to guard (against)/
f 仿	[fang3]	/imitate/
f 防	[fang2]	/to protect/to defend/to guard (against)/
f 访	[fang3]	/inquire/seek/visit/
f 访问	[fang3 wen4]	/pay a visit (to)/to access/to interview/
f 纺	[fang3]	/spin/
f 放	[fang4]	/to put/to place/
f 放映	[fang4 ying4]	/show (a movie)/

f	飞	[fei1]	/to fly/
f	诽	[fei3]	/slander/
f	废	[fei4]	/abolish/crippled/
f	分	[fen1]	/to analyze/analysis/
f	分散	[fen1 san4]	/to scatter/
f	分摊	[fen1 tan1]	/to share/
f	焚	[fen2]	/burn/
f	缝	[feng2]	/to sew/to stitch/
f	奉	[feng4]	/to receive (from superior)/to offer/to revere/
f	否定	[fou3 ding4]	/to negate/
f	否认	[fou3 ren4]	/to declare to be untrue/to deny/
f	孵	[fu1]	/hatch/
f	敷	[fu1]	/announce/apply/
f	扶	[fu2]	/to support with hand/to help sb. up/to help/
f	拂	[fu2]	/brush away/
f	服	[fu2]	/submit/take (medicine)/
f	浮	[fu2]	/to float/
f	抚摸	[fu3 mo1]	/gently caress and stroke/
f	抚养	[fu3 yang3]	/to foster/to bring up/to raise/
f	辅	[fu3]	/to assist/to complement/
f	俯	[fu3]	/look down/stoop/
f	负	[fu4]	/to bear/to carry (on one's back)/
f	付	[fu4]	/pay/
f	复	[fu4]	/answer/reply/re-do/
f	覆	[fu4]	/cover/overflow/to reply to a letter/
f	赋	[fu4]	/bestow on/compose (a poem)/
f	该	[gai1]	/owe/
f	改	[gai3]	/to change/to alter/to transform/to correct/
f	改组	[gai3 zu3]	/reorganize/reshuffle (posts, etc.)/
f	改善	[gai3 shan4]	/to make better/to improve/
f	干	[gan4]	/manage/
f	干扰	[gan1 rao3]	/interfere/
f	赶	[gan3]	/catch up/drive away/hurry/
f	感	[gan3]	/to feel/to move/to touch/to affect/
f	搞	[gao3]	/to do/to make/to go in for/to set up/
f	告	[gao4]	/to tell/to inform/to say/to sue/
f	歌颂	[ge1 song4]	/to sing the praise of/
f	搁	[ge1]	/to place/
f	割	[ge1]	/cut (off)/
f	革	[ge2]	/remove/
f	革命	[ge2 ming4]	/make revolution/
f	隔	[ge2]	/to separate/to stand or lie between/to divide/to cut off/
f	给	[gei3]	/to give/
f	跟	[gen1]	/to follow/to go with/
f	耕	[geng1]	/to plow/to till/
f	更	[geng1]	/to change/
f	工作	[gong1 zuo4]	/job/work/construction/work/task/
f	巩固	[gong3 gu4]	/sconsolidate/strengthen/
f	贡	[gong4]	/tribute/
f	供	[gong4]	/offer/to supply/
f	沟通	[gou1 tong1]	/communicate/
f	勾	[gou4]	/to reach for (with hand)/

f 购	[gou4]	/to buy/to purchase/
f 构	[gou4]	/to construct/to form/to make up/to compose/
f 箍	[gu1]	/hoop/bind with hoops/
f 估	[gu1]	/to estimate/
f 鼓	[gu3]	/convex/drum/to rouse/to beat/
f 雇	[gu4]	/to hire/to employ/
f 瓜分	[gua1 fen1]	/partition/divide up/
f 刮	[gua1]	/blow (of the wind)/
f 刮	[gua3]	/cut off the flesh as punishment/
f 挂	[gua4]	/to hang/to put up/to suspend/
f 挂念	[gua4 nian4]	/to miss/worry about/
f 挂号	[gua4 hao4]	/to register (a letter, etc.)/
f 拐	[guai3]	/kidnap/to turn/
f 怪	[guai4]	/to blame/
f 观	[guan1]	/to observe/to watch/to survey/to examine/
f 管	[guan3]	/control/be in charge of/
f 灌	[guan4]	/heron/irrigate/pour/
f 广播	[guang3 bo1]	/broadcast/
f 逛	[guang4]	/to stroll/to visit/
f 归	[gui1]	/to go back/to return/
f 归纳	[gui1 na4]	/to conclude/sum up/
f 规定	[gui1 ding4]	/to set/to formulate/to stipulate/to provide/
f 规划	[gui1 hua4]	/plan/program/
f 跪	[gui4]	/kneel/
f 滚	[gun3]	/to boil/to roll/
f 裹	[guo3]	/wrap around/
f 过	[guo4]	/to cross/to go over/to pass (time)/to live/to get along/
f 害	[hai4]	/to do harm to/to cause trouble to/
f 害怕	[hai4 pa4]	/to fear/be afraid of/
f 含	[han2]	/to keep/to contain/
f 喊	[han3]	/call/cry/to shout/
f 捍卫	[han4 wei4]	/ward off (a blow)/to guard/
f 焊	[han4]	/to solder/weld by heat/
f 撼	[han4]	/shake/to incite/
f 号召	[hao4 zhao1]	/to call/to appeal/
f 耗	[hao4]	/to waste/to spend/to consume/to squander/
f 合	[he2]	/fit/to join/
f 合成	[he2 cheng2]	/compound/synthesize/
f 恨	[hen4]	/to hate/
f 衡量	[heng2 liang5]	/to weight/to measure/
f 轰	[hong1]	/to boom/to strike (by thunder or a bomb)/
f 烘	[hong1]	/bake/heat by fire/
f 哄	[hong4]	/have a hilarious time/
f 吼	[hou3]	/roar (of a lion)/
f 呼	[hu1]	/to call/to cry/to shout/to breath out/to exhale/
f 忽视	[hu1 shi4]	/ignore/
f 糊	[hu2]	/to paste/
f 唬	[hu3]	/to fool/
f 护	[hu4]	/protect/
f 化	[hua4]	/to make into/to change into/-ization/to ... -ize/to transform/
f 化妆	[hua4 zhuang1]	/(of actors) to make up/to disguise oneself/
f 画	[hua4]	/draw/

f 划	[hua4]	/to mark off/draw (a line)/
f 怀	[huai2]	/to think of/to cherish/to conceive (a child)/
f 换	[huan4]	/change/exchange/
f 涣	[huan4]	/melt/vanish/
f 唤	[huan4]	/to call/
f 恢复	[hui1 fu4]	/to reinstate/to resume/to restore/to recover/to regain/
f 挥	[hui1]	/scatter/wield/wipe away/
f 回	[hui2]	to circle/to go back/to turn around/to answer/to return/ /to revolve/
f 回忆	[hui2 yi4]	/recall/recollect/
f 悔	[hui3]	/regret/
f 毁	[hui3]	/defame/to slander/
f 汇	[hui4]	/to converge/to gather/
f 汇报	[hui4 bao4]	/to report/to give an account of/report/
f 绘	[hui4]	/to draw/to paint/
f 烩	[hui4]	/cooked in soy and vinegar/
f 讳	[hui4]	/avoid mentioning/to taboo/
f 昏	[hun1]	/muddle-headed/twilight/to faint/to lose consciousness/
f 混	[hun4]	/to mix/to get along/
f 活	[huo2]	/to live/alive/living/
f 活跃	[huo2 yue4]	/enliven/animate/
f 和	[huo4]	/mix/blend/
f 获	[huo4]	/reap/harvest/
f 惑	[huo4]	/be puzzled/be confused/
f 击	[ji1]	/to hit/to strike/to attack/
f 讥	[ji1]	/ridicule/
f 积	[ji1]	/to amass/to accumulate/to store/
f 激	[ji1]	/to arouse/to incite/to excite/to stimulate/provoke/irritate/
f 集	[ji2]	/to gather/to collect/collected works/
f 给	[ji3]	/to supply/provide/
f 挤	[ji3]	/to squeeze/
f 寄	[ji4]	/lodge at/to mail/to send/to entrust/to depend/
f 计	[ji4]	/to calculate/to compute/to count/reckon/ruse/to plan/
f 计较	[ji4 jiao4]	/to fuss about/to argue/
f 记	[ji4]	/to remember/to note/mark/sign/to record/
f 记录	[ji4 lu4]	/to record/
f 记载	[ji4 zai3]	/write down/record/
f 祭	[ji4]	/hold a memorial ceremony for/offer a sacrifice to/
f 继	[ji4]	/to continue/to follow after/to succeed/to inherit/
f 加	[jia1]	/to add/plus/
f 加油	[jia1 you2]	/to make an extra effort/to cheer sb. on/
f 夹	[jia2]	/hold between/lined/
f 假装	[jia3 zhuang1]	/feign/pretend/
f 架	[jia4]	/to support/
f 嫁	[jia4]	/marry (a husband)/
f 坚持	[jian1 chi2]	/to continue upholding/to remain committed to/to persist/ /to uphold/to insist on/
f 歼	[jian1]	/annihilate/
f 监督	[jian1 du1]	/to control/to supervise/to inspect/
f 煎	[jian1]	/pan-fry/
f 拣	[jian3]	/choose/pick up/
f 减	[jian3]	/to lower/to decrease/to reduce/to subtract/to diminish/

f 剪	[jian3]	/cut with scissors/
f 检	[jian3]	/to check/to examine/to inspect/
f 简化	[jian3 hua4]	/simplify/
f 见	[jian4]	/to see/
f 间	[jian4]	/interstice/separate/
f 建	[jian4]	/to establish/to found/to set up/to build/to construct/
f 建设	[jian4 she4]	/to build/to construct/construction/
f 建议	[jian4 yi4]	/to propose/to suggest/to recommend/
f 溅	[jian4]	/splash/
f 鉴	[jian4]	/to differentiate/to distinguish/
f 鉴定	[jian4 ding4]	/to appraise/to identify/to evaluate/
f 讲	[jiang3]	/to talk/to speak/to tell/to explain/
f 讲解	[jiang3 jie3]	/to explain/
f 奖	[jiang3]	/prize/award/encourage/
f 降	[jiang4]	/to lower/to reduce/to fall/
f 交	[jiao1]	/to deliver/to turn over/to make friends/to intersect (lines)/ /to pay/
f 交换	[jiao1 huan4]	/to exchange/to swap/to switch (telecom)/
f 交流	[jiao1 liu2]	/exchange/give-and-take/to exchange/to alternate/
f 交往	[jiao1 wang3]	/contact/
f 浇	[jiao1]	/to water/
f 教	[jiao4]	/teach/
f 绞	[jiao3]	/hang (a criminal)/to turn/to twist/to wind/
f 矫	[jiao3]	/dissemble/rectify/
f 较	[jiao3]	/to cut (with scissors)/
f 搅	[jiao3]	/to disturb/to annoy/to mix/to stir/
f 剿	[jiao3]	/destroy (bandits)/
f 缴	[jiao3]	/hand in/hand over/
f 较	[jiao4]	/compare/
f 教训	[jiao4 xun5]	/teach someone to learn a lesson/
f 教导	[jiao4 dao3]	/instruct/teach/
f 教育	[jiao4 yu4]	/to educate/to teach/
f 接	[jie1]	/to extend/to connect/to receive/to join/
f 揭	[jie1]	/lift off (a cover)/
f 揭发	[jie1 fa1]	/disclose/
f 节	[jie2]	/save/economize/
f 节制	[jie2 zhi4]	/control/regulate/
f 劫	[jie2]	/plunder/
f 结	[jie2]	/to bear (fruit)/bond/to tie/to bind/
f 结束	[jie2 shu4]	/to finish/to end/to conclude/to close/
f 截	[jie2]	/cut off (a length)/
f 解	[jie3]	/to separate/untie/dispel/explain/comprehend/
f 解决	[jie3 jue2]	/to settle (a dispute)/resolve/to resolve/to solve/
f 解放	[jie3 fang4]	/to liberate/
f 介	[jie4]	/to intervene/to take seriously/
f 介绍	[jie4 shao4]	/to present/to introduce/
f 戒	[jie4]	/swear off/warn against/
f 借	[jie4]	/to lend/to borrow/excuse/pretext/by means of/
f 进行	[jin4 xing2]	/to advance/to conduct/underway/in progress/to do/ /to carry out/to carry on/to conduct/to execute/
f 浸	[jin4]	/immerse/soak/steep/
f 禁	[jin4]	/to prohibit/to forbid/

f 经	[jing1]	/pass through/to undergo/
f 经营	[jing1 ying2]	/engage in (a business activity, etc.)/run/operate/
f 敬	[jing4]	/to respect/to venerate/to salute/to offer/
f 纠	[jiu1]	/gather together/to investigate/to entangle/correct/
f 纠察	[jiu1 cha2]	/to picket/
f 揪	[jiu1]	/to clutch/
f 救	[jiu4]	/to save/to assist/to rescue/
f 居	[ju1]	/reside/live (in, at, on)/
f 鞠躬	[ju1 gong1]	/to bow/
f 举	[ju3]	/to lift/to hold up/to cite/to enumerate/to act/to raise/ /to choose/
f 举行	[ju3 xing2]	/to hold (a meeting, ceremony, etc.)/
f 咀嚼	[ju3 jue2]	/chew/
f 拒	[ju4]	/to resist/to repel/to refuse/
f 锯	[ju4]	/a saw/to saw/
f 惧	[ju4]	/to fear/
f 聚	[ju4]	/form gathering/gather/
f 捐	[juan1]	/to contribute/to donate/tax/to abandon/
f 卷	[juan3]	/toll up/sweep off/
f 掘	[jue2]	/excavate/
f 觉	[jue2]	/feel/find that/thinking/awake/aware/
f 觉得	[jue2 de5]	/to think/to feel/
f 嚼	[jue2]	/to chew/
f 卡	[ka3/qia3]	/to be choked/to fasten/to clip/to wedge/
f 开	[kai1]	/open/operate (vehicle)/
f 开会	[kai1 hui4]	/have a meeting/be at a meeting/to hold or attend a meeting/
f 开发	[kai1 fa1]	/exploit (a resource)/open up (for development)/to develop/
f 开展	[kai1 zhan3]	/(begin to) develop/unfold /to start/to launch/to open/
f 揩	[kai1]	/wipe/
f 刊	[kan1]	/carry a story/publish (in a newspaper or magazine)/
f 勘	[kan1]	/investigate/survey/
f 砍	[kan3]	/to chop/
f 看	[kan4]	/it depends/think/to see/to look at/
f 看病	[kan4 bing4]	/see a doctor/see a patient/
f 扛	[kang2]	/carry on one's shoulder/
f 抗	[kang4]	/to resist/to fight/to defy/
f 抗议	[kang4 yi4]	/protest/
f 考	[kao3]	/to check/to verify/to test/to examine/
f 考虑	[kao3 lu:4]	/to think over/to consider/
f 考验	[kao3 yan4]	/(put to the) test/
f 拷	[kao3]	/to beat/to flog/to examine by torture/
f 拷贝	[kao3 bei4]	/to copy/
f 烤	[kao3]	/to roast/bake/to broil/
f 靠	[kao4]	/depend upon/lean on/near/by/against/to support/
f 咳	[ke2]	/cough/
f 克服	[ke4 fu2]	/overcome (hardships, etc.)/to conquer/to put up with/ /to endure/
f 克制	[ke4 zhi4]	/restraint/self-control/
f 刻	[ke4]	//to carve/to engrave/to cut/
f 磕	[ke4]	/to crack (seeds) with front teeth/
f 肯	[ken3]	/to agree/to consent/to be ready (to do sth)/willing/
f 坑	[keng1]	/to defraud/

f 恐吓	[kong3 he4]	/to threaten/to menace/
f 控	[kong4]	/to accuse/to charge/to control/to sue/
f 抠	[kou1]	/dig out (with finger)/
f 叩	[kou4]	/to knock/
f 扣	[kou4]	/to button/to buckle/detain/deduct/
f 枯	[ku1]	/dried up/
f 哭	[ku1]	/to cry/to weep/
f 夸	[kua1]	/to boast/
f 垮	[kua3]	/collapse/
f 跨	[kua4]	/step across/step astride/
f 框	[kuang4]	/draw a frame around/
f 旷	[kuang4]	/waste/
f 溃	[kui4]	/be dispersed/break down/
f 亏	[kui1]	/be deficient/loose/
f 馈	[kui4]	/make a present/
f 愧	[kui4]	/ashamed/
f 捆	[kun3]	/tie together/bundle/
f 扩	[kuo4]	/enlarge/
f 拉	[la1]	/to pull/to play (string instruments)/to drag/to draw/
f 来往	[lai2 wang3]	/to come and go/
f 览	[lan3]	/to look at/to read/
f 揽	[lan3]	/monopolize/seize/
f 浪费	[lang4 fei4]	/to waste/to squander/
f 捞	[lao1]	/fish up/
f 劳动	[lao2 dong4]	/(physical) labor/to work/
f 牢	[lao2]	/firm/fast/
f 烙	[lao4]	/bake/
f 垒	[lei3]	/build by piling up bricks, stones, etc./
f 冷却	[leng3 que4]	/cooling/cool off/
f 理	[li3]	/to manage/to put in order/tide up/pay attention to/
f 理解	[li3 jie3]	/to comprehend/to understand/
f 利	[li4]	/benefit/dogood to/
f 立	[li4]	/set up/to found/
f 励	[li4]	/reward (as encouragement)/exhort/
f 联络	[lian2 luo4]	/get in touch with/contact/
f 联想	[lian2 xiang3]	/associate/
f 联系	[lian2 xi4]	/connection/contact/relation/contact/(in) touch (with)/to
f 练	[lian4]	/to practice/to train/to perfect (one's skill)/to drill/
f 炼	[lian4]	/refine/
f 量	[liang2]	/to estimate/
f 晾	[liang4]	/to dry in the air/
f 谅解	[liang4 jie3]	/(reach) an understanding/
f 聊	[liao2]	/to chat/to have a chat/to kill time/
f 撩	[liao2]	/stitch/take/tease/
f 了解	[liao3 jie3]	/understand/come to understand/find out/
f 了	[liao4]	/look afar from a high place/
f 撂	[liao4]	/to leave (it)/
f 列	[lie4]	/to arrange/to line up/
f 猎	[lie4]	/hunt/
f 临摹	[lin2 mo2]	/to copy (a model of calligraphy or painting, etc.)/
f 零售	[ling2 shou4]	/retail/
f 领	[ling3]	/to lead/to receive/

f 溜	[liu1]	/slip away/to skate/
f 浏览	[liu2 lan3]	/to skim over/to browse/
f 流	[liu2]	/to flow/to spread/to circulate/to move/
f 流行	[liu2 xing2]	/popular/fashionable/prevalent/
f 留	[liu2]	/leave (message)/to retain//to stay/to remain/to keep/ /to persevere/
f 遛	[liu4]	/to stroll/walk a horse/to linger/
f 馏	[liu4]	/reheat by steaming/
f 垄断	[long3 duan4]	/enjoy market dominance/monopolize/
f 笼	[long2]	/to cover/
f 拢	[long3]	/collect/draw near to/
f 搂	[lou3]	/to hug/to embrace/
f 卤	[lu3]	/to stew in soy sauce/
f 录	[lu4]	/to record/to hit/to copy/
f 录取	[lu4 qu3]	/to recruit/to enroll/
f 露	[lu4]	/to show/to reveal/to expose/
f 旅行	[lu:3 xing2]	/travel/
f 旅游	[lu:3 you2]	/travel/tour/
f 滤	[lu:4]	/to strain/to filter/
f 掠夺	[lu:e4 duo2]	/harry/plunder/raven/
f 轮	[lun2]	/rotate/
f 论	[lun4]	/to talk (about)/to discuss/
f 落	[luo4]	/to fall/to drop (behind)/
f 落实	[luo4 shi2]	/to implement/to carry out/
f 麻烦	[ma2 fan5]	/to cause trouble/
f 麻醉	[ma2 zui4]	/to anaesthetize/
f 骂	[ma4]	/scold/abuse/
f 埋	[mai2]	/to bury/
f 埋伏	[mai2 fu2]	/ambush/
f 买	[mai3]	/buy/
f 卖	[mai4]	/to sell (off)/
f 迈	[mai4]	/take a step/
f 埋	[man2]	/to blame/
f 瞒	[man2]	/conceal from/
f 满足	[man3 zu2]	/to satisfy/to meet (the needs of)/
f 没	[mei2]	/not/
f 焖	[men1]	/cook in a covered vessel/
f 蒙	[meng1]	/cheat/deceive/guess/
f 蒙	[meng2]	/cover/suffer/
f 梦	[meng4]	/to dream/
f 眯	[mi1]	/narrow one's eyes/take a nap/
f 眯	[mi1]	/blind (as with dust)/
f 免	[mian3]	/to exempt/to remove/to avoid/to excuse/
f 勉	[mian3]	/exhort/
f 描	[miao2]	/depict/to trace (a drawing)/to copy/to touch up/
f 瞄	[miao2]	/to aim/
f 藐	[miao3]	/despise/
f 灭	[mie4]	/extinguish/
f 明	[ming2]	/to understand/
f 摸	[mo1]	/touch/feel/
f 摩	[mo2]	/rub/
f 磨	[mo2]	/rub/sharpen/grind/dawdle/torment/

f 抹	[mo3]	/to wipe/
f 默	[mo4]	/write from memory/
f 谋	[mou2]	/to plan/seek/scheme/
f 目送	[mu4 song4]	/watch somebody go/
f 拿	[na2]	/to hold/to seize/to catch/to apprehend/to take/
f 纳	[na4]	/accept/adopt/
f 难	[nan4]	/to scold/
f 挠	[nao2]	/to scratch/
f 拟	[ni3]	/plan to/
f 捻	[nian3]	/twirl (in the fingers)/
f 撵	[nian3]	/expel/
f 念	[nian4]	/read aloud/
f 念叨	[nian4 dao5]	/be (always) talking about/
f 酿	[niang4]	/ferment/brew/
f 尿	[niao4]	/to urinate/
f 捏	[nie1]	/to pinch (with one's fingers)/to knead/to make up/
f 镊	[nie4]	/forceps/to nip/
f 扭	[niu3]	/to turn/to twist/to grab/to wring/
f 弄	[nong4]	/to do/to manage/to handle/to play with/to fool with/ /to mess with/to fix/to toy with/
f 挪	[nuo2]	/to shift/to move/
f 殴	[ou1]	/brawl/
f 趴	[pa1]	/to lie on one's stomach/
f 爬	[pa2]	/crawl/climb/
f 怕	[pa4]	/to be afraid/to fear/
f 拍	[pai1]	/to clap/to pat/to beat/to hit/to slap/to take (a picture)/
f 拍卖	[pai1 mai4]	/auction/
f 排	[pai2]	/discharge/exhaust (gas, etc)/expel/arrange/
f 派	[pai4]	/to dispatch/
f 盼	[pan4]	/to hope for/to long for/to expect/
f 判	[pan4]	/to judge/to sentence/to discriminate/to discern/
f 抛	[pao1]	/to throw/to toss/to fling/to cast/to abandon/
f 跑	[pao3]	/to run/to escape/
f 泡	[pao4]	/to steep/soak/
f 陪	[pei2]	/to accompany/to keep sb. company/
f 培	[pei2]	/to cultivate/to earth up/to train/
f 培养	[pei2 yang3]	/to train/culture/to bring up/to groom (for a position)/
f 赔	[pei2]	/lose in trade/pay damage/
f 佩	[pei4]	/girdle ornaments/wear (belt/etc.)/
f 配	[pei4]	/to mix/to match/deserve/allocate/
f 喷	[pen4]	/sneeze/
f 烹	[peng1]	/cuisine/cooking/
f 抨	[peng1]	/attack/impeach/
f 碰	[peng4]	/to touch/to meet with/to bump/
f 批	[pi1]	/to ascertain/to act on/to criticize/to pass on/
f 批发	[pi1 fa1]	/wholesale/
f 披	[pi1]	/scatter/separate/to open/to unroll/to spread out/
f 辟	[pi4]	/dispel/open up/
f 骗	[pian4]	/to cheat/to swindle/to deceive/to full/
f 飘	[piao1]	/to float/
f 漂	[piao1]	/to float/
f 漂	[piao3]	/to bleach/

f 瞟	[piao3]	/cast a glance/
f 品	[pin3]	/to taste/
f 聘	[pin4]	/betrothed/engage (teacher)/
f 评	[ping2]	/to discuss/to comment/to criticize/to judge/ /to choose (by public appraisal)/
f 泼	[po1]	/splash/to spill/
f 迫	[po4]	/to force/to compel/
f 剖	[pou1]	/to cut/
f 扑	[pu1]	/rush on/
f 铺	[pu1]	/to spread (a cover)/pave/
f 谱	[pu3]	/score (music)/
f 期	[qi1]	/to hope/
f 沏	[qi1]	/to steep (tea)/
f 欺	[qi1]	/to cheat/
f 欺负	[qi1 fu5]	/to bully/
f 漆	[qi1]	/to paint/
f 骑	[qi2]	/to ride (an animal or bike)/to sit astride/
f 起草	[qi3 cao3]	/draft (a bill)/draw up (plans)/
f 气	[qi4]	/get angry/
f 砌	[qi4]	/to build by laying bricks or stones/
f 掐	[qia1]	/pick (flowers)/to pinch/
f 迁	[qian1]	/to move/to shift/
f 牵	[qian1]	/lead along/
f 签	[qian1]	/sign one's name/
f 签证	[qian1 zheng4]	/to apply for visa/
f 钳	[qian2]	/to clamp/
f 潜	[qian2]	/to hide/to conceal/to submerge/
f 遣	[qian3]	/dispatch/
f 欠	[qian4]	/owe/to lack/
f 嵌	[qian4]	/inlay/
f 强化	[qiang2 hua4]	/to strengthen/to intensify/
f 抢	[qiang3]	/fight over/to rush/to scramble/to grab/to rob/to snatch/
f 敲	[qiao1]	/extort/knock/to strike/to knock (at a door)/to hit/
f 瞧	[qiao2]	/look at/
f 翘	[qiao2]	/to raise/
f 撬	[qiao4]	/to lift/
f 窃	[qie4]	/steal/
f 亲	[qin1]	/kiss/be friendly with/
f 侵	[qin1]	/to invade/to infringe/to approach/
f 擒	[qin2]	/capture/
f 轻	[qing1]	/light/easy/gentle/soft/
f 倾	[qing1]	/incline/lean/slant/slope/tilt/
f 清	[qing1]	/eliminate/get rid of/
f 请	[qing3]	/to ask/to invite/please (do sth)/to treat (to a meal, etc)/ /to request/
f 请教	[qing3 jiao4]	/consult/
f 庆	[qing4]	/celebrate/
f 求	[qiu2]	/to seek/to look for/to request/to demand/to beseech/
f 驱	[qu1]	/to expel/to urge on/to drive/to run quickly/
f 取	[qu3]	/to take/to get/to choose/to fetch/
f 娶	[qu3]	/take a wife/
f 去	[qu4]	/to remove/

f 蠕	[quan2]	/wriggle (as a worm)/
f 劝	[quan4]	/to advise/to urge/to try to persuade/
f 确认	[que4 ren4]	/confirm/verify/
f 燃	[ran2]	/combustion/flaming/kindle/
f 染	[ran3]	/to catch (a disease)/dye/
f 嚷	[rang3]	/blurt out/to shout/
f 让	[rang4]	/to ask/to let/permit/have (someone do something)/to yield/ /to allow/
f 扰	[rao3]	/disturb/
f 忍	[ren3]	/to beat/to endure/to tolerate/
f 认	[ren4]	/to recognize/to know/to admit/
f 任	[ren4]	/to assign/to appoint/
f 融	[rong2]	/melt/
f 揉	[rou2]	/knead/massage/rub/
f 撒谎	[sa1 huang3]	/to lie/
f 撒	[sa3]	/to scatter/
f 塞	[sai1]	fill in/squeeze in/
f 散	[san4]	/scatter/
f 搽	[sang3]	/push back/push over/
f 搔	[sao1]	/disturb/to scratch/
f 扫	[sao3]	/broom/
f 塞	[se4]	/stop/to block/
f 杀	[sha1]	/to kill/to murder/to slaughter/
f 刹	[sha1]	/to brake (car)/
f 筛	[shai1]	/to filter/to sift/to seive/
f 晒	[shai4]	/to sun/
f 删	[shan1]	/to delete/
f 扇	[shan1]	/to fan/to incite/
f 煽	[shan1]	/fan into a flame/incite/
f 闪	[shan3]	/flash/
f 伤	[shang1]	/injure/harm/
f 商	[shang1]	/discuss/
f 商量	[shang1 liang4]	/consult/
f 赏	[shang3]	/enjoy the beauty of/give/
f 上	[shang4]	/to climb/to go (to work, class, etc.)/
f 上演	[shang4 yan3]	/to show (a movie, play, etc.)/
f 烧	[shao1]	/to burn/to cook/to stew/to bake/to roast/to have a fever/
f 捎	[shao1]	/bring or take (along)/
f 舍	[she3]	/give up/abandon/
f 设	[she4]	/to set up/to arrange/to establish/to found/to display/
f 设计	[she4 ji4]	/to design/to plan/
f 射	[she4]	/shoot/
f 涉	[she4]	/involve/concern/wade/to experience/
f 慑	[she4]	/afraid/be feared/to fear/to frighten/to intimidate/
f 申请	[shen1 qing3]	/apply (for)/
f 伸	[shen1]	/to stretch/to extend/
f 审	[shen3]	/to examine/to investigate/carefully/to try (in court)/
f 渗	[shen4]	/to seep/to ooze/to horrify/
f 升	[sheng1]	/promote/rise/raise/lift/
f 生	[sheng1]	/be born/give birth/grow/
f 生活	[sheng1 huo2]	/live/
f 省	[sheng3]	/save/

f 失	[shi1]	/lapse/miss/lose
f 施	[shi1]	/distribute (alms)/to do/to execute/to carry out/
f 拾	[shi2]	/pick up/
f 识	[shi2]	/to distinguish/to discern/
f 实现	[shi2 xian4]	/to achieve/to implement/to realize/to bring about/
f 蚀	[shi2]	/eat up slowly/eclipse/
f 使	[shi3]	/to make/to cause/to enable/to use/to employ/
f 示	[shi4]	/to show/reveal/
f 试	[shi4]	/to test/to try/
f 拭	[shi4]	/wipe/
f 适	[shi4]	/to fit/to suit/
f 视	[shi4]	/to look at/to regard/to inspect/
f 释	[shi4]	/explain/to release/
f 收	[shou1]	/keep/collect/receive/accept/
f 收拾	[shou1 shi5]	/to put in order/to tidy up/
f 收入	[shou1 ru4]	/to take in/
f 收养	[shou1 yang3]	/adopt/
f 守	[shou3]	/to guard/
f 售	[shou4]	/to sell/
f 受	[shou4]	/to bear/to stand/to endure/(passive marker)/to receive/
f 授	[shou4]	/to teach/to instruct/to award/to give/
f 梳	[shu1]	/comb/
f 输	[shu1]	/to transport/
f 赎	[shu2]	/redeem/to ransom/
f 数	[shu3]	/to count/
f 署	[shu3]	/to sign/
f 束	[shu4]	/to bind/to control/
f 述	[shu4]	/to state/to tell/to narrate/to relate/describe/
f 竖	[shu4]	/to erect/
f 漱	[shu4]	/to rinse (mouth)/
f 刷	[shua1]	/to paint/
f 刷	[shua4]	/to select/
f 耍	[shua3]	/play with/to juggle/
f 摔	[shuai1]	/throw on ground/to fall/
f 甩	[shuai3]	/fling/
f 拴	[shuan1]	/tie up/
f 涮	[shuan4]	/rinse/
f 睡	[shui4]	/to sleep/
f 吮	[shun3]	/to suck/
f 顺	[shun4]	/to obey/to follow/to arrange/to make reasonable/
f 说	[shuo1]	/to speak/to say/
f 说服	[shuo1 fu2]	/to persuade/to convince/to talk sb. over/
f 说明	[shuo1 ming2]	/to explain/to illustrate/explanation/directions/caption/
f 撕	[si1]	/to tear/
f 伺	[si4]	/to watch/to wait/to examine/to spy/
f 松	[song1]	/to loose/
f 送	[song4]	/to deliver/to carry/to give (as a present)/to present (with)/ /to see off/to send/
f 颂	[song4]	/to praise/
f 诵	[song4]	/read aloud/
f 搜	[sou1]	/to search/
f 诉	[su4]	/complain/sue/tell/

f 塑	[su4]	/to model (a figure) in clay/
f 算	[suan4]	/regard as/to figure/to calculate/to compute/
f 损	[sun3]	/to damage/injure/to lose/to harm/
f 缩	[suo1]	/to withdraw/to pull back/to contract/to shrink/to reduce/
f 索	[suo3]	/to search/to demand/to ask/to exact/
f 锁	[suo3]	/to lock up/to lock/
f 塌	[ta1]	/collapse/
f 踏	[ta4]	./step on/
f 蹋	[ta4]	/step on/
f 抬	[tai2]	/to lift/to raise/(of two or more persons) to carry/
f 贪	[tan1]	/greedy/
f 摊	[tan1]	/spread out/
f 弹	[tan2]	/impeach/to pluck a string/ /to play (a stringed musical instrument)/
f 谈	[tan2]	/to speak/to talk/to converse/to chat/to discuss/(surname)/
f 谈判	[tan2 pan4]	/to negotiate/
f 坦白	[tan3 bai2]	/to confess/
f 叹	[tan4]	/to sigh/
f 探	[tan4]	/to explore/to search out/to scout/to visit/
f 淌	[tang3]	/drip/to shed (tears)/
f 躺	[tang3]	/to recline/to lie down/
f 掏	[tao1]	/fish out (from pocket)/
f 淘	[tao2]	/cleanse/eliminate/to clean out/to wash/
f 淘汰	[tao2 tai4]	/to die out/to eliminate (in a competition)/
f 逃	[tao2]	/to escape/to run away/to flee/
f 讨	[tao3]	/to discuss/to talk over/
f 套	[tao4]	/to cover/covering/
f 疼	[teng2]	/(it) hurts/love fondly/
f 腾	[teng2]	/to soar/to gallop/to rise/to prance/to hover/to move out/
f 剔	[ti1]	/pick (as teeth)/
f 踢	[ti1]	/kick/play (football or soccer)/
f 提	[ti2]	/to carry/to lift/to put forward/lifting/to mention/
f 剃	[ti4]	/shave/to weed/
f 体现	[ti3 xian4]	/to embody/to reflect/to give expression to/to be reflected in/
f 体验	[ti3 yan4]	/to experience for oneself/
f 替	[ti4]	/to substitute for/to take the place of/to replace/
f 添	[tian1]	/to add/to increase/to replenish/
f 填	[tian2]	/to fill in/
f 舔	[tian3]	/to lick/to lap/
f 调	[tiao2]	/harmonize/reconcile/coordinate/
f 挑	[tiao3]	/incite/
f 跳	[tiao4]	/jump/hop/skip (a grade)/to leap/to bounce/to beat/
f 贴	[tie1]	/to stick/to paste/to keep close to/to fit snugly/
f 听	[ting1]	/to listen (to)/
f 听写	[ting1 xie3]	/dictate/
f 停	[ting2]	/to park (a car)/
f 听	[ting4]	/let/allow/
f 通	[tong1]	/go through/know well/to connect/to communicate/
f 通知	[tong1 zhi1]	/notify/inform/notice/
f 同情	[tong2 qing2]	/sympathize/
f 同意	[tong2 yi4]	/to agree/to consent/to approve/
f 统计	[tong3 ji4]	/statistics/

f 统一	[tong3 yi1]	/to unify/to unite/to integrate/
f 统治	[tong3 zhi4]	/(political) rule (over)/to rule/to dominate/
f 捅	[tong3]	/poke through/
f 偷	[tou1]	/to steal/to pilfer/
f 偷听	[tou1 ting1]	/to eavesdrop/to monitor (secretly)/
f 投	[tou2]	/to throw/to send/
f 突	[tu1]	/to dash/to move forward quickly/
f 图	[tu2]	/to plan/
f 团	[tuan2]	/(hold a) rally/
f 推	[tui1]	/push/refuse (responsibility)/
f 退	[tui4]	/retreat/to decline/to move back/to withdraw/
f 褪	[tui4]	/fade/take off (clothes)/
f 吞	[tun1]	/to swallow/to take/
f 托	[tuo1]	/entrust/
f 托运	[tuo1 yun4]	/to book or check through (baggage)/
f 脱	[tuo1]	/to shed/to take off/to escape/to get away from/
f 拖	[tuo1]	/do drag along/
f 妥	[tuo3]	/secure/sound/
f 挖	[wa1]	/to dig/to excavate/to scoop out/
f 剗	[wan1]	/scoop out/
f 完	[wan2]	/to finish/to be over/
f 玩	[wan2]	/to play/to have fun/
f 挽	[wan3]	/draw/pull/send funeral ode/
f 忘	[wang4]	/to forget/to overlook/to neglect/
f 忘记	[wang4 ji4]	/forget/
f 望	[wang4]	/hope/expect/
f 望	[wang4]	/to visit/to gaze (into the distance)/look towards/
f 围	[wei2]	/to circle/to surround/
f 维	[wei2]	/to keep/to maintain/to preserve/
f 委	[wei3]	/give up/indeed/to commission/
f 卫	[wei4]	/to guard/to protect/to defend/(surname)/
f 喂	[wei4]	/to feed/
f 慰	[wei4]	/reassure/
f 温	[wen1]	/to review/
f 文	[wen2]	/refined/elegant/
f 问	[wen4]	/to ask/
f 问候	[wen4 hou4]	/give someone one's respects/send a greeting/
f 握	[wo4]	/shake hands/to hold/to grasp/
f 污	[wu1]	/to pollute/
f 诬	[wu1]	/accuse falsely/
f 武装	[wu3 zhuang1]	/to arm/
f 侮	[wu3]	/insult/
f 舞	[wu3]	/to dance/
f 晤	[wu4]	/meet (socially)/
f 悟	[wu4]	/comprehend/
f 误解	[wu4 jie3]	/misunderstand/
f 析	[xi1]	/to analyze/
f 吸	[xi1]	/to breathe/to suck in/to absorb/to inhale/
f 吸引	[xi1 yin3]	/attract (interest, investment, etc.)/
f 牺牲	[xi1 sheng1]	/sacrifice (one's life, etc.)/
f 希望	[xi1 wang4]	/to wish for/to desire/to hope/
f 习	[xi2]	/to revise/to review/

f 下	[xia4]	/to decline/
f 吓	[xia4]	/to frighten/to scare/to intimidate/to threaten/
f 掀	[xian1]	/lift (cover)/
f 衔	[xian2]	/hold in mouth/
f 限	[xian4]	/limit/bound/
f 陷	[xian4]	/to fall/trap/
f 羨	[xian4]	/to envy/
f 獻	[xian4]	/to offer/
f 鑲	[xiang1]	/to inlay/to embed/
f 相信	[xiang1 xin4]	/be convinced (that something is true)/believe/ /to accept sth.as true/
f 享受	[xiang3 shou4]	/to enjoy (rights, benefits, etc.)/
f 想	[xiang3]	/to think/to believe/to suppose/to wish/to want/to miss/
f 向往	[xiang4 wang3]	/to yearn for/to look forward to/
f 相	[xiang4]	/look at and appraise/
f 削	[xiao1]	/to reduce/to pare (away)/to cut (down)/
f 消灭	[xiao1 mie4]	/perish/cause to perish/
f 销	[xiao1]	/to melt/to do away with/to sell/
f 笑	[xiao4]	/laugh/smile/
f 效	[xiao4]	/imitate/
f 歇	[xie1]	/to rest/
f 协	[xie2]	/to harmonize/
f 协商	[xie2 shang1]	/consult with/talk things over/
f 协助	[xie2 zhu4]	/provide assistance/aid/
f 携	[xie2]	/to carry/to take along/to bring along/to hold (hands)/
f 挟	[xie2]	/clasp under the arm/coerce/
f 写	[xie3]	/to write/
f 泄	[xie4]	/divulge/leak out/
f 卸	[xie4]	/unload/take off/
f 谢谢	[xie4 xie5]	/to thank/
f 欣赏	[xin1 shang3]	/to appreciate/to enjoy/to admire/
f 信	[xin4]	/to believe/
f 兴	[xing1]	/prosper/become popular/
f 行	[xing2]	/walk/travel/prevail/carry out/move/
f 省	[xing3]	/comprehend/introspect/visit/
f 擤	[xing3]	/blow nose/
f 休	[xiu1]	/to rest/
f 修	[xiu1]	/to decorate/to embellish/to repair/to build/to study/to write/ /to cultivate/
f 绣	[xiu4]	/to embroider/
f 需	[xu1]	/to require/to need/to want/necessity/need/
f 许	[xu3]	/to permit/to allow/
f 叙	[xu4]	/narrate/
f 续	[xu4]	/continue/replenish/
f 蓄	[xu4]	/to store/
f 宣	[xuan1]	/to declare (publically)/to announce/
f 宣传	[xuan1 chuan2]	/publicize/
f 旋	[xuan2]	/spin/to circle/return/
f 选	[xuan3]	/to choose/to pick/to select/to elect/
f 削	[xue1]	/to reduce/to pare (away)/to cut (down)/
f 学	[xue2]	/learn/study/science/-ology/
f 薰	[xun1]	/fumigate/to smoke/to treat with smoke/

f 寻	[xun2]	/to search/to look for/to seek/
f 驯	[xun2]	/attain gradually/tame/
f 询	[xun2]	/inquire/
f 训	[xun4]	/to cultivate/to train/
f 讯	[xun4]	/to question/to ask/to interrogate/
f 压	[ya1]	/to press/push down/surpress/to crush/
f 压缩	[ya1 suo1]	/to compress/
f 压迫	[ya1 po4]	/oppress/
f 压制	[ya1 zhi4]	/suppress/inhibit/
f 押	[ya1]	/detain in custody/
f 阉	[yan1]	/castrate/
f 研	[yan2]	/grind fine/study/research/
f 延	[yan2]	/to prolong/to extend/to delay/
f 演	[yan3]	/to develop/to evolve/to practice/to perform/to play/to act/
f 演讲	[yan3 jiang3]	/give a speech or lecture/
f 演算	[yan3 suan4]	/to calculate/to perform calculations/
f 演习	[yan3 xi2]	/exercise/practice/to put on a play/to act/
f 掩	[yan3]	/cover up/to surprise/
f 咽	[yan4]	/to swallow/
f 验	[yan4]	/to examine/to test/to check/
f 养	[yang3]	/give birth/keep (pets)/to support/to bring sb. up/to raise/
f 仰	[yang3]	/look up/
f 邀	[yao1]	/invite to come/
f 摇	[yao2]	/shake/to rock/
f 咬	[yao3]	/bite/nip/
f 舀	[yao3]	/to scoop/
f 要	[yao4]	/to want/
f 药	[yao4]	/to cure with poison/
f 噎	[ye1]	/choke/
f 医	[yi1]	/to cure/to treat/
f 移	[yi2]	/to move/to shift/to change/to alter/to remove/
f 疑	[yi2]	/to doubt/to misbelieve/to suspect/
f 议	[yi4]	/criticize/discuss/
f 抑	[yi4]	/to restrain/to restrict/to keep down/
f 译	[yi4]	/to translate/to interpret/
f 吟	[yin2]	/moan/to hum/
f 引	[yin3]	/to lead/to divert (water)/to guide/
f 饮	[yin3]	/drink/
f 印	[yin4]	/print/
f 迎	[ying2]	/to welcome/
f 营	[ying2]	/seek/operate/
f 影响	[ying3 xiang3]	/to effect/to influence/
f 应	[ying4]	/to respond/comply with/deal with/
f 应用	[ying4 yong4]	/to use/to apply/
f 映	[ying4]	/reflect/shine/
f 拥	[yong1]	/to hold/to support/
f 拥护	[yong1 hu4]	/to endorse/to support/
f 用	[yong4]	/to use/
f 用膳	[yong4 shan4]	/dine/
f 邮	[you2]	/to post /to mail/
f 游	[you2]	/to roam/travel/
f 游行	[you2 xing2]	/march/parade/demonstrate/

f	诱	[you4]	/entice/temp/
f	愚	[yu2]	/to fool/dupe/
f	予	[yu3]	/to give/
f	与	[yu4]	/take part in/
f	育	[yu4]	/nourish/to rear/
f	御	[yu4]	/defend/resist/
f	冤	[yuan1]	/to wrong/
f	援	[yuan2]	/to help/to assist/to aid/
f	怨	[yuan4]	/blame/complain/
f	约	[yue1]	/to arrange/to restrict/
f	阅	[yue4]	/peruse/review/to read/
f	越	[yue4]	/to exceed/to climb over/to surpass/
f	跃	[yue4]	/to jump/to leap/
f	允	[yun3]	/to permit/to allow/
f	运	[yun4]	/to move/to transport/to use/
f	运动	[yun4 dong4]	/to exercise/
f	运算	[yun4 suan4]	/to calculate/
f	酝酿	[yun4 niang4]	/mull over (an issue)/carry on a preliminary round of
f	熨	[yun4]	/to iron/
f	杂	[za2]	/to mix/
f	砸	[za2]	/smash/
f	栽	[zai1]	/to force/to stick in/to plant/
f	宰	[zai3]	/slaughter/butcher/govern/rule/
f	载	[zai4]	/to carry/to convey/to load/to hold/
f	攒	[zan3]	/collect/hoard/
f	赞	[zan4]	/to praise/
f	赞成	[zan4 cheng2]	/approve/endorse/
f	赞助	[zan4 zhu4]	/sponsor/
f	葬	[zang4]	/bury (the dead)/
f	遭	[zao1]	/meet by chance/
f	糟	[zao1]	/to waste/spoil/
f	造	[zao4]	/to make/to build/to invent/to manufacture/
f	责	[ze2]	/to reproach/to blame/
f	增	[zeng1]	/to increase/to expand/to add/
f	憎	[zeng1]	/detest/
f	赠	[zeng4]	/give present/
f	扎	[zha1]	/to prick/plunge into/
f	扎	[zha2]	/struggle/
f	轧	[zha2]	/crush/
f	铡	[zha2]	/cut up with a straw knife/
f	眨	[zha3]	/wink/
f	炸	[zha4]	/explode/
f	榨	[zha4]	/to press/to extract/
f	摘	[zhai1]	/to pick (flowers/fruit)/to pluck/to take/to select/
f	择	[zhai2]	/pick over/
f	沾	[zhan1]	/moisten/touch/benefit from/
f	粘	[zhan1]	/to stick/paste/
f	瞻	[zhan1]	/gaze/view/
f	战	[zhan4]	/to fight/
f	站	[zhan4]	/to stand/to halt/to stop/
f	蘸	[zhan4]	/to dip in (ink, sauce, etc.)/
f	颤	[zhan4]	/to tremble/to shiver/to shake/to vibrate/

f 张	[zhang1]	/open up/
f 掌	[zhang3]	/in charge of/
f 招	[zhao1]	/provoke/to recruit/
f 招待	[zhao1 dai4]	/to receive (guests)/to entertain/
f 找	[zhao3]	/to look for/to call on (sb)/to find/to seek/to give (change)/
f 召	[zhao4]	/to call together/to summon/to convene/
f 照	[zhao4]	/to shine/to illuminate/take (a photograph)
f 罩	[zhao4]	/cover/shade/
f 蜇	[zhe1]	/sting/bite/irritate/
f 遮	[zhe1]	/cover up (a shortcoming)/screen off/to hide/to conceal/
f 折	[zhe2]	/to break/to fold/to turn/
f 折磨	[zhe2 mo5]	/persecute/torment/
f 蛰	[zhe2]	/hibernate/
f 针对	[zhen1 dui4]	/to direct at/to aim at/to point against/
f 侦	[zhen1]	/detect/investigate/
f 斟	[zhen1]	/pour/to deliberate/
f 诊断	[zhen3 duan4]	/diagnosis/
f 枕	[zhen3]	/rest one's head on pillow/
f 震	[zhen4]	/shake/shock/
f 争	[zheng1]	/struggle/fight/
f 争取	[zheng1 qu3]	/fight for/compete for (a prize)/to struggle/
f 征	[zheng1]	/attack/levy (troops or taxes)/
f 挣	[zheng1]	/to struggle/
f 蒸	[zheng1]	/to steam/
f 证	[zheng4]	/to prove/to demonstrate/to confirm/
f 挣	[zheng4]	/to earn/to make (money)/
f 支	[zhi1]	/to support/to sustain/to erect/to raise/to draw money/
f 织	[zhi1]	/weave/
f 殖	[zhi2]	/grow/reproduce/
f 执	[zhi2]	/execute (a plan)/grasp/
f 植	[zhi2]	/to plant/
f 指	[zhi3]	/to point/to direct/to indicate/
f 指控	[zhi3 kong4]	/to accuse/
f 指挥	[zhi3 hui1]	/to conduct/to command/to direct/
f 指责	[zhi3 ze2]	/criticize/find fault with/
f 治	[zhi4]	/govern/administer/control/to treat/
f 制	[zhi4]	/to duplicate/to reproduce/to restrict/to copy/manufacture/
f 制裁	[zhi4 cai2]	/(economic) sanction/punish/
f 置	[zhi4]	/to install/to place/to put/
f 掷	[zhi4]	/toss/
f 治	[zhi4]	/to rule/to govern/to manage/to control/to harness (a river)/ /cure/to heal/
f 致	[zhi4]	/send/extend/
f 肿	[zhong3]	/swollen/
f 种	[zhong4]	/to plant/
f 重	[hong4]	/to respect deeply/to revere/to esteem/
f 皱	[zhou4]	/to wrinkle/wrinkled/to crease/
f 咒	[zhou4]	/put a curse on/
f 主	[zhu3]	/to own/to host/
f 主张	[zhu3 zhang1]	/to advocate/to stand for/
f 拄	[zhu3]	/post/prop/
f 属	[zhu3]	/enjoin/concentrate one's mind/

f	嘱	[zhu3]	/gaze/look steadily/
f	煮	[zhu3]	/to cook/to boil/
f	助	[zhu4]	/to help/to assist/
f	注	[zhu4]	/annotate/
f	注册	[zhu4 ce4]	/to register/
f	注解	[zhu4 jie3]	/comment/
f	注意	[zhu4 yi4]	/take note of/(pay) attention (to)/
f	注重	[zhu4 zhong4]	/pay attention to/emphasize/
f	筑	[zhu2]	/build/
f	铸	[zhu4]	/to coin (money)/
f	拽	[zhuai4]	/drag/
f	转	[zhuan4]	/to revolve/to turn/to circle about/to walk about/
f	撰	[zhuan4]	/compose/compile/discourse in praise/
f	妆	[zhuang1]	/make up/adorn/
f	装	[zhuang1]	/pretend/play the part/install/fill/
f	装饰	[zhuang1 shi4]	/decorate/
f	撞	[zhuang4]	/to hit/to strike/to meet by accident/to run into/ /to bump against/
f	追	[zhui1]	/pursue (a problem)/to chase/
f	追究	[zhui1 jiu1]	/investigate/look into/
f	捉	[zhuo1]	/to clutch/to grab/to capture/
f	啄	[zhuo2]	/to peck/
f	琢	[zhuo2]	/to cut (gems)/
f	资	[zi1]	/to provide/to supply/to support/
f	咨询	[zi1 xun2]	/consult/
f	综合	[zong1 he2]	/to sum up/to integrate/to synthesize/
f	走	[zou3]	/to walk/to go/to move/
f	走私	[zou3 si1]	/smuggle/
f	奏	[zou4]	/present a memorial/
f	揍	[zou4]	/beat up/break to pieces/
f	租	[zu1]	/rent/tax/
f	阻	[zu3]	/to hinder/to block/to obstruct/
f	组	[zu3]	/to form/compose/make up/to group/to organize/
f	组织	[zu3 zhi1]	/organize/
f	钻	[zuan1]	/drill/bore/go through/
f	遵	[zun1]	/to observe/to obey/to follow/
f	坐	[zuo4]	/to sit/to take a seat/to take (a bus, aeroplane etc.)/
f	做	[zuo4]	/to do/to make/to produce/
f	作	[zuo4]	/to regard as/to take (somebody) for/to do/to make/
f	凿	[zao2]	/chisel/dig a hole/