Serial Verb Construction: A Cognitive Typology Study on Chinese

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Abstract

This thesis investigates the cognitive typology of Chinese from the perspective of serial verb construction (SVC in short) both at the synchronic level and the diachronic level.

In order to do so we first propose a canonical definition for SVC. This is based on the previous descriptive works of SVC that can be classified into two camps: single-event criterion based and single-clause criterion based. However, both of these two camps have insufficiencies, and contradict each other occasionally. A definition from canonical typology helps on these problems, since it accommodates various criteria to identify the most canonical phenomenon cross-linguistically. With the proposed canonical definition, we further locate motion-path and cause-effect as the two prototypical usages of SVC.

As for cognitive typology of Chinese, we have reviewed how cognitive typology develops into four-classifications from Croft et al. (2010) in motion situations and non-motion situations, and found that all those four classifications can be detected in modern Chinese, with some different encoding lexicalization patterns corresponding in ancient Chinese. This on the one hand requires a survey on the prototypical typological feature of modern Chinese, and on the other hand calls for an analysis to see how the typological features have evolved in ancient Chinese. For these two research questions we collect ancient Chinese passages and their modern translations to build a corpus, and analyze statistical percentages of those cognitive typology related lexicalization patterns in motion-path domain and cause-effect domain respectively. It is found that modern Chinese prototypically shows a Serial feature as SVC takes the highest percentage among all the lexicalization patterns, while ancient Chinese has evolved towards Serial feature as SVC diachronically increases to occupy the greatest proportion.

Moreover, this thesis answers some evolutionary questions for SVC in Chinese, including how it comes into being and where it further develops.

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Three years ago before I came to Britain, I had expected it to be a modern place. However, when I first arrived at Colchester I found myself wrong, as you can hardly describe a place full of hares and wild ducks as modern. Three years ago before I came to the University of Essex, I had expected my supervisor to be a good person. However, when I first met him I found myself even wronger, as Professor Andrew Spencer is the BEST supervisor I've ever had! Through talks and emails we timely push each other on my research, and in this process I benefit a lot as I've been constantly inspired by his wisdom, tutored by his experience, and encouraged by his amiability.

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Contents

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List of Abbreviations

AEM	alternative expression of manner
ALL	allative
ANIM	animate
AOR	aorist
ART	article
ASP	aspect
ATTR	attributive
BA	Ba marker
C3	set C pronominal proclitic (ergative for dependent)
CAUS	causative
CD	coordinate
CLF	classifier
COMPL	completive
CONSEC	consecutive
CONVB	converb
CP	compound
CPasp	aspectual compound
CRS	currently relevant state
ct	count
DE$_1$	DE$_1$, usually noun modifier
DE$_2$	DE$_2$, usually verb modifier
DE$_3$	DE$_3$, usually adjective/adverb modifier
DEP	dependent
DF	double-framing
DIST	distal
DS	different subject
ERG	ergative
exc	exclusive
FOC	focus
GEN	genitive
go:TH	move towards home
IMPERS	impersonal
INDEP	independent
INST	instrumental
LOC	locative
MASC, M	masculine
MID	middle
MIME	mimetic
MOD	modal
MOOD	mood

NEG	negation
nf	non-feminine
NFUT	non-future
NOMZ	nominalizer
NONPST	non-past
NS	verbal particle: new situation
nsg	non-singular
OBJ	object
PART	particle
PASS	passive
PL	plural
POSS	possessive
PRES	person marker
PRO	pronoun
PST	past tense
R	realis
REDUP	reduplicated
REM	remote
REP	reported
SEQ	sequential
SF	satellite-framing
SG	singular
SUB	subject
SUBORD	subordinate
SVC	serial verb construction
TOP	topic
VF	verb-framing

Prologue

Linguists often find it hard to make universal definitions, as one definition that is workable for a certain language might be challenged by counterexamples from another language. For example the morphology-based description of verb that focuses on inflection for agreement applies well to synthetic languages like English, but would be frustrated by isolating languages like Chinese that contains little morphology.[1]

The above-mentioned difficulty of making universal definitions is also true for SVC studies. Aikhenvald and Dixon (2006) have made the best of some cross-linguistic investigations for their SVC definition that aims to be comprehensive, but Paul (2008) still regards the phenomenon of SVC within Chinese to be 'a tenacious myth and a Gordian knot', and after his study of some New Guinea languages Foley (2010, 107) goes even further to claim pessimistically that any attempt to make a universal definition of SVC would be in vain. The main reason for the previous pessimism is again, as we have suggested that a definition proposed on the basis of one language or a group of languages is quite vulnerable when faced with counterexamples from another language. In addition to these inconsistencies with the idea of SVC, some quasi-consensuses have been arrived at, for instance, it is often repeated that conceptually SVC expresses single event (Aikhenvald and Dixon, 2006; Bisang, 1995) and syntactically it is in the form of single clause (Foley and Olson, 1985; Foley, 2010; Haspelmath, 2016). The tricky point is that these two criteria do not always go together well, as can be exemplified by the monoclausal complex predicates in Foley's (2010) work that encode not single but multiple events. To make things worse, for the single-event supporters they do not describe clearly what that single event is, which is the main reason for Haspelmath (2016, 306) to discard this criterion; while for the single-clause backers they have different

[1]One example of this morphology-based definition of verb is from the online Webster Dictionary: https://www.merriam-webster.com/dictionary/verb. Moreover, Schachter and Shopen (2007, 3) have noted that modern English shows an analytic tendency.

standards about clausality, such as argument sharing from Foley and Olson (1985) and negation from Haspelmath (2016).

For the inconsistency and contradiction on a definition of SVC, we do not take a black or white attitude and would not easily deny certain long held criteria. But rather, we turn to the method of Canonical Typology (Brown et al., 2013) for a proper solution. Here I will not go into detail about the principles of canonical typology, but readers can find more details about how this methodology can be applied onto the canonical SVC definition in Chapter 1 of this thesis.

A similar frustration caused by counterexamples is also found within typology research on individual languages. Croft et al. (2010, pp.210-211) have referred to Aske (1989, 3), who notes that the putative verb-framing language Spanish can also use a satellite-framing construction when the path expression is atelic, therefore suggesting a reduction in the typology 'universal' to 'tendency' because of such intra-linguistic counterexamples. Actually this typology 'tendency' has long been observed by linguists, such as in the word order typology discussion where Greenberg (1966) points out that most languages use several word orders yet with one as the main kind. Moreover, Shi (2014) has introduced this preference tendency to Chinese motion event study. In this research, we shall go further to reveal that the preference tendency is of an overall coverage for Chinese cognitive typology that contains motion-path domain and cause-effect domain, since this language shows a versatile feature with more than one method for the relevant purpose in both these two domains. Meanwhile, the preference tendency of typological classifications would solve the problem of intra-linguistic counterexamples, as preference infers versatility that allows various counterexamples against prototypicality, so that under this context our investigation is to identify the most prototypical features of Chinese typology.

In fact the canonical SVC definition mentioned earlier also reflects some kind of cross-linguistic preference, for the reason that its aim is not to exclude any possible counterexamples and not to propose a sweeping approach towards the norm of SVC for all languages. But rather, each of the languages can calibrate its multi-verbal structure against our canonical description, and then decide whether this kind of structure behaves more canonically or less canonically towards our definition. The benefit of this

preference tendency idea for language studies, either cross-linguistically like canonical definition, or intra-linguistically like individual language typology, can be summarized in that it highlights canonicity/prototypicality on the one hand and tolerates potential counterexamples on the other hand. This is discussed more fully in the thesis.

Here we briefly sketch the outline of this thesis. Chapter 1 proposes the canonical SVC definition on the basis of a cross-linguistic comparison, and identifies motion-path and cause-effect as the two prototypical usages of SVC. Chapter 2 reviews the development of cognitive typology, and points out the insufficiencies of the typological framework. Chapter 3 illustrates how the adapted theoretical framework can be applied to Chinese, and introduces methodology used in this study. Chapter 4 and Chapter 5 investigate typology of Chinese both at the synchronic level and the diachronic level, with the former chapter focusing on the motion-path domain and the latter chapter focusing on the cause-effect domain. Chapter 6 gives a summary and discusses some relevant questions on the evolution of SVC, including how SVC in Chinese comes into being and how it further evolves. Chapter 7 concludes the thesis by describing the significance of the study, suggesting limitations, and proposing further research.

Finally, there are several points that need to be mentioned about abbreviations. In Chinese there are three *de* that respectively modify noun, verb, and adjective/adverb, and we mark them as DE_1, DE_2, and DE_3. In addition, it is noted that *le* in Chinese mainly has two usages, function of particle -le and function of verbal -le, with the former often referring to currently relevant state and the latter often referring to perfectivity as an aspectual marker (van den Berg and Wu, 2006, 23), and these two usages are labelled as CRS and ASP respectively. Where it is hard to tell which usage is being functioned by *le*, we will simply label it as LE for convenience.

Chapter 1

A canonical definition of serial verb construction

1.1 Introduction to serial verb construction

1.1.1 On the term SVC

According to Aikhenvald (2006a, 58), the phenomenon that 'a row of verbs one after the other... (in which) the verbs stand next to each other without being connected' has been identified by Westermann (1907, 1930) in his grammatical study of Ewe. It is a description that contains two key features of contemporary definitions of Serial Verb Construction (SVC in short): 'verb' and 'serializing'. However, SVC means much more than this as we shall see in this chapter.

The term SVC is introduced by Balmer and Grant (1929) for the language of Akan (Aikhenvald, 2006a, 59), and has gradually gained general acceptance by covering similar phenomena in other languages such as Yoruba (Stahlke, 1970) and Mandarin Chinese (Li and Thompson, 1973). Later on studies about SVC expand from single language researches to cross-linguistic investigations (Foley and Olson, 1985; Bisang, 1992; Aikhenvald and Dixon, 2006), with more and more agreement on certain criteria of SVC, yet synchronously with more and more disagreement on what should be covered by the term of SVC.

1.1.2 Two camps for defining SVC and their gaps

With the on-going studies of SVC it has been realized that this multi-verbal structure is not equal to 'verbs stand next to each other without being connected', but there should be some criteria to guarantee the unique properties of this construction.

One of those often quoted criteria is that conceptually SVC expresses single event. For example Aikhenvald (2006a, 1) has listed a number of criteria for SVC, including single predicate, single event, monoclausality, intonational properties same as a monoverbal clause, shared grammatical properties, shared arguments, as well as independent internal verbs. Among those properties Aikhenvald claims that 'serial verb constructions describe what is conceptualized as a single event'. Bisang (2009) further illustrates that for all Aikhenvald's above-mentioned criteria the concept of single event is the very basic one from which the others can be derived. As for what makes single event, Bisang refers to macro-event property (MEP) and time-positional operators from Bohnemeyer et al. (2007, 505), which suggests that the multiple subevents that can be located by any time-positional operator such as time-positional adverbial, temporal clause or tense collectively show the macro-event property. I would classify those scholars focusing on the criterion of eventhood into the single-event based camp.

The criterion of single event, along with the relevant MEP, is occasionally rejected by other scholars. Haspelmath (2016, 306) is an example as he regards single event to be a criterion that is 'not practical to apply, because there is no objective way of identifying a single event and distinguishing it from a set of several (sub)events.' Interestingly, Haspelmath also refers to Bohnemeyer et al. (2007, 499) to support his argument, as 'all of the events in *War and peace* [*sic*] may be conceived of as parts of a single event.' Instead, Haspelmath turns to the criterion of single clause for SVC, and scholars with a similar idea include Foley and Olson (1985) as well as Foley (2010). I would classify those scholars focusing on the criterion of clausality into the single-clause based camp. Nevertheless, scholars of this camp hold different standards on clausality. For example Foley and Olson (1985, 43) consider single clause is marked by shared tense and shared core argument, which is suggested by the agreement affixes and tense-aspect-mood (TAM) suffixes on those serialized verbs;[1] Foley (2010) goes further to

[1]Core arguments are those related to the valence of verbs, for example *run* requires one core argument, *open* requires two core arguments, and *give* requires three core arguments. In contrast non-core arguments are not related to valence, such as adverbial of place.

treat shared clausal markers as the indication of single clause on the basis of his observation of Papuan languages; while Haspelmath (2016, 299) again seeks inspiration from Bohnemeyer et al. (2007) to regard 'one way of negation' 'with scope over all the verbs' as the standard of single clausality.

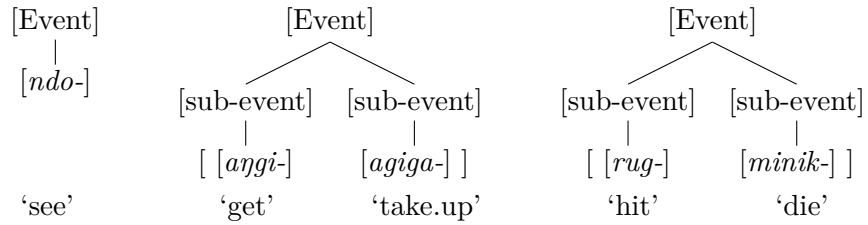
Those two camps of single-event and single-clause both have certain deficiencies. The problem with scholars of the single-event based camp is that they do not propose a clear description of what the single-event is that is encoded within SVC. The idea of MEP, except for its fuzzy boundary between single event and a set of several subevents, is also criticized as being of methodological opportunism by Croft et al. (2010, 209), who explain the issue as 'choose a constructional 'test' (the time-positional adverbial construction) and assume that it tells us something about a more general grammatical category than the construction itself (event segmentation).' The essential insufficiency of MEP is that it does not analyze event on the basis of event itself but relies on some external standard, and this is why previous SVC researches focusing on the criterion of single event are not widely accepted. Later on we will show how to identify the proper single event encoded by SVC in subsection 1.2.3.

The problem with scholars of the single-clause based camp, as mentioned above, is that different scholars have different standards for clausality. Furthermore, those standards for single clause show some kind of deficiency each of them. To be specific, the standard from Foley and Olson (1985) as well as from Foley (2010) largely relies on verbal affixes and clausal markers, which, while it works well for synthetic languages that contain overt inflection, would encounter difficulty in isolating languages with little morphology. As for the single negation standard from Haspelmath (2016), it has a similar methodological opportunism problem to that mentioned above, i.e. the construction of negatability cannot tell us exactly about the more general grammatical category of clausality, which is mainly due to two reasons. First, as noted by Haspelmath himself, single negatability does not necessarily mean single scope interpretation but might generate multiple scope interpretations (p.301, footnote 6), and this would invalidate his suggestion that one way of negation is 'with scope over all the verbs'. Secondly, in some languages there exists more than one negation marker, such as the fact that Mandarin Chinese uses *bu* and *mei* in different contexts, and these two markers constitute quite

a complicated picture as will be discussed later in Chapter 5. Therefore we conclude that negation is not a proper standard for clausality, partly because negation is very complex itself, partly because negation as a constructional test is not directly related to clausality.

To make things worse, sometimes these two criteria of single clause and singe event seem to be incompatible with each other. For this see Foley's discussion on Watam, where an 'SVC' of five verbs chained by the same realis suffix 'r' into a single clause would cover three consecutive events (Foley, 2010, pp.97-98).

(1) Min ma mo ndo-r aŋgi-r agiga-r rug-ur minik-ri.
3PL 3SG OBJ see-R get-R take.up-R hit-R die-PST
'They saw him, got him, carried him up and beat him to death.'



Foley (2010, pp.97-98), ex.(30a), ex.(31)

This above contradiction between single clause and single event, together with vulnerabilities for each of them, makes defining SVC difficult. Foley (2010, 107) even holds a negative attitude towards a universal definition of SVC: 'Are there any universal defining properties of serial verb constructions? Probably not, although the term may still prove useful as a convenient descriptive label like reduplication'. However, this chapter will argue that there can be some universal defining properties of SVC, as long as we answer these three questions:

1. What does 'single clause' mean for SVC, and can it be applicable both to synthetic languages and isolating languages?
2. What kind of 'single event' is expressed by an SVC at the conceptual level?
3. How to accommodate various criteria to make a definition of SVC?

For those three questions we will take a canonical typology perspective to explore what a canonical SVC should be.

1.2 A definition from canonical typology

Making a universal definition for certain cross-linguistic phenomena is not an easy task, for the reason that similarly named features in different languages might not correspond to each other. This issue is termed Correspondence Problem (Corbett, 2008), which can be solved by Canonical Typology (Brown et al., 2013).

1.2.1 Canonical typology

Canonical typology involves three parts: base, criteria, and canonical ideal (canon). Base is the multidimensional space for a linguistic phenomenon and should be 'broad in scope and maximally inclusive' (Bond, 2013, 25). Therefore except for the target linguistic phenomenon it might also cover some similar yet irrelevant structures. Those irrelevant structures can be excluded from the base by criteria that are established along various dimensions and require a large amount of detailed descriptions. A certain criterion usually argues that construction with particular property would be more canonical than construction without that particular property compared with the canonical ideal, and normally a criterion is proposed in the form of: 'C-n: with property>without property', where '>' reads 'more canonical than'. Canonical ideal is the point of convergence where theoretically all the criteria meet, and under the calibration from canonical ideal a specific construction can be determined how canonical it is within the base.

Among those three parts base is the starting point for canonical typology, as it provides the phenomenological domain for the application of criteria. Criteria and dimensions are the main parts in canonical typology to address correspondence problem, as they can avoid linguistic terms of vague definitions by associating particular linguistic phenomena with cross-linguistic categories. The more criteria get proposed, the more cross-linguistic data can be included in the description of that particular phenomenon. Meanwhile, proposing more criteria also means establishing more restrictions onto the description, which might result in a rare or even non-existent canonical ideal (Brown and Chumakina, 2013, 8).

The possibility of a non-existent canonical ideal does not matter much in canonical typology, as it tells from another perspective that the traditional concrete definition of a particular phenomenon might not be workable for all languages. What really matter

in canonical typology are the base and criteria, which will be discussed in the remaining sections of this chapter with the purpose of showing how the phenomenon of SVC can be defined cross-linguistically.

1.2.2 Canonical base for SVC

Following the principle of base to be 'broad in scope and maximally inclusive', this chapter will define the canonical base for SVC as any construction that contains multiple verbal elements.

Within this description, 'construction' refers to the statement from Haspelmath (2016, pp.296-297) where 'the meaning of a concrete construct can be determined on the basis of the meanings of its parts and the construction meaning', and this description excludes non-compositional verbal combinations such as idioms and combination of synonymous verbs (ibid.). Moreover, 'multiple verbal elements' would offer a broad enough scope to cover SVC, as 'multiple' guarantees 'serial' and 'verbal elements' guarantees 'verb'. However, this base is so maximally inclusive that it also covers some other similar structures such as coordination and subordination by the suggestion of 'multiple' as well as coverb structure by 'verbal elements'. The next step is to differentiate SVC from those similar multi-verbal structures with the establishments of criteria.

1.2.3 Canonical criteria for SVC

This subsection proposes criteria for canonical SVC along six dimensions: lexical, syntactic, phonological, semantic, conceptual and morphosyntactic. Canonical SVC should satisfy most of those criteria, yet this does not necessarily mean that it could satisfy all of them. This canonical idea has been mentioned by previous researches, for example Aikhenvald (2006a, 3) has claimed that for the typical properties, SVCs within an individual language 'are expected to have most, but not necessarily all of them'. Actually there can be kinds of violations against some criteria on certain dimensions as demonstrated by cross-linguistic data.

Lexical dimension

C-1: SVC consisting of independent verbs > SVC consisting of non-independent verbs

This criterion entails two restrictions: 1. The internal components within an SVC

should be verbs. 2. Those internal verbs should be independent ones that can be used on their own. The lexical criterion makes the premise of SVC but certain fuzzy parts have been discovered on both of its two implied restrictions.

Under Restriction 1:

For the canonical parts of speech, Spencer (2005, 102) has offered a differentiation between verbs and adjectives from some canonical functions as shown in Table 1.1.

Table 1.1: Canonical Parts of Speech

	Canonical semantic functions
Verb	denotes eventuality (process, telic or otherwise, and also states)
Adjective	denotes properties
	Canonical syntactic functions
Verb	relation between argument; lexical head of a (temporarily situated) predication
Adjective	intransitive predicate; attributive modifier
	Canonical inflection
Verb	tense-mood-aspect, voice, agreement,...
Adjective	agreement, comparison,...

adapted from Spencer (2005, 102), ex.(12), ex.(13), ex.(14)

However, those canonical properties for verbs and adjectives might be violated in certain languages, or in other words, there is a fuzzy boundary between these two parts of speech. Here we will focus our discussion on semantic and inflection violations.

The language of Toqabaqita offers an example for the violation of semantic function, where most of the properties are denoted not by adjectives, but by verbs. In this language there is only one adjective ('small'), and other properties are expressed by intransitive verbs as noun modifiers (Lichtenberk, 2006, 262) such as:

(2) naifa baqita
knife be.big
'big knife'

Lichtenberk (2006, 262), ex.(32)

(3) si lio taqaa
CLF mind/thought be.bad
'bad/evil mind/thought'

Lichtenberk (2006, 262), ex.(33)

Mwotlap is a language that distinguishes between verbs and adjectives by noun phrase, where only adjectives can modify nouns directly but verbs cannot as shown by

the comparison: *nētmēy gom*$_{[adj]}$ ('a sick child') and **nētmēy teñ*$_{[vb]}$ (*'a cry child'). However, this language makes little differentiation between verbs and adjectives on the part of inflection, that is, adjectives in this language also require TAM markers to form a valid predicate (François, 2006, 224).

(4) a. Inti-k me-*teñ*.
child-1SG ASP-cry
'My son is crying.'

François (2006, 224), ex.(2a)

b. Inti-k mo-*gom*.
child-1SG ASP-sick
'My son is sick.'

François (2006, 224), ex.(2b)

This fuzzy boundary between verbs and adjectives makes it possible for adjectives to function as the constituting components of SVC. For this Matthews (2006, 75) has offered an example where V_2 in the SVC of Cantonese can be an adjective.[2][3]

(5) Lei^5 jiu^3 tam^3 keoi^5 hoi^{1}sam^1.
you need to pacify her happy
'You need to make her happy.'

Matthews (2006, 75), ex.(25)

A similar example of SVC where V_2 is an adjective-like predicate that does not 'inflect for subject person-number' can also be found at Dumo (Ingram, 2006, 218).

(6) Taeh bla i-i.
fire 2sgSUB.make(of.fire) be.alight-REDUP
'Light the fire.'

Ingram (2006, 218), ex.(50)

(7) Dehgho yèng ghla pe.
3nsg.ct banana 3nsgSUB.roast be.cooked
'They roasted banana and they were cooked.'

Ingram (2006, 218), ex.(51)

The fuzziness among parts of speech also occurs between verbs and prepositions that can be illustrated by coverbs. In SVC studies coverbs are considered as 'more

[2]In this study we shall follow SVC research tradition to use underlining to indicate SVC, and this format will run through the whole thesis except as otherwise noted.

[3]Haspelmath (2010, 670) has defined the adjective as 'a lexeme that denotes a descriptive property and that can be used to narrow the reference of a noun'. Dixon (2004, 3-4) has listed four core semantic types of adjectives (DIMENSION like 'big', AGE like 'new', VALUE like 'good', and COLOUR like 'black'), as well as some peripheral semantic types (PHYSICAL PROPERTY like 'hard', HUMAN PROPENSITY like 'happy', and SPEED like 'fast'). We can see that *hoi*^{1}*sam*^{1} 'happy' in sentence (5) belongs to the adjective type of HUMAN PROPENSITY. However, in Chapter 5 we will show that quite often adjectives in Chinese can be understood as deadjective change of state verbs.

or less defective members of the class of verbs' (Francis and Matthews, 2002), and in Mandarin Chinese as well as Cantonese coverbs can be regarded as 'representing both a verb and a homonymous preposition' (Matthews, 2006, 70). For this point Matthews (2006, pp.70-71) has offered the Cantonese example of 'gan^{1}', which is a coverb that can be interpreted either as the verb 'follow', or as the preposition 'with'. The verbal interpretation of 'gan' makes it possible to become a component of SVC, yet with the meaning of a preposition as in sentence (8).

(8) Ngo^{5} gan^{1} keoi^{5} hok^{6}.
I follow him study
'I study with him (as his student).'

Matthews (2006, 70), ex.(3a)

Moreover, adverbals are considered as a subset of verbs that can hold a position within the SVC of Dyirbal (Dixon, 2006, pp.346-349).

(9) Ba-ŋgu-l$_{A}$ nudi-n yugu$_{O}$ jaybi-n.
THERE-ERG-MASC cut-NFUT tree finish.off-NFUT
'He chopped down all the trees.'

Dixon (2006, 347), ex.(7)

So far we have observed that the canonical components of SVC should be verbs, and also listed some non-canonical components of adjectives, coverbs and adverbals. In addition, there is another non-canonical possibility where it is the verbal phrases or roots that get serialized, and we shall discuss this before going on to the second restriction.

For some languages it is claimed that the constituting components of SVC are not verbs but verbal phrases, which is the case for Coemai as argued by Hellwig (2006, pp.96-97).

(10) Ni mang shik two mûep n-ni.
3SG take(SG) knife kill(PL) 3PL COMIT-3SG.INDEP.PRO
'He took a knife (and) killed them with it.'

Hellwig (2006, 97), ex.(9e)

In sentence (10) the two verbs are marked differently on numbers, where *mang* 'take' is marked by singular for agreement with the single knife and *two* 'kill' is marked by plural for agreement with the multiple victims. Hellwig claims that this would account for the presence of two objects within the whole SVC, which serializes the two verbal phrases (verbs plus their corresponding objects) and not simply the verbs. A similar

case of instrumental verbal phrases serializing can be found in the language of Ewe, where verbs with their inherent complement/objects form an SVC (Ameka, 2006, 131).

(11) Ku tsi klɔ́ ŋkú.me.
2sg:scoop water wash face
'Fetch water and wash your face.'

Ameka (2006, 131), ex.(12a)

Ameka particularly points out that sentence (11) is not consecutive in that its two VPs are of the same imperative mood (ibid.). For this reason it can be treated as SVC with purpose meaning, and we will discuss purpose SVC further later in this subsection.

Except for verbal phrases, the internal components of SVC can also be verbal roots. For such a case see sentence (12) in Olutec, where those three roots are synthesized by the pronominal proclitics and the completive suffix into a single word (Zavala, 2006, 274).

(12) Je? ʔu:ra=k ta=yak-tzap-piyüʔk-i
that hour=ANIM C3(ERG)=CAUS(<'give')-rise-run-COMPL.DEP
'At that time he lifted it.'

Zavala (2006, 274), ex.(1c)

Under Restriction 2:

One of the most remarkable differences between SVC and other multiverb sequences is that internal components of the latter cannot function on their own, and this is why structures like perfect or continuous in English, or converb constructions in some languages are not SVCs (Aikhenvald, 2006a, 5). Here we take converb construction as an example to illustrate.

Converb construction indicates that two or more actions happen almost simultaneously, but the action denoted by converb usually has started already shortly before the action denoted by the finite verb for the purpose of describing properties of the latter such as manner, duration, and etc.[4] With proper translation converb can be treated as equal with the present participle in English, which can only be affiliated to a finite verb as indicated by the example from Khwe (Kilian-Hatz, 2006, 110).

[4]This description of converb construction consolidates the terminologies from Kilian-Hatz (2006, 110) for Khwe as well as Amha and Dimmendaal (2006, 319) for Wolaitta. In those previous discussions converb construction is analyzed as either expressing multiple events or single event, which is a difference that we tackle by 'multiple actions' here. What really matters is that the function of converb is to describe some properties of the main verb such as manner, and that converb cannot be used on its own as suggested by the quoted examples.

(13) Khóé xàmá ||óé-é-kò kũũ-a-hĩ
person 3sg.M lie-II-CONVB walk-II-PST
'He crept up to the people.' [lit: He first lay down and then walked (still in lying position).]

Kilian-Hatz (2006, 110), ex.(2a)

By contrast each component within an SVC, be it canonical verb or non-canonical verbal element, should be able to function on its own. And here we take the above coverb and adverbal as examples. The coverb *gan*[1] and adverbal *jaybi-n* occur within SVCs respectively in sentence (8) and sentence (9), and they can also be used independently as predicates, as in sentence (14) of Cantonese (Matthews, 2006, 70) and sentence (15) of Dyirbal (Dixon, 2006, 348).

(14) Ngo[5] gan[1] keoi[5].
I follow him
'I am with him (as a student, etc.).'

Matthews (2006, 70), ex.(3b)

(15) Ba-ŋgu-l$_A$ jaybi-n ŋaygudin-da; gulu wuga-n
THERE-ERG-MASC finish.off-NFUT 1sg-LOC NEG give-NFUT
ŋayguna.
1sgO
'He finished [it] all off despite me (lit. at me); he never gave me any.'

Dixon (2006, 348), ex.(8)

In the same way that fuzzy boundary exists between verb and non-verbal elements under restriction 1, there are non-canonical cases under restriction 2 of independent usage. Discussion here mainly focuses on some of the coverbs and secondary verbs.

Recall that coverb has the properties of both verb and preposition (in Mandarin Chinese and Cantonese), and this feature makes perhaps most of coverb constructions less canonical to be classified as SVCs since coverb can hardly be used independently while maintaining the same preposition meaning as within a corresponding 'SVC'. For example, Matthews (2006, 70) suggests that in (16a) coverb *tung*[4] together with verb *king*[1]*gai*[2] would make an SVC. However, the same coverb cannot occur on its own as indicated by (16b), which violates the restriction of independent usage for internal components and therefore makes the SVC argument for coverb constructions less convincing.

(16) a. Ngo^5 tung^4 keoi^5 king^{1}gai^2.
I with him chat
I chat with him.

Matthews (2006, 70), ex.(2a)

b. *ngo^5 tung^4 keoi^5
I with him
I (am) with him

Matthews (2006, 70), ex.(2b)

The same dilemma applies to secondary verb structure. Secondary concepts provide 'semantic modification of some other verbs, with which they are in a syntactic or a morphological construction', and mainly cover 'obligation, probability, pretend-type, beginning-type (including 'begin', 'continue', 'finish'), trying-type ('try', 'attempt')', as well as intention verbs like 'want' and 'intend' (Aikhenvald, 2006a, pp.23-24). Secondary verb structure is occasionally regarded as SVC, as argued by Aikhenvald (2006a, 24), with the example Cantonese sentence (17) quoted from Matthews (2006, 71).

(17) Ngo^5 soeng^2 sik^6 aa^3.
I want eat PRO
'I want to eat it/that.'

Matthews (2006, 71), ex.(6)

However, given that secondary verbs have the nature of semantic dependency, which means that 'they cannot occur on their own without an additional verb for which they provide semantic modification' (Aikhenvald, 2006a, 24), they can hardly make canonical SVCs as they violate the restriction of independent usage: we cannot say 'I have to/might/pretend/begin/try/want...' in practical language usage.

One of the reasons for non-independent usage of some lexical elements is grammaticalization, which is a procedure that will lead to the phenomenon of asymmetrical SVCs (Bisang, 2009, 809). Asymmetrical SVC usually contains one main verb that comes from an open class and one minor verb that comes from a closed class (Aikhenvald, 1999). Under grammaticalization the original verbs tend to develop into functional words like TAM markers or particles, or even go further to become affixes. Grammaticalization differentiates a lexical item between its verbal meaning and functional usage. Once they are grammaticalized the lexical items could not be used independently while maintaining their original verbal meanings, therefore disqualifying them to function as the internal components of SVC. We will discuss grammaticalization further in Chapter 6.

In this lexical dimension we have proposed two restrictions for SVC components, which would canonically require those components to be verbs and to be of independent

usage. Moreover, we have also listed some non-canonical cases for each of the two restrictions, with non-verbal elements such as adjectives, coverbs, adverbals, verbal phrases or roots for the former, as well as some of the coverbs and secondary concepts for the latter. It is not proper to totally deny those cases as SVCs. However, at least they behave less canonically with calibration from criteria in the lexical dimension.

Syntactic dimension

C-2: SVC within a monoclausal structure > SVC not within a monoclausal structure

'Monoclausal' within this criterion mainly means that there are 'no markers of syntactic dependency on the components of SVC' (Aikhenvald, 2006a, 6). In addition, this 'monoclausal' property can also be indicated by the syntactic markers that suggest monoclausality. When none of these two indicating strategies works, some other methods will compensate to differentiate SVC from similar multiverbal structures, but this would vary according to context and might lead to ambiguity.

'Syntactic dependency marker' is a term that covers coordinator, subordinator and some other syntactic markers, therefore the claim that 'SVC involves no syntactic dependency marker' would distinguish SVC from coordination, consecutivization, complement clause, subordinate clause, and other multiclausal structures (Aikhenvald, 2006a, 6). For example the clause in sentence (18) of Thai is not considered to be an SVC since it involves the subordinating conjunction *con* (Diller, 2006, 166).

(18) Doe:n pay doe:n pay con thu'ng^{4} ba:n^{2} khaw^{3}.
walk go walk go until reach house 3sg
'I walked on and on until I reached her house.'

Diller (2006, 166), ex.(4)

Similarly, in Dumo structures that involve syntactic dependency markers like *ba* 'and, but, when, after', *ong* 'hence', *binong* 'therefore!', *pu(no)* 'first', and *me* 'or' are not SVCs (Ingram, 2006, 205). In addition, this claim of 'no syntactic marker' also makes structures with an overt linker such as consecutive constructions in African languages (Watters, 2000, pp.219-220) and verbal compounds in Japanese different from a canonical SVC, and we will discuss the Japanese verbal compounds further in Chapter 2.

This monoclausal property of SVC can also be inferred from verbs being introduced by a single clause marker. The Tariana sentence (19) is such a case where the SVC

in the subordinate clause is marked by the subordinating morpheme *-ka* (Aikhenvald, 2006a, 5).

(19) [Nhuta nu-thaketa]-ka di-ka-pidana.
1sg+take 1sg-cross+CAUS-SUBORD 3sgnf-see-REM.PST.REP
'He saw that I took (it) across.' (lit. take-cross)

Aikhenvald (2006a, 5), ex.(8)

However, sometimes verbs within another kind of multiverbal structure can be connected without any linking markers, and this would make that kind of structure superficially similar to SVC. For this we quote the comparison between SVC and conjoining structure in Goemai as an illustration (Hellwig, 2006, 91). In Goemai when a subject other than third person singular takes a conjoining verb phrase, the pronoun should be repeated with each of the verbs, which would not, however, apply to the subject of third person singular. For this reason in Goemai SVC (20a) and conjoining structure (20b) of third person singular look quite like each other.

(20) a. Sai su ru n-goede gado.
then run(SG) enter(SG) LOC-bottom bed
'Then (he) ran (and) entered under the bed.'

Hellwig (2006, 91), ex.(2a)

b. Dûûsnaan (...) su/ ru dakd'ûe lu.
cricket run(SG) enter(SG) MID settlement
'The cricket (...) ran, (and it) entered into town.'

Hellwig (2006, 91), ex.(2d)

Given the similar syntactic structure of SVC and conjoining construction of third person singular in Goemai, Hellwig suggests that the property of 'no syntactic dependency marker' 'cannot reliably distinguish SVCs from conjoined structures', but rather the only difference between these two is that there is an intonation break for the latter (ibid.). Actually the conjoining structure in sentence (20b) can be seen as asyndesis (or juxtaposition), which is described by Haspelmath (2007, 7) as the kind of coordination without overt linker. Same with Hellwig, Haspelmath also notes that intonation is 'the only means by which' this world wide asyndetic coordinated structure 'can be indicated' (ibid.). All in all, the two contrasting sentences in (20) show that sometimes syntactic property fails to distinguish SVC in certain contexts, and this is a failure that can be magnified with pragmatic factors as suggested by sentence (21) of Thai (Diller, 2006, 168).

(21) Pho':[2] khi:[1] ma:[3] kha:m[2] sapha:n.
father ride horse cross bridge
'Father rode the horse across the bridge.'

Diller (2006, 168), ex.(11)

Under the context of 'we are watching father from a hill and are not certain which path he will take', the SVC in sentence (21) might be interpreted into a dual-clausal construction: 'we affirm that father is riding and surmise that he may cross the bridge'. And this is why Diller argues that 'an adequate taxonomy of Thai SVCs would not rely on superficial syntactic configurations alone' (ibid.).

With C-2 we claim that a canonical SVC should be monoclausal, which is normally indicated by 'no syntactic dependency marker' as well as phonological property. This monoclausal property of SVC for synthetic languages could also be detected by the criterion in the morphosyntactic dimension as we will discuss later in this subsection, but might sometimes be hard to determine for isolating languages such as Goemai and Thai. Therefore for a canonical SVC we need more criteria, and in the next section we consider another one from the syntactic dimension.

C-3: SVC sharing at least one argument > SVC sharing no argument

This property of argument sharing is frequently discovered in many serializing languages. For example it is claimed that 'verbs share at least one argument' in Thai (Diller, 2006, 164), and in Olutec 'the verbs must share at least one core argument' (Zavala, 2006, 284). It is even suggested by Aikhenvald (2006a, 14) that 'SVCs with shared subjects are the major type of SVCs in any language', an argument that can be supported by motion SVC such as sentence (20a). Moreover, when the internal verbs are with different subjects they can also share some arguments, such as the cause-effect/causative cases of switch-function SVC where 'object of V_1 is the same as the subject of V_2' (ibid.). In spite of this widely discovered property of argument sharing, counterexamples are claimed to exist, though some of these are not so canonical SVCs, while others might be labelled by some other terms.

Resultative SVC in Mwotlap is a case where no argument is shared by the internal verbs (François, 2006, 232).

(22) Nēk mi-tig mēlēmlēg na-lo den kemem.
2sg ASP-stand black ART-sun from 1exc:pl
'Standing as you are, you're hiding the sun from us.' (lit. You're *standing dark* the sun from us.)

François (2006, 232), ex.(18)

For sentence (22) Aikhenvald (2006a, 20) observes that the two verbs do not share any argument but only share 'the situation they describe'. However, this kind of SVC is too rare to be productive, or in Aikhenvald's statement, it cannot be the only type of SVC in any languages so far investigated.

Another often quoted case against argument sharing is 'event-argument SVC', where V_1 provides the event or state for the whole SVC while V_2 provides the 'modifying' information such as manner, or locational specification (Aikhenvald, 2006a, 18). One typical example of this is sentence (23) in Paamese (Crowley, 1987, 40).

(23) Kihulīn ato kail hemal.
(ki-hulii-nV atoo kaile he-malu)
2sg-DIST.count-OBJ chicken PL 3sg-DIST.be.correct
'You count the chickens correctly.' (lit. you count chickens it be correct)

Crowley (1987, 40).

However, sentence (23) also indicates that V_2 is not so closely related to V_1 for the reasons that morphosyntactically V_2 takes a 3sg prefix that is not necessarily the same with V_1 (as V_1 takes 2sg as the agent), and semantically V_2 only provides the describing information for V_1. Croft (2012, pp.343-345) has labelled this kind of structure depictive, with the example sentence of Russian from Nichols (1978, 115).

(24) On vypil čaj xolodnym.
he drink:PST.3SG tea cold.M.SG.INST
'He drank the tea cold.'

Nichols (1978, 115).

Croft (2012, 344) particularly emphasizes that 'morphosyntactically, a depictive phrase is obligatorily controlled by an argument, manifested in indexation (agreement) of the controller argument' such as the masculine singular in sentence (24) of Russian. This characteristic of morphosyntactically controlling together with semantically describing makes the so-called 'event-argument' in Aikhenvald's term more like depictive, another multiverbal structure other than SVC. Notice that there might be no morphosyntactic controller in some isolating languages such as Eastern Kayah Li, where a similar structure is labelled as 'event-argument (Descriptive)' (Solnit, 2006, 154).

(25) ʔa ʔe phrɛ̄ dī.
3 eat fast cooked rice
'He eats quickly.'

Solnit (2006, 154), ex.(27)

Therefore in C-3 we have discussed the 'argument sharing' criterion for canonical SVC, a property with quite rare exceptions such as resultative SVC in sentence (22). As for the so-called counterexample of 'event-argument' we have analyzed it from morphosyntactic as well as semantic perspectives, and tend to classify it into the category of depictive, which is also a multiverbal structure similar to SVC but actually another construction different in nature.

Discussion of this syntactic dimension partly answers our first question raised in subsection 1.1.2. By 'monoclausal' we mean that there are no syntactic dependency markers on the components of SVC, and it might fail sometimes to distinguish SVC from some similar multiverbal structures. Whenever there is a failure for this 'monoclausal' criterion some other properties can be used as compensation, such as phonological property for isolating language and morphosyntactic property for synthetic language, and for the latter we will offer a more detailed discussion later in this subsection. Now we shall turn to the phonological dimension.

Phonological dimension

C-4: SVC with the intonational property of a monoverbal clause > SVC not with the intonational property of a monoverbal clause

It is often claimed that the intonational properties of SVC tend to be the same as those of a monoverbal clause (Aikhenvald, 2006a, 7). However, this never means that SVC should form a single phonological word. Actually it is sometimes quite hard to make clear what is a phonological word, such as 'study of Eastern Kayah Li prosody is not at the stage where the phonological word can be defined' (Solnit, 2006, 148).

Instead, this intonational property can be used to define the boundary of the clause, therefore differentiating a monoclausal SVC from a multiclausal verbal structure with the conjunction being omitted. We have seen in sentence (20b) that for the conjoining structure of third person singular in Goemai there should be an intonation break between the two conjoined verbs. And this is also true for Khwe: compare sentence (26a) where the actions are connected by the conjunction *nò* 'and' and sentence (26b) where the conjunction is omitted. For the latter case there is an intonation break within the verbs to show that they are in different clauses (Kilian-Hatz, 2006, 109).

(26) a. óámá-á-tè nò yaá-à-tè nò kx'ó-à-tè
carry-I-PRES and come-I-PRES and eat-I-PRES
Kilian-Hatz (2006, 109), ex.(1a)

b. óámá-á-tè, yaá-à-tè, kx'ó-à-tè
carry-I-PRES come-I-PRES eat-I-PRES
'(He) carries (the meat), comes, and eats (it).'
Kilian-Hatz (2006, 109), ex.(1b)

Different from the multiclausal conjunctions with intonation breaks, SVCs tend to be with a single intonation contour. Examples can be found in Thai SVC where 'the components taken together are uttered with single breath-group and intonation contour' (Diller, 2006, 164), in Tariana SVC where 'no segmental pause marker can be inserted between the components, and there is no intonation break' (Aikhenvald, 2006b, 184), and in Dumo where 'SVCs can never be intentionally marked with the prosodic features associated with various multiclausal constructions; they typically display the prosodic properties of mono-predicate clauses' (Ingram, 2006, 205).

This phonological property seems to be closely related to the monoclausal property, as the intonation of an SVC would go along with its clausal contour.[5] In addition, this phonological property can be used to tell the clausal boundary of SVC when the syntactic property fails to do so, which we have already demonstrated with the comparison between sentences (20a) and (20b) earlier in this subsection.

Semantic dimension

C-5: SVC as a single predicate > SVC not as a single predicate

Monopredicative is often considered to be the semantic property for canonical SVC, which can be 'corroborated by intuitions of native speakers', or by translating 'with a mono-verbal clause into a non-serializing language' (Aikhenvald, 2006a, 5), or by language specific tests. In this section we will introduce the nominalization for both isolating language (Goemai) and synthetic language (Tariana), as well as speech 'repair'.

Nominalization of SVC in Goemai shows that it behaves like a single predicate, and differentiates SVC from similar multiverbal constructions such as sequential and conjoined structures. For nominalization the nominalizing prefix *goe-* and the possessor will go with the first verb, which is roughly the same for all three structures. However,

[5]There has been claimed to be a 'multi-scene SVC' in Kalam in the form of multi-clause, which allows a pause within the verbs, and expresses a series of actions/events (Pawley and Lane, 1998, pp.212-217). However, given its properties mentioned above this structure looks more like a conjunction than an SVC.

those three structures will display a difference in the position of determiners and clitics. For SVC determiners and clitics (the determiner *nnoe* in 27a) appear at the end of the whole structure, suggesting that SVC is treated as an inseparable unit. For sequential structure determiners and clitics (the adverb *hoe* 'exactly' in 27b) appear after the first verb; and for conjoined structure normally only the last clause gets nominalized (as in 27c) (Hellwig, 2006, pp.93-94).

(27) a. fûan yool su. goe-yool muk su
rabbit rise(SG) run(SG) NOMZ-rise(SG) 3SG.POSS run(SG)
nnoe / (...)
LOC.ANAPH
'The rabbit rose (and) ran. Upon this his rising (and) running, (the others became angry)'

Hellwig (2006, 94), ex.(4a)

b. wul d'em a goe sh'ang. goe-wul muk-hoe goe
arrive this.time FOC SEQ hunt NOMZ-arrive 3SG.POSS-exactly SEQ
sh'ang / (...)
hunt
'(He) now arrived and hunted. Upon his arriving and hunting, (he fell)'

Hellwig (2006, 94), ex.(4b)

c. mûep swo / mûep rwo n-s'et. goe-rwo mûep
3PL run(PL) 3PL enter(PL) LOC-bush NOMZ-enter(PL) 3PL.POSS
/ (...)

'They ran, (and) they entered into the bush. Upon their entering, (they sat in a tree)'

Hellwig (2006, 94), ex.(4c)

Nominalization in synthetic languages such as Tariana also illustrates the monopredicative reading of SVC. In this case the nominalizing suffix *-ɾi* occurs at the end of the first verb and takes the whole construction as its scope, turning the SVC *pa-musu pa:* (IMP-go.out IMP+go, which means 'one goes out (away from the speaker)') into the nominalized phrase that means 'place where one goes out, exit'. Aikhenvald (2006b, 184) particularly states that '(nominalization) affix sharing is an argument in favour of the monopredicative character of serial verbs: it implies a high degree of cohesion between the components'.

(28) pa-músu-ɾi pá:
IMPERS-go.out-NOM IMPERS+go
'exit, place where one goes out (in the direction away from he speaker)'

Aikhenvald (2006b, 184), ex.(17)

What is more, speech 'repair' is claimed to be another evidence in favour of monopredicative reading for SVC. By speech 'repair' the speakers will start the whole verbs

all over again whenever they make a mistake when producing a long serial verb construction, as they will do with a single predicate (Aikhenvald, 2006b, 184).

Conceptual dimension

C-6: SVC expressing single event > SVC expressing multiple events

The idea that SVC expresses a single event can be traced back as far as Lord's research on Yoruba: 'the verbs in the construction all refer to sub-parts or aspects of a single overall event' (Lord, 1974, pp.196-197). However, the difficulty of telling 'single event' from 'macro event' has triggered the debate on what is a single event for SVC studies. For example both Bruce (1988) and Durie (1997, 326) have considered single event to be 'the cultural constitution of what speakers take to be an 'event", but this cultural factor, together with grammar, is criticized with the possibility of generating a 'grey' transition area when judging what is single event (Diller, 2006, 175). Moreover, Schultze-Berndt (2000, 36) has offered a definition of single event from the point of assigned boundary in time, but Aikhenvald (2006a, 10) notes 'there is more to it than that'. In order to answer what is the 'single event' expressed by SVC, first of all we need to know the different types of event. For this Vendlerian aspectual classes, also known as *Aktionsarten*, offers a suitable starting point for our analysis.

Dowty (1979, pp.52-55) has made a summarization on the development of verb classification. According to him, Aktionsarten (Vendlerian aspectual classes of event) are generally believed to start with Aristotle's *Metaphysics*, which differentiates between *kineseis* (translated as 'movements') and *energiai* (translated as 'actualities') that roughly correspond to accomplishments and activities/states. Later, Gilbert Ryle, one of the Oxford Philosophers, creates the term of *achievements* in his book *The Concept of Mind* (Ryle, 1949, 149) to distinguish resultative verbs from the irresultative ones. After that, Anthony Kenny has made the distinction between *activities* and *states*, and points out that the latter cannot occur in progressive tense (Kenny, 1963). It is not until Zeno Vendler that the four classifications of verb are raised: *states*, *processes/activities*, *accomplishments*, and *achievements* (Vendler, 1967). In addition, there is generally acknowledged to be the fifth type *semelfactive*. In this subsection we will introduce these five types together with the examples quoted from Kearns (2011, pp.156-173).

States are atelic, durative, and static; processes/activities are atelic, durative, and

dynamic; achievements are telic, non-durative and dynamic; accomplishments are telic, durative and dynamic. As for the semelfactives they are brief but produce no result, and therefore are often considered as bounded but not telic. These five types can be illustrated by sentences (29)-(33).

(29) The light *is on*. (State: atelic, durative, static)
(30) John *walked in the garden*. (Activity/process: atelic, durative, dynamic)
(31) They *reached the summit*. (Achievement: telic, non-durative, dynamic)
(32) Jones *ran a mile*. (Accomplishment: telic, durative, dynamic)
(33) Jones *rapped the table*. (Semelfactive: bounded but not telic, brief, dynamic)

Kearns (2011, pp.157-159), ex.(1b), ex.(2a), ex.(4b), ex.(3c), ex.(6a)

Properties of the first four Vendlerian event types have been summarized by Kearns (2011, 158) as Table 1.2.

Table 1.2: Properties of Aktionsarten

	Dynamism	**Duration**	**Telos**
State	–	+	–
Activity/Process	+	+	–
Achievement	+	–	+
Accomplishment	+	+	+

cited from Kearns (2011, 158), ex.(5)

It is noted that accomplishment 'consists of a process or activity with forward movement, leading up to a specified finishing point of telos' (Kearns, 2011, 158), and we can summarize this statement into the formula:

$$\text{Accomplishment} = \text{Activity/Process} + \text{Telos}$$

This formula is indicated by the feature distribution of these two events in Table 1.2, and can be empirically supported by the above sample sentences. To be specific, 'John walked in the garden' in sentence (30) is a process/activity, and we can change it into an accomplishment by adding a telos, making this sentence 'John walked a mile' like the one in sentence (32).

As demonstrated by the above analyses of feature distribution as well as sample sentence comparison, the difference between accomplishment and process/activity is that the former contains the finishing point of telos while the latter does not. In other words, accomplishment can be decomposed into subevents of process/activity and telos. Among those five event types only accomplishment is a complex one that contains two subevents, where the subevent 2 of telos functions as the finishing point of subevent1.

For this reason accomplishment should be the only proper candidate for the 'single event' that an SVC expresses, and the 'movement-finishing point' relationship between these subevents also corresponds to some descriptions in SVC, such as Hellwig (2006, 100) considers that in Goemai 'the subsequent subevent is seen as a result or development of the previous subevent'.

So far in this subsection we have concluded that the 'single event' expressed by SVCs should be an accomplishment, which can be decomposed into two subevents of process/activity and telos. However, this is just the canonical case, and there are more complex possibilities as this subsection will further explore, together with empirical evidence from cross-linguistic SVCs.

ANALYSIS OF SUBEVENT1. As we have pointed out, the canonical subevent1 of accomplishment is process/activity, and this is the case for a large amount of SVCs from various languages. Sentences (5), (7), (9), (20a), (21) in this chapter are typical examples of this point. Moreover, semelfactives also frequently function as subevent1 in SVCs, such as sentence (34) in Igbo (Lord, 1975, 27).

(34) Ó tì-wà-rà étéré à.
he hit-split.open-PST plate the
'He shattered the plate.'

Lord (1975, 27).

Also sentence (35) in Mwotlap (François, 2006, 231).

(35) Tali mi-tit teñteñ Kevin.
Tali ASP-punch cry:REDUP Kevin
'Tali made Kevin cry by punching him.'

François (2006, 231), ex.(13)

Very often there is a fuzzy boundary between semelfactive and activity/process. For example *hit* in the Igbo sentence (36) (Lord, 1975, 28) can either be interpreted as semelfactive (hitting once) or as activity/process (hitting continuously).

(36) Ó tì-gbù-rù nwóke áhù.
he hit-kill-PST man that
'He beat that man to death.' (lit. hit-kill)

Lord (1975, 28), ex.(34)

Contrary to the high frequency of process/activity and semelfactive as subevent1, the event of state seldom appears at the same position within SVC. This is noticed as 'the only restriction is that the SVC (in Goemai) cannot consist of two stative verbs

only' (Hellwig, 2006, 99), 'serial verbs (in Olutec) cannot consist of two stative predicates (or a verb followed by a stative predicate)' (Zavala, 2006, 280), also symmetrical SVCs in Khwe 'cannot consist just of stative verbs but must contain at least one process or cognition verb' (Kilian-Hatz, 2006, 114). However, occasionally stative verb can appear as subevent1 within an SVC, and such SVCs are 'reminiscent of cause-effect serialization' (Aikhenvald, 2006a, 19) as we have illustrated in sentence (22). In addition, a similar example can be found at sentence (37) of Eastern Kayah Li (Solnit, 2006, 149).

(37) Hō co pjá lɔ̄ ʌ́.
hulled uncooked rice wet ruined use.up NS
'The hulled rice got all wet and was ruined.'

Solnit (2006, 149), ex.(11)

It should be re-emphasized that the case of stative verb as subevent1 is too rare to be productive, though this kind of verb can function as subevent2 as will be discussed later.

While subevent1 within an accomplishment can be process/activity, semelfactive, and occasionally state, the other two event types of achievement and accomplishment almost never show up as subevent1. This is because these two types are themselves telic, and do not need to take another finishing point to become further bounded. When such case occurs we tend to treat them as consecutive such as:

(38) John [[ate an apple]$_{accomplishment}$ and [became full]$_{achievement}$]$_{consecutive}$.

And the structure of the above consecutive is distinct from an accomplishment that is composed of a process and an achievement like:

(39) John [[[eat an apple]$_{process}$ and [become full]$_{achievement}$] TAM]$_{accomplishment}$.

In Mandarin Chinese there exists an interesting phenomenon where subevent1 is constituted by a process/activity V_1 and *le* as in sentence (40).[6] Since in that sentence *le* immediately appears after V_1, it is better to treat it as a verbal -le that indicates perfectivity but not a particle le.[7] Therefore subevent1 within sentence (40) seems to be a telic accomplishment. However, we will show that actually it is not so.

(40) 他 跑 了 出 去。
Ta pao le chu qu.
he run ASP exit DEI
'He has run out.'

[6]This sentence comes to my attention through a talk with Chen Zhishuang at the ISOCTAL-1 conference held at Newcastle University in 2015, when she was a PhD student at York University. Special thanks to her!

[7]For a summarization on the difference between verbal -le and particle le see van den Berg and Wu (2006, 23).

Li (2012, pp.2046-2048) has introduced two kinds of aspect, viewpoint aspect and situation aspect on the basis of Smith (1983, 1994, 1997). Viewpoint aspect 'is indicated by grammatical markings on the main verb', and for this reason it is also known as 'grammatical aspect'. Situation aspect mainly talks about the inherent different natures that come from Vendlerian aspect, which treats process as atelic as analyzed earlier. Smith (1997, 62) further writes that 'what information a viewpoint presents is affected, and limited, by the structure of the situation talked about.' So it seems that for the interaction between situation aspect and viewpoint aspect, the former should function as the base since it talks about the inherent nature. Or in other words, when these two types of aspect clash with each other, the situation type should win.

The priority of situation aspect over viewpoint aspect would prove that *pao le* in sentence (40) is not an accomplishment. Being a process event, the verb *pao* 'run' is atelic in nature, a situation aspect that is unlikely to be overridden by the viewpoint aspect of any grammatical markers like perfective in English or *le* in Chinese. Here we first take the English case as an illustration. Now that we know as a process 'run' is atelic, and the grammatical category of perfectivity indicates telicity, here we would wonder is 'have run' telic or atelic? Given that 'telic predicates take *in* adverbial while atelic predicates take *for* adverbial' (Kearns, 2011, 159), 'have run' should be atelic as it is grammatical with For-PP in sentence (41a) but ungrammatical with In-PP in (41b).

(41) a. He has run for an hour.
b. *He has run in an hour.

Following the same tests we can tell that *pao le* in Mandarin Chinese is also atelic, as it goes well with For-PP but behaves not so well with In-PP.

(42) a. 他 跑 了 持续 一 小时。
Ta pao le chixu yi xiaoshi.
he run ASP constant one hour
'He has run for an hour.'
b. * 他 一 小时 内 跑 了
* Ta yi xiaoshi nei pao le
he one hour in run ASP
#'He has run in an hour' (intended meaning)

Having analyzed *pao le* to be atelic, we can judge the complex predicate within sentence (40) as being the same as that in sentence (39). That is, both of these two cases are

constituted by an atelic process and a telic achievement, and the only difference is that the aspectual marker *le* appears after V_1 in sentence (40), but the TAM marker appears after the whole complex predicate in sentence (39). However, the aspectual function of *le* in sentence (40) does not designate on its preceding V_1 but covers the whole construction, therefore maintaining the internal event structure still 'process+achievement'. A similar observation on the overall coverage of an in-between aspectual marker *le* has also been made by Li (2012, 2061) on the situation of non-motional complex predicate.

Different from the restriction that subevent1 within an accomplishment usually requires the dynamic and atelic event types, almost all the aspectual class types can appear as subevent2. Now we will offer an analysis of this.

ANALYSIS OF SUBEVENT2. Achievement might be the most prototypical telos for its non-durative and bounded nature, which functions well to terminate its preceding process. This case can be found in sentences (9) (20a) (21) so far in this chapter. Moreover, achievement is interesting in that it can not only terminate a preceding process, but also can start a state or an activity. Examples include *start knowing* (Vendler, 1957, 154) and *John began to walk* (Dowty, 1979, 124) for each of them. Following this assumption it is quite natural to find state functioning as subevent2 within an SVC, as shown by the example of sentence (43) in Alamblak (Bruce, 1984, 166).

(43) Wifërt fir-gënngi-më-t-a.
wind blow-cold-REM.PST-3sgf(S)-1sg(O)
'The wind blew and I was cold.' (or: The wind blew on me and I was cold.)

Bruce (1984, 166).

With the same assumption we can also find activity functioning as the telos to make an accomplishment, and this is the case suggested by sentence (35). However, this does not mean constituting a single accomplishment from a final activity is always so certain. For example Matthews (2006, pp.73-74) has pointed out that the two verbs in sentence (44) can be analyzed either as an SVC or as a complementation.

(44) Ngo^5 $joek^6$ $keoi^5$ tai^2 hei^6.
I date 3sg watch show
'I arrange with her to see a movie.'

Matthews (2006, 73), ex.(13)

Matthews' evidence comes from the aspectual marker gwo^3. He claims that when gwo^3 appears on V_2, it would take the scope of the whole sentence and lead to the

interpretation that 'date' and 'watch' should make a single event as in sentence (45a). However, when *gwo*^{3} appears on V_1, the event denoted by V_2 is not necessarily realized, and this would lead to a complementation reading as in sentence (45b).

(45) a. Ngo^5 joek^6 keoi^5 tai^2 *gwo*^{3} hei^6.
I date 3sg watch ASP show
'I've seen this movie with her (on a date).'

Matthews (2006, 73) ex.(14)

b. Ngo^5 joek^6 *gwo*^{3} keoi^5 tai^2 hei^6.
I date ASP 3sg watch show
'I've arranged with her to see a movie.'

Matthews (2006, 73), ex.(15)

And we would argue that the aspectual marker after the first verb *joek*^{6} in sentence (45b) is to make it bounded into an accomplishment somewhat similar to the case in sentence (38), therefore separating those two verbs into two not so closely related events of a complementation reading with a slight sequential purpose flavour.[8] By contrast the aspectual marker after the second verb in sentence (45a) would turn *joek*^{6} and *tai*^{2} into a first sequential then simultaneous reading and take the scope of these two verbs, therefore indicating their process-telos relationship the same as in sentence (39). The difference is that in sentence (38) the indicator is the tense marker, while in sentences (45a) and (45b) it is the aspectual marker. However, both the tense marker and aspectual marker share the same function to indicate the boundary of accomplishments.

Dowty (1979, 125) has listed one example where the telos within an accomplishment is another accomplishment: *John forced Bill to build a house.* And we can find a similar SVC example in sentence (46) from Eastern Kayah Li (Solnit, 2006, 151).

(46) ʔa nɔ̄ pā phúcè mɛ́klūī.
3 command cut child rhythm.pipe
'She told the children to cut rhythm-pipes.'

Solnit (2006, 151), ex.(18)

Now we have analyzed the dynamic and atelic event types for subevent1 and a more wide range of possibilities for subevent2. And there might be an even more complex case where purpose can appear at the end of the structure and make a multiverb construction. For this Matthews (2006, pp.83-84) illustrates with sentence (47).

[8] The case of 'date' in sentence (45b) is different from that of 'run' in (40), for the reason that with the meaning of 'make an appointment', the situation aspect of 'date' is not atelic itself. And this can be corroborated by the fact that though 'date' can collocate with For-PP, usually it has to be in the form of perfect progressive like 'we have been dating for one month'.

(47) Keoi^{5} gon^{2} faan^{1} lai^{4} wan^{2} jan^{4} heoi^{3} jam^{2}-caa^{4}.
3sg rush return come seek person go drink-tea
'He came rushing back to look for someone to go for dim sum with.'

Matthews (2006, 84), ex.(68)

The purpose in sentence (47) is actually not realized as indicated by the infinitive in the English translation, and for this reason it might be treated as the telos for its preceding event and together they will make an SVC. This kind of SVC is a noncanonical one as the preceding event is an accomplishment that already contains a process (gon^{2} faan^{1}) and achievement (lai^{4}) . Therefore this kind of SVC does not strictly express a single event of accomplishment but also with another event of purpose. However, this does not mean that purpose cannot make a canonical SVC: when the subevent1 is a dynamic and atelic event such as process/activity, the event of purpose can function as the telos and make subevent1 bounded into an accomplishment. Sentence (48) illustrates an SVC with a purpose reading from Alamblak (Bruce, 1988, 29).[9]

(48) Mɨyt ritm muh-hambray-an-m.
tree insects climb-search:for-1sg-3pl
'I climbed the tree searching for insects.'

Bruce (1988, 29).

Moreover, this type of SVC with purpose reading can be further exemplified by those two verbs sharing the same particle, such as Solnit (2006, 152) has illustrated in Eastern Kayah Li.

(49) ʔa ka dɛ́hʌ rʌ́ ʔa phɪ̄.
3 return ask PART 3sg grandmother
'He went back and asked his grandmother.'

Solnit (2006, 152), ex.(19).

The difference between this canonical purpose SVC and other multiverbal structure is that it is monoclausal without any syntactic markers such as sequential (and, then) or subordinate (in order to), and it expresses a single event of accomplishment with process/activity as subevent1 and purpose as subevent2, but not multiple events such as two accomplishments each indicated by an aspectual marker.

With the criterion of 'single event' we have treated SVC as expressing a single accomplishment, and illustrated various possibilities of event types as its internal subevents.

[9]This kind of SVC is sometimes termed sequential SVC. However, a sequential structure without any restriction would include an unlimited number of verbs and therefore violate the principle of single event. As Aikhenvald (2006a, 28) has pointed out that 'a sequential SVC may acquire purpose reading', this research only considers sequential structure where the multiple verbs constitute a single accomplishment as SVC, and term it as (canonical) purpose SVC.

Among those possibilities SVCs with a purpose reading have been classified into two types, a canonical type that comes from atelic subevent1 and purpose of subevent2 as the telos, as well as a noncanonical type that comes from a telic accomplishment together with a purpose element. Now we shall mention more noncanonical cases of SVC before turning to the next criterion.

NONCANONICAL CASES: One noncanonical yet quite common type of SVC is the so-called 'causative SVC' that consists of a causation verb and a result lexical verb, where the causation verb comes from the closed class with a limited number. The causation verb does not express a typical dynamic and atelic subevent, and for this reason causative SVC does not express a typical accomplishment event. Usually the order of components within causative SVCs is iconic with the causation verb preceding the result verb. However, there might also be a reverse order where causation verb appears after the result verb as shown by sentence (50) of Yimas (Foley and Olson, 1985, 25).

(50) Na-bu-wul-cay-pra-kiak.
3sgO-3sgS-afraid-try.to.make-come-REM.PST
'They tried to make him afraid as he came.'

Foley and Olson (1985, 25).

The structure where V_1 is a perception verb would generate a complement-like interpretation, which is a claim that has been found in Goemai (Hellwig, 2006, pp.102-103), in Ewe (Ameka, 2006, 134), and in Eastern Kayah Li (Solnit, 2006, 148). It is further argued that the perception verb V_1 and its following V_2 are in different clauses as the whole clause of V_2 could be an argument of the perception verb, and this multiclausality makes perception structures disqualified to be SVCs as shown by the sentence of Eastern Kayah Li. In addition, the two verbs in sentence (51) do not form an SVC also for the reason that, as suggested by Solnit, 'the matrix clause and the embedded clause have different polarity' (ibid.).

(51) Mɛ́thʌ [Doʌ phē ka] to
see (name) father go:TH NEG
'[I] haven't seen Doʌ's father come back.'

Solnit (2006, 148), ex.(7)

SVCs that involve verbs meaning 'exceed' are often considered to express comparative and superlative meanings, like sentence (52) in Goemai (Hellwig, 2006, 101).

(52) Kuma f'yer ma ni.
also become.big(SG) surpass 3SG
'And (he) has grown bigger than him.'

Hellwig (2006, 101), ex.(13f)

However, for this comparative and superlative structure, V_1 is usually a stative verb that does not make a cause-effect relationship with V_2 like sentences (22) and (37). What's more, in this situation V_2 sometimes gets grammaticalized as in Cantonese and Tetun Dili (Aikhenvald, 2006a, 27). For these reasons comparative and superlative structures might be considered noncanonical SVCs.

The last noncanonical case is the simultaneous verbs like *date* in sentence (44) and *help*.[10] They do not make the sequential purpose SVC like sentences (48) and (49), and are in the position of intersecting boundary between SVC and some other multiverbal structures. The reason for those cases not to be SVC or to be noncanonical SVCs is that they fail to express a canonical accomplishment, where the subevent1 is usually a process/activity or semelfactive and the subevent2 functions as the telos.

Within this subsection we have analyzed accomplishment as the single event that canonical SVCs express, and decomposed accomplishment into two subevents of various possibilities. In addition, there is another criterion on the conceptual dimension that can be deemed as one characteristic of accomplishment and detected in canonical SVCs, which we will introduce as C-7.

C-7: SVC with force dynamicity transmission > SVC without force dynamicity transmission

This criterion means that a canonical SVC transmits force dynamicity from the initiator to the endpoint that typically goes through a complete accomplishment. Force-dynamic is a theory mainly developed in functional and cognitive linguistics (Talmy, 1976, 2000a; Langacker, 1991, 2008). Croft (2012, pp.198-199) has introduced the force-dynamic model based on the sentence example of 'Sue broke the coconut for Greg with a hammer':

$$Sue \longrightarrow hammer \longrightarrow coconut \dashrightarrow Greg$$

[10] *Date* is interesting in that it can vary according to context either as sequential like in sentence (45b), or as simultaneous like in sentence (45a). This potential variety comes from whether the target event occurs or not as demonstrated by that comparing group.

As Croft has noted, the above diagram 'illustrates three different types of causation in a single event structure: volitional causation (Sue acting on the hammer), physical causation (the hammer acting on the coconut), and affective causation (the broken coconut benefiting Greg)' (ibid.). Among those three causations there is a force dynamicity transmitted from the INITIATOR (here is Sue) to the ENDPOINT (here is Greg). Copley and Harley (2015, 109) have expanded 'force' from physical dimension to conceptual dimension and considered it as '*conceptual entities* that are mapped to *functions* from situations to situations'. Therefore 'force' in this criterion not only refers to physical force embedded in volitional and physical causations, but also refers to conceptual force such as embedded in affective causation. In the above diagram we differentiate the physical force and conceptual force with the solid line and dotted line. Rappaport Hovav and Levin (2001, 787) have suggested that 'the causal chain represented in an event structure is essentially a representation of the event as a series of force-dynamic relations', and given the fact that the other four *Aktionsarten* are simple events that involve no 'series of force-dynamic relations', we can judge this single event structure here as an accomplishment. The accomplishment presented by multiple verbs will make an SVC, which also differs from other multiverbal structures from the perspective of force dynamicity. For this Croft (2012, pp.349-350) has listed the difference between SVC and coordinate structure, with the example sentences from Igbo (Lord, 1975, 28).

(53) a. Ó tì- gbù -rù nwóké áhụ̀.
he hit- -kill -PST man that
'He beat that man to death.'

Lord (1975, 28), ex.(34)

b. Ó tì -rì nwóké áhụ̀ ọ̀kpọ̀, gbú -é yà.
he hit -PST man that blow kill -CONSEC him
'He hit that man and killed him.'

Lord (1975, 28), ex.(33)

According to Croft's argument for the SVC in sentence (53a) there would be a single action (subevent) of *beating* from the initiator *he*, which brings about the result state *die* as indicated by the force dynamicity transmitted to the endpoint *the man*, whereas for the coordinate sentence (53b) there are two independent forces *he bit the man* and *he killed the man* (ibid.). By comparison we can discover that the force dynamicity generated from the single action (subevent1) and the result state (subevent2) would run through the single accomplishment of the SVC; while in the coordinate structure the

two independent forces would suggest two bounded events, somewhat like two irrelevant accomplishments.

As discussed above this criterion of force dynamicity transmission helps to define the boundary of accomplishment. In addition, it can also be used to explain why SVCs with subevent1 of stative verbs like sentences (22) and (37) are so rare. Since a canonical SVC transmits a complete force throughout its arguments, cases where V_1 is a stative verb that involves little dynamicity would not be so common to appear within SVCs.

Moreover, this force-dynamic schema takes instrumental and benefactive subevents into a single event, both of which are often considered as internal verbs of an SVC. For the instrumental case see Hajek (2006) and for the benefactive case see Langacker (2003).

On the conceptual dimension we have discussed the single event expressed by SVC as an accomplishment that can be decomposed into two subevents, and also introduced the idea of force dynamicity that can be transmitted throughout that accomplishment. These findings can be applied to explain some TAM mismatchings among the subparts of SVCs.

Dowty (1979, pp.252-253) has offered a very interesting tense mismatching where 'a future adverbial appears with a past tense verb':

(54) John lent his bicycle to Bill until tomorrow.

Dowty (1979, 252), ex.(34a)

And the reason for that tense mismatching in sentence (54) can be explained by a decomposition analysis where *lent* is decomposed into subpart1 with past tense and subpart2 with future tense.

(55) John caused Bill to have possession of his bicycle until tomorrow.

Dowty (1979, 253), ex.(34a')

Analogically, in theory the telos within an accomplishment can take a tense different from its preceding subevent. Despite the claim that verbs should be of the same tense both within the single event of SVC (Schultze-Berndt, 2000, 36) and macro event (Bohnemeyer et al., 2007), this theoretical assumption of tense mismatching sometimes does occur in an SVC, though the information of tense might be encoded in the form of aspect. Sentence (56) in Ewe is such a case where 'VP_1 and VP_2 are in the aorist interpreted as past, while VP_3 is marked for the habitual interpreted as current motion' (Ameka, 2006, 138).

(56) Daa Ámaví trɔ́ tsɔ́ asi me yi-na ɖé
madam Amavi turn come.from market containing.region.of go-HAB ALL
afé me.
home containing.region.of
'Madam Amavi was returning from the market and going home.'

Ameka (2006, 138), ex.(25)

Another case that suggests tense mismatching would be the purpose SVC such as sentence (57), which might acquire a future adverbial for the unrealized purpose, therefore imparting different tenses for its internal subparts like:

(57) Keoi^{5} gon^{2} faan^{1} lai^{4} wan^{2} jan^{4} ting'yaht heoi^{3} jam^{2}-caa^{4}.
3sg rush return come seek person tomorrow go drink-tea
'He came rushing back to look for someone to go tomorrow for dim sum with.'

Except for the tense mismatching, occasionally verbs within an SVC are found to be of different aspects. Within sentence (58) of Goemai, V_1 is claimed to be in the unmarked aorist form while V_2 occurs in a durative or resultative aspect (Hellwig, 2006, pp.94-95).

(58) Sh'ep ru yi d'yem n-yil.
wood enter(SG) DUR stand(SG) LOC-ground
'The stick has entered (and) stands in the ground.' (i.e. it entered and then stood continuously)

Hellwig (2006, 95), ex.(7b)

For SVCs there does exist TAM mismatching among the internal verbs, but this mismatching is quite rare, especially for tense. The only example we have discovered is purpose SVC, but either for the canonical sequential purpose SVC or for the noncanonical purpose SVC constituted by an accomplishment and the purpose telos, once the purpose verbs take a different tense the corresponding structures would collapse from being a canonical accomplishment. This might be explained by the suspension of transmitted force dynamicity among the constituting subparts, which would in turn argue for the single accomplishment expression within an SVC that transmits the relevant force throughout the whole structure.

Morphosyntactic dimension

Despite the occasional TAM mismatching as discussed in last part, verbs within SVCs from the cross-linguistic perspective tend to take the same values of tense, aspect, mood, modality, illocutionary force, polarity, evidentiality and number, which is especially obvious for synthetic languages as can be indicated by the corresponding morphosyntactic

markers. Therefore on the morphosyntactic dimension we summarize this property into another criterion:

C-8: SVC with the same morphosyntactic markers > SVC without the same morphosyntactic markers

Generally speaking there are three types of morphosyntactic marking for SVC: single marking, concordant marking and optional concordant marking. Single marking refers to the situation where the morphosyntactic marker just appears on a certain component within the SVC. For example, only the first verb takes the number and evidentiality marker(s) in sentence (59) of Paamese (Crowley, 1987, 62).

(59) Samsene mungali vaasi velaase-nV laiane.
Sampson 3sg+R+rip.open split jaw-CONSTRUCT.STATE lion
'Sampson split apart the lion's jaw.'

Crowley (1987, 62).

Notice that the position of this single marking is not fixed. It may go with the first verb as in sentence (59), or may go with the last component, or may appear after the last component of the whole structure (Aikhenvald, 2006a, 43).

Concordant marking means every component receives the marker, and this is even true for negation given the usual claim that 'in all SVCs, negation is marked only once' (Hellwig, 2006, 95). Sentence (60) of Anyi-Sanvi is such a case (Van Leynseele, 1975, pp.191-192).

(60) Cʊ̀á ńjî ákɔ́ ń-^{I}ní.
dog NEG+catch+HAB chicken NEG+eat+HAB
'The dog never eats a chicken.' (lit. catch-eat)

Van Leynseele (1975, pp.191-192).

Sometimes for concordant marking the marker does not go to all of the components but only to some of them, and this is called optional concordant marking. Sentence (61) of Saramaccan is a case of optional concordant marking where the past tense marker *bi* can appear before every verb, or appear once in the SVC with whichever component (Byrne, 1990, 152).

(61) A (bi) féfi dí wósu (bi) kabá.
he PST paint the house PST finish
'He had painted the house already.'

Byrne (1990, 152).

For optional concordant marking there might be the case of 'truncated' marking, where the markings on every component are partially the same. Sentence (62) of Koṇḍa illustrates such a case, as V_1 takes the shortened 'first plural exclusive' maker *-a*, which is a truncated variant of *-ap* that goes to V_2 (Steever, 1988, pp.71-73).

(62) Vā-n-a sū-n-ap.
come-NONPST-1pl.exc see-NONPST-1pl.exc
'We will come and see.'

Steever (1988, pp.71-73).

This morphosyntactic criterion works well for synthetic languages, but might fail sometimes in the case of isolating languages. For example sentence (10) indicates that the two verbs take different number in the predominantly isolating language of Goemai. The morphosyntactic inconformity is also detected in the isolating language of Thai. It has been pointed that components of SVC usually are of the same polarity. However, it is quite common for negation not to cover the whole scope of SVC, as in sentence (63) of Thai (Diller, 2006, 166).

(63) A:w^2 ... doe:n may^2 thu'ng^4.
oh! walk not reach
'Oh my! That's too far to walk.'

Diller (2006, 166), ex.(6)

In sentence (63) *may*^{2} 'not' only negates V_2 'to reach', therefore generating the meaning of 'walking we could not reach it' (Diller, 2006, 166). This sentence might be a further challenge to the negation criterion of clausality for SVC from Haspelmath (2016) as we have introduced in subsection 1.1.2. And this is the same opinion held by Diller, who writes that 'The intrusive negative, it might be argued, converts the simple motion sequence type to a different constructional category emphasizing deontic modality. If this conjecture is correct, then it shows the danger of incautiously applying a negation scope test to such-and-such a construction.' (ibid.)

It should be noted that the morphosyntactic marker sometimes indicates that the verbs are within the same clause, as the evidentiality marker R in sentence (1) shows. However, this does not mean that verbs within the same clause should necessarily constitute an SVC, or at least a canonical SVC. The monoclausal idea indicated by morphosyntactic markers is not an overall criterion for SVC as it generally does not work for isolating languages and might be challenged by some mismatched markers on the

one hand, and violates the criterion of single event sometimes on the other hand. For these reasons this research does not define the criterion of single clause by the indication of morphosyntactic marker, but proposes what monoclausal means for SVCs is that there are no syntactic dependency markers such as coordinator and subordinator on the internal components of SVC, and this criterion should work both for isolating languages and synthetic languages.

Within this subsection we have established 8 criteria along 6 dimensions, and these are comprehensive enough for us to speculate what a canonical SVC should be.

1.2.4 Canonical ideal: canonical SVC and prototypical uses

The criteria proposed in the last subsection can be summarized to describe what a canonical SVC is:

The canonical SVC is a construction of multiple and independent verbs that are serialized into one clause as suggested by no syntactic dependency markers (as well as argument sharing). A canonical SVC is of the intonational property like a monoverbal clause, and of the monopredicative property that together suggest it to be an inseparable unit. Conceptually canonical SVC expresses the single event of accomplishment that can be decomposed into subevent1 of dynamic and atelic events as well as subevent2 of telos with various possibilities, and within that single accomplishment there would be the force dynamicity transmitted throughout the whole structure. Also, canonical SVC is often with the same morphosyntactic markers for synthetic languages.

The above description for canonical SVC is helpful to locate the prototypical uses of SVC. Foley (2010, 98) has claimed that 'the prototypical uses of SVCs cross-linguistically' would be 'motion plus path followed', or 'causing action with immediately result state', or 'simultaneous events performed by the same actor'. However, as the last use violates the criterion of single event, we would exclude it and consider the prototypical uses of canonical SVC as 'motion-path' as well as 'cause-effect' types.

These two prototypical usages of SVC can also be detected from researches of single-event based scholars. Bisang (1995, pp.146-154) has listed verb serialization in broad sense and in narrow sense. The former includes similar cases to Foley's 'simultaneous events' such as the Chinese case *tian'tianr xie xin hui ke* 'write letters and receive callers everyday' (p.146). Therefore we would also exclude this type from prototypical

usages of SVC. The latter includes seven subtypes, among which only 'resultatives' and 'directional verbs' satisfy most of the criteria in our proposed canonical definition, with the others either violating the criterion of independent verbs (like 'tense-aspect-mood markers', 'coverbs', 'causative verbs', and 'conjunctional verbs'), or violating the criterion of construction (like 'lexical juxtaposition' that comes from two synonymous verbs). For these reasons 'directional verbs' and 'resultatives' from Bisang (1995) would be judged as prototypical usages of SVC, and these two types are exactly the 'motion-path' and 'cause-effect' that we have analyzed above.

Most of the example sentences within this chapter belong to these two types, with sentences (19), (20a), (21), (27a), (28), (40), (56), (63) as 'motion-path' and sentence (5), (6), (7), (9), (12), (22), (34), (35), (36), (37), (43), (45a), (46), (50), (53a), (58), (59), (61) as 'cause-effect', though some of them are not so canonical SVCs with kinds of violation on certain criteria.

1.3 Summary and conclusion

Now we can answer those three questions raised in subsection 1.1.2.

1. What does 'single clause' mean for SVC, and can it be applicable both to synthetic languages and isolating languages?

This research considers that for SVC 'single clause' means that there should be no syntactic dependency markers for the constituting verbs, and normally this property can differentiate SVC from other multiverbal structures like coordination and subordination. In this sense 'single clause' works both for synthetic languages and isolating languages. However, there are also occasions when this monoclausal criterion fails to work, such as asyndetic structure like sentence (20b). In this case some other criteria can be applied to compensate, among which the phonological criterion is a common method. In addition, the morphosyntactic criterion can also be used to indicate 'single clause', but this is usually workable only for synthetic languages, and might violate the criterion of single event.

2. What kind of 'single event' is expressed by an SVC on the conceptual level?

Based on analysis of the five Aktionsarten types this research concludes that the 'single

event' expressed by an SVC should be accomplishment. Given the nature of simple event for the other four types, they are not likely to be encoded in a multiverbal structure like SVC. Instead, all the internal verbs within an SVC can express corresponding subevents, which as a whole would make a complex event of accomplishment. This study has further discussed the subevents of accomplishment, and discovered from a cross-linguistic perspective that a canonical accomplishment comes from a dynamic and atelic event like process/activity and semelfactive as subevent1, as well as a telos of various possibilities as subevent2. Moreover, accomplishment typically involves a force dynamicity transmission throughout, which is also a property of SVC at the conceptual level.

3. How to accommodate various criteria to give a definition of SVC?

It is quite likely that one criterion might contradict another, such as a monoclausal structure might contain more than one event. For that problem this research adopts the canonical view to establish very detailed criteria along various dimensions, and defines that a canonical SVC should satisfy the greatest number of criteria. For example, an SVC that both expresses a single event and is monoclausal would be more canonical than an SVC that is only monoclausal. The more criteria a multiverbal structure satisfies, the more canonical that it would be an SVC; on the contrary, a multiverbal structure that violates more criteria would be more likely to deviate from canonical SVC and might become some other kinds of construction.

With those three questions answered and the canonical SVC defined, we have also affirmed that the prototypical uses of SVC should be 'motion-path' type and 'cause-effect' type. This conclusion accords with the two situations of Croft's et al. (2010) revised typological classification for complex event constructions, which will be discussed in next chapter.

Chapter 2

Three developmental phases of cognitive typology

2.1 Introduction

So far cognitive typology has undergone three developmental phases: Talmy's dichotomy classification based on the lexicalization of framing events, Slobin's extending of it into a third way with evidence from motion event, along with Croft's et al. revising it to the investigation on motion situations and non-motion situations from a grammaticalization viewpoint. Throughout those three phases, the focus of cognitive typology is on verb meaning, since it investigates how the information of 'manner-path/result' is encoded by the different kinds of verbal expressions in different languages. This chapter will introduce in detail these three phases and show how they have been applied and how they can be applied to Chinese. Finally we will see that in Chinese these two situations of complex event construction proposed by Croft et al. would mainly correspond to the two prototypical uses of SVC as we have discussed in Chapter 1, that is, 'motion-path' type as well as 'cause-effect' type, which are collectively known as 'manner-result' typology under the revised framework.

2.2 Talmy's Typology

According to Croft et al. (2010), Talmy's initial typology (Talmy, 1975, 1985) is a three-way classification that focuses on the semantic component encoded in the main verb,

and in his latter typological studies Talmy has shifted the focus to how the framing information is encoded and has developed the dichotomy typology (Talmy, 2000a). In his initial three-way classification or in the latter dichotomy typology there are the same four basic semantic components involved: figure, ground, path and manner.

2.2.1 Semantic components and Talmy's trichotomy typology

Croft et al. (2010, 202) have summarized those four basic semantic components as:

(64) a. *Figure*: the entity that is moving or is located at a specific place
b. *Ground*: the entity which acts as a spatial reference point for the motion/location of the figure
c. *Path*: the path of motion of the figure
d. *Manner*: the manner of motion by which the figure moves along the path

Croft et al. (2010, 202), ex.(3)

Talmy's previous main-verb focused typology (Talmy, 1985) considers that one of the semantic components from manner, path and ground is incorporated in the main verb by different languages while the other component (mainly path or manner) is incorporated in an affiliated element known as satellite. Which semantic component is incorporated in the main verb will determine the typological classification of that language. For example, English as in sentence (65a) expresses manner in the main verb, therefore belonging to manner-incorporating classification; Spanish as in sentence (65b) expresses path in the main verb, so that it belongs to path-incorporating classification; Atsugewi as in sentence (65c) encodes ground information such as shape and consistency in the main verb, and for this reason it is considered to be a ground-incorporating language. Here we follow the same typeface from Croft et al. (2010) to have the main verbs in boldface while the satellites in italics.[1]

(65) a. He **ran** *into* the cave.
b. **Entró** *corriendo* a la cueva.
enter.3SG.PST *running* to the cave
'He ran into the cave.'

Talmy (1985, 111).

c. '- w- uh- **st'aq'** -ik: -a
3SG- 3SG- by.gravity lie.runny.icky.material -on.ground -3SG
'Runny icky material [e.g. guts] are lying on the ground.'

Talmy (1985, 74).

[1]This typeface to have main verbs in boldface while satellites in italics will run through the whole thesis for our manner-result typology discussion, except as otherwise noted.

2.2.2 Dichotomy typology and framing events

In his later typological study Talmy narrows the focus down to the semantic component of path and considers it as the core schema (Talmy, 2000a, 218), and this has led to the dichotomy classification based on which grammatical form encodes the path information. Talmy terms the concept of path as *framing*, and the relevant event has been named as the framing event. Accordingly, languages that encode path information by the main verb are grouped into the verb-framed category while languages that encode path information by the satellite are grouped into the satellite-framed category. Talmy claims that 'most Indo-European [languages] minus Romance' are satellite framing (Talmy, 2000a, 222), and the Germanic language of English is a typical example of satellite framing as indicated by sentence (65a), while for the typical example of verb framing see the Romance language of Spanish as suggested by sentence (65b).

It is worth noticing that Talmy's dichotomy discussion on motion event includes not only the above listed nonagentive motion/self-initiated motion, but also agentive motion/caused motion as shown by the comparison at (66), where sentence (66a) is satellite-framed English and sentence (66b) is verb-framed Spanish (Talmy, 2000a, 228).

(66) a. I **rolled** the keg *out of* the storeroom.
b. Saqué el barril de la bodega *rodándolo.*
I **extruded** the keg from the storeroom, *rolling* it.

Talmy (2000a, 228), ex.(5bi)

In fact, motion event is only one of the five framing events that Talmy proposes. The others include aspect, state change, action correlating and realization (Talmy, 2000a, pp.226-278). Given that those other four framing events all deal with non-motion information, they have been labelled collectively as non-motion situations by Croft et al. (2010, 222). It is interesting that the dichotomy classification of satellite-framing and verb-framing for these non-motion situations also involve nonagentive/self-change case and agentive/caused-change case as shown by the comparison between English and Spanish (Talmy, 2000a, 240).

(67) a. *Nonagentive*
English: He **choked** *to death* on a bone.
Spanish: Murió atragantado pro un hueso/proque se atragantó con un hueso.
'He **died** *choked* by a bone/because he choked himself with a bone.'

(Talmy, 2000a, 240), ex.(8a)

b. *Agentive*
English: I **burned** him *to death.*
Spanish: Lo mataron con fuego/quemándolo.
'They **killed** him with fire/[by] *burning him.*'

(Talmy, 2000a, 240), ex.(8b)

With the shift of focus from what semantic component is expressed by the main verb to how the framing event is lexicalized, on the level of grammatical form Talmy transfers his attention from main verb alone to both main verb and satellite, and for the latter he has given a definition as:

> The satellite to the verb...is the grammatical category of any constituent other than a nominal or prepositional phrase complement that is in a sister relation to the verb root (Talmy, 2000a, 222).

Talmy considers satellite can be 'either a bound affix or a free word', and for this Chinese 'verb complements', together with English verb particles, German separable and inseparable verb prefixes, Latin or Russian verb prefixes... are regarded as the satellites, and therefore Chinese is classified as a satellite-framed language like English by Talmy (2000a, 222). However, labelling Chinese as a satellite-framed language is problematic since the so-called 'verb complements' behave quite differently compared with those particles and affixes, and we will discuss further in section 2.3.

The main criterion for Talmy's dichotomy classification is which grammatical form (main verb or satellite) encodes the framing event such as path. Moreover, some scholars have also investigated functions of the other semantic components for the comparison between verb framing and satellite framing from the perspective of language usage. For example Slobin (1997a) has proposed that satellite-framed languages (hereafter shortened to S-languages) contain more types of manner verb than verb-framed languages (hereafter shortened to V-languages), and S-languages also contain more ground information than V-languages.

2.3 A third way: Challenge from SVC on motion event

Talmy's latest typology (Talmy, 2000a) focuses on how the framing event is lexicalized and dichotomizes world wide languages into satellite-framed type like English and verb-framed type like Spanish as introduced in section 2.2. These two types are asymmetrical for the reason that within the relevant languages there is clearly a main verb that can be used independently and an affiliated satellite that is attached to the main verb.

Moreover, there are also symmetrical cases where both of those two elements can be used independently such as in serialized languages, and for this Slobin (2006) has suggested a third way, namely equipollently-framing. Nevertheless, this equipollently-framing argument has mostly ignored the non-motion situations and mainly focuses on motion event by its following scholars.

2.3.1 Slobin's equipollently-framing proposal

As a symmetrical structure, serial verb construction contains two independent verbs (for this please note the lexical dimension that we have proposed for canonical SVC in Chapter 1), which makes a challenge to Talmy's main verb and satellite idea for the reason that both of those two independent components within SVC can be regarded as the main verbs.[2] Due to this challenge Slobin (2006) has expanded Talmy's dichotomy typology to include an equipollent type for motion event, in which 'both path and manner have roughly equal morphosyntactic status' through statistical analysis (p.64), and accordingly languages of this equipollently-framing characteristic would be termed as equipollently-framed languages (abbreviated to E-languages). Actually Slobin's statistical methodology can date back as far as to his 'frog story' study (Slobin, 1997b), which determines that his typology researches, including this equipollently-framing third way, mainly dwell in the domain of motion event. As a consequence, most of the following equipollent discussions on Chinese typology are made with evidence from motion event analysis only.

Chen and Guo (2009) have analyzed the actual usage of manner verb and path verb for motion events in contemporary Chinese novels. They discover that SVC forms the main percentage for motion event expression in written Chinese (62.31%), while the percentage of 'manner verb only' token is roughly the same as the percentage of 'path verb only' token.[3] Taking SVC as well as single motion verbs together, manner

[2] An example of this can be found in Chinese SVC, for which there are both arguments that the manner-encoding V_1 should be considered as the main verb (Li, 1997) or the path-encoding V_2 should be considered as the main verb (Tai, 2003). Talmy (2009) has proposed certain criteria for the identification of the main verb, yet we will show that those criteria have some deficiencies in subsection 2.3.2.

[3] In their 2009 paper Chen and Guo consider the 14.81% of 'manner verb only' case as including subcases of 'manner plus deictic' and 'manner only', while the 22.12% of 'path verb only' case as including subcases of 'path plus deictic', 'path plus path', and 'path only'. However, in their later paper (Guo and Chen 2009) the subcase of 'path plus path' is excluded from the situation of 'path verb only', which would lead to the path only construction having an even more slender lead over manner only constructions and make a more equal weight of 'manner only' and 'path only' types (14.81% vs. 18.27%).

verbs and path verbs show a nearly equal statistical result (45.3% vs. 53.1%) that would stand in between the corresponding manner-path comparisons of satellite-framed English (53% vs. 27%) and verb-framed Turkish (34% vs. 59%).[4] These data, as analyzed by Chen and Guo, 'suggest that Chinese may indeed be an equipollently-framed language in describing motion event' (p.1760). Moreover, Chinese takes a middle position for the types of manner verb (41) compared with that of S-framed English (64) and V-framed Turkish (26), and this middle position also works for clauses with the ground component (termed as plus-ground clauses[5]) as it is 83% in Chinese while 96% in the S-language of English and 81% in the V-language of Spanish.[6] All of these would rebut Talmy's classifying Chinese into the satellite-framing category but argue for an E-framed feature for this language. However, Chen and Guo's 2009 study for written Chinese only investigates self-initiated motion and excludes caused motion, which means it is not a comprehensive interpretation of Talmy's motion event typology.

In their later study of oral Chinese Guo and Chen (2009) count in the caused motion as well, and investigate the adult Mandarin Chinese speaker's speech characteristics. This study shows that for adult Chinese speakers the number of manner tokens is equal with that of path tokens, and again, in narrative Chinese SVC is in the majority for motion expressions. These would indicate that Mandarin Chinese performs neither like satellite-framed language nor verb-framed language, but somehow 'sits right in the middle' (p.205). In addition, the more manner type than path type[7] seems to show a satellite-framing feature for Chinese while the much lower frequency of plus-ground clauses[8] would suggest the verb-framing characteristic for this language. However, 'putting things together' this oral Chinese investigation concludes that 'Mandarin Chinese indeed belongs to the third type, the equipollently-framed language' (Guo and

[4]It should be noted that the statistical data for Chinese come from Chen and Guo (2009) while those for English and Turkish come from Özçalışkan and Slobin (2003).

[5]This plus-ground clause is defined as 'expressions providing ground information in the same clause with the motion verbs' by Chen and Guo (2009, 1757), and the encoded ground information includes source (*cong dong li* 'from the hole'), medium (*pao guo shulin* 'run through the forest'), and goal (*zuan jin dong li* 'squeeze into the hole') (ibid.).

[6]Likewise the data for Chinese come Chen and Guo (2009), and the English and Turkish comparison comes from Özçalışkan and Slobin (2003), while the English and Spanish data come from Slobin (1996).

[7]According to Guo and Chen (2009, 200), '71.5% of an adult's motion expressions contain both Manner and Path verbs', and '12.9% are Manner only constructions' while '10.6% are Path only constructions'.

[8]Guo and Chen (2009, 205) conclude that 'only 55.2% of each Mandarin-speaking adult's motion expressions included ground information', which is much lower than the percentages of plus ground clauses both in the S-language of English (82%) and in the V-language of Spanish (63%). Data from English and Spanish are quoted from Slobin (1996).

Chen, 2009, 205).

There are also E-framed relevant discussions on the diachronic level (Peyraube, 2006; Shi and Wu, 2014). Both of these studies agree that ancient Chinese is a verb-framed language and there is a typological shift towards the satellite-framed feature. However, in contrast to Peyraube's conclusion that this typological shift has been achieved around the 10^{th} century due to grammaticalization, Shi and Wu (2014, 1249) take the positive attitude towards an on-going typological evolution since there is still the 'co-existence of V- and S-framed motion event constructions in modern Chinese'. Moreover, even if acknowledging that parameters in modern Chinese 'are different from both typical verb-framed languages and typical satellite-framed languages', Shi and Wu hold the opinion that 'there is little justification for classifying (modern) Chinese as an equipollently framed language' but favour the S-framed claim mainly for two reasons. The first reason for Shi and Wu's objection to the equipollent idea comes from two of the contradictory performing properties against E-framed features, to be specific, the S-framed performing of manner types and the V-framed performing parameter of plus ground. Shi and Wu (2014, pp.1245-1246) argue that for the E-framed language its parameter values should 'lie between those of V- and S-languages' and for this they take a more strict view on the analysis result from Chen and Guo (2009). For the parameter of manner verb Shi and Wu consider 41 types in modern Chinese to be closer to the 64 in the S-framed English and farther from the 26 in the V-framed Turkish. Therefore manner verb type would suggest more of an S-feature for modern Chinese. As for the parameter of ground Shi and Wu argue that the percentage of plus-ground clauses in modern Chinese (83%) is similar to that of Spanish (81%) and therefore shows more of a V-framing feature. This V-framing feature from ground has also been considered as a strong tendency inherited from ancient Chinese as diachronically there exists an incremental rise for the ground information within the motion clause, evolving from 61% in old Chinese to 83% in modern Chinese (Shi and Wu, 2014, 1267), a figure that still lags far behind that of S-framed English (96%). With these two contradictory properties Shi and Wu regard the E-framed claim for modern Chinese to be unconvincing even though they agree with Chen and Guo that the nearly equal percentages between manner tokens (45.3%) and path tokens (53.1%) show an even frequency between these two verbs (Shi and Wu, 2014, 1264). The second reason for Shi and Wu to argue for an S-framing feature

of modern Chinese comes from the diachronic changes of motion verbs, namely the incremental increase of manner verb types and the incremental decrease of path verb types. Through their diachronic investigation Shi and Wu discover that the manner verb types increase from 26 in old Chinese to 41 in modern Chinese, based on which they argue that it would 'lead to the increase of the percentage of S-type construction in Chinese' and then 'strengthen the tendency of Chinese as an S-language' (Shi and Wu, 2014, pp.1260-1261). Moreover, this incremental increase also reflects on the percentage of manner verb tokens, from 21.3% in old Chinese to 45.3% in modern Chinese (p.1264). As for the path verb, the number of its types decreases from 23 in the old language to 13 in its modern counterpart (p.1262), and accordingly the percentage of path verb tokens falls from 76.2% at the beginning to 53.1% in the end (p.1264).[9] The high percentage of path verb tokens and low percentage of manner verb tokens would suggest the priority of path depiction in old Chinese and therefore indicate a V-type feature for this ancient language (p.1265). However, this typological feature gets neutralized by the even frequency of manner verb and path verb in modern Chinese through evolution, a reason referred by Chen and Guo to consider modern Chinese as an E-framed language. But Shi and Wu mainly focus on the shrinkage of path verb types, and consider its number of only 13 in modern Chinese should make it a closed class that would disqualify path verb to be the main verb (p.1274) according to the properties from Talmy (2009). For the main verb properties we will discuss more in subsection 2.3.2.

Guo and Chen (2009, 197) have summarized the two parameters that are mainly adopted for Chinese typology analysis: (1) comparison of the proportions of manner verb tokens and path verb tokens along with their type numbers, and (2) proportion of plus ground information within all the motion clauses. And from our review so far we can see that while the first parameter argues for an E-framing feature for modern Chinese (with certain disagreement from Shi and Wu (2014)), the second parameter tends to classify this language into the V-framed camp. Actually between these two parameters the first one should attract more attention, as it deals with the main verb status and therefore would determine the typology for Chinese: manner as the main verb will make Chinese S-framed; path as the main verb V-framed; or if both manner

[9]It should be noted that in Shi and Wu's research the data for modern Chinese, including numbers of manner verb types and path verb types, as well as percentages of manner verb tokens and path verb tokens, are all quoted from Chen and Guo's (2009) study.

and path can be regarded as main verbs, then Chinese would belong to the E-framed category. For the main verb status Talmy (2009) has established several properties, and now we shall move to the relevant introduction.

2.3.2 Properties of main verb and their deficiencies

Talmy (2009, 398, 400) acknowledges that some instances of motion SVC in Chinese are of equipollent framing nature such as in sentence (68), where both of those two verbs can be used independently while maintaining the same meanings as used on their own.

(68) a. 他 走 进 了 公园。
Ta zou jin le gongyuan.
he walk enter ASP park
'He walked into the park.'

(Talmy, 2009, 398), ex.(3a)

b. 他 进 了 公园。
Ta jin le gongyuan.
he enter ASP park
'He entered the park.'

(Talmy, 2009, 398), ex.(3b)

However, Talmy considers to judge some other path constituents as main verbs unconvincing (p.390) and therefore establishes 6 properties for the main verb that can be summarized as:

(69) a. Morphology
if it takes inflections or clitics.
b. Syntax
if it functions as the head.
c. Co-occurrence patterns
if its presence is required more widely spread.
d. Class size
if it has more morpheme members or is open-class.
e. Phonology
i. if it has a greater phonological length.
ii. if it covers a greater range of phonological length or pattern.
iii. if it includes a greater portion of phonemic inventory.
f. Semantics
i. if it has more substantive content, greater specificity, and more conceptual components.
ii. if its meaning can trail off into more outlying conceptual areas but is less stereotyped.
iii. if it contributes more of the 'actuation' to the proposition.

adapted from Talmy (2009, 391), ex.(1)

Turning back to the SVCs in Chinese, Talmy argues that V_2 of path within the motion SVC tends to be decoupled from the main verb function and therefore can acquire a divergent meaning compared with the corresponding verb when used on its own (marked as V_0) (Talmy, 2009, 399). Talmy's evidence comes from the different meanings of *guo* used respectively as V_2 and V_0 in Chinese, where in the former case it is a common path while in the latter case it tends to mean 'passing to one side in a succession of movement being observed from some distance by someone else' (Talmy, 2009, 398). For this Talmy (ibid.) has offered the example sentences in (70).

(70) a. 他 走 过 了 公园。
Ta zou guo le gongyuan.
he walk pass ASP park
'He walked past/across the park.'
(Talmy, 2009, 398), ex.(4a)

b. 他 过 了 公园。
Ta guo le gongyuan.
he pass ASP park
'He was observed to pass the park as part of a longer route.'
(Talmy, 2009, 398), ex.(4b)

This divergent meaning of V_2, as Talmy continues to claim, is also reflected in that it can suggest something aspectual (pp.399-400), which, once it gets further grammaticalized, can turn into a pure 'experiential' aspectual marker as sometimes V_2 of *guo* might indicate. However, we would argue that V_2 within an SVC necessarily encodes certain aspectual meaning for it is prototypically the telic achievement subevent that can bound the whole accomplishment event of SVC (for this recall subsection 1.2.3 in Chapter 1). As long as V_2 does not grammaticalize into a pure functional marker, it cannot be denied that the aspectual flavour is of the same meaning with its corresponding V_0 as sentences (68) have indicated. Moreover, that seeming divergence between V_2 and V_0 for *guo* in sentence (70) might come from the ground: the park is definitely a large enough place for V_1 of 'walking' to continue, with V_2 of 'pass' 'simply indicating where the walking takes place' in Talmy's words (p.399). And this divergence can be diminished by a smaller or perhaps narrower ground such as '(run) pass the finishing line'. So that we can conclude that Talmy's argument on the divergence between V_2 and V_0 is not convincing: it either comes from the ground but not the verb itself, or is due to the aspectual meaning that is highlighted within an accomplishment SVC, and for the latter the same fulfilment of aspectual flavour might also be perceived within a

telic achievement V_0 as can be suggested by sentence (68b).

Meanwhile, certain **deficiencies** can be discovered on the application of those properties in (69). First, the credibility of the set of properties is weakened by the so-called phenomenon of 'split system' in certain languages (p.391). For example, according to Talmy (p.392) the first three factors of (69) argue for the main verb status of *entró* and the satellite status of *flotando* in the Spanish sentence of *La botella entró flotando a la cueva* (The bottle entered floating to the cave), but properties of (69d) and (69f) would entail an opposite conclusion with similar path morphemes (the main verb in Spanish) of a smaller size as well as a more stereotyped semantic meaning. This deficiency therefore at least makes the main verb status of motion situation within V-framed languages contradictory. Talmy tries to make up for it by claiming that those properties of (69) are meant to address not only motion situation but also non-motion situation as those properties 'are on purpose formulated generically, not in terms of Motion or any of its components such as Path or Manner' (pp.392-393). However, this does not help and would generate another deficiency.

Secondly, application of those properties to non-motion situations would make Talmy's main verb judgment in serialized language vulnerable. Talmy's principal argument for the main verb status within SVC relies on property (69d) of class size (p.396). This is definitely true for the motion SVC in Chinese, since there are many more manner types (41) than path types (13) in modern Chinese as has been investigated by Chen and Guo (2009, 1757), and this is also the main reason for Shi and Wu (2014, 1261) to conclude that modern Chinese should belong to S-framed type. However, turning to the non-motion situations like the other prototypical usage of cause-result SVC, we are more likely to get a completely different result: theoretically speaking both V_1 and V_2 within the cause-result SVC are of open class, and the types of V_2 that encodes the result subevent might even outnumber that of V_1 with the noncanonical elements such as adjectives and adverbials being counted in (for this recall the lexical dimension of canonical SVC in Chapter 1). Therefore Talmy's main verb properties run into a dilemma: if restricted only to motion situation, then they work well for S-framed languages but would encounter the 'split system' problem for V-framed languages; that problem might be relieved with an expansion onto non-motion situation, but this would make application of those properties to serialized languages troublesome. Accordingly

the S-framed claim from Shi and Wu (2014) might be applicable to motion situations, but it cannot make an overall analysis for Chinese typology with investigation of non-motion situations omitted.

Last but not least, those properties are raised introspectively with sparse linguistic evidence. For this Guo and Chen (2009, 195) get to the heart of the methodological issue and argue: 'several of Talmy's criteria have to be determined by statistical data found in actual language use, rather than by the researchers' native intuition'. With this spirit we will seek the main verb status in the later chapters through statistical analysis, when there still exists the difficulty to meditate whether V_1 or V_2 should be considered as the main verb.

2.4 The revised manner-result typology from Croft et al.

This revised typology is proposed by Croft et al. (2010) and can be regarded as a reaction to its preceding second phase in that it turns away from the narrowed motion typology discussion and turns back to Talmy's 2000 motion and non-motion situations. What's more, this revised typology has two salient features: first, it is a cross-linguistic study that involves languages of different families to include additional types; second, it is carried out under a grammaticalization viewpoint with evidence from the cross-linguistic comparison. However, these two features also have certain problems. For example, some of the additional types within the revised framework are too broadly defined and therefore require more specific subclassifications; in addition, we deem that a cross-linguistic comparison can hardly provide the complete evolutionary evidence for a grammaticalization chain, as what it provides is only some fragmentary evidence from individual languages for certain historical steps. Therefore this revised manner-result typology needs to be further adapted before it can be applied to the study of Chinese.

2.4.1 Introduction to the revised typology

Croft et al. (2010, pp.203-204) reemphasize that Talmy's typology includes not only motion event but also events with resulting states of all types. Following Levin and Rappaport Hovav (2005), Croft et al. term the framing event as *result* and the other event component as *manner*. So now in this revision Talmy's five types of framing

event have been simplified into the MANNER-RESULT typology,[10] which mainly covers two subtypes: motion situations such as the comparison between English (sentence (66a)) and Spanish (sentence (66b)), as well as non-motion situations of resultative subtype (both nonagentive and agentive) such as the English and Spanish comparison in (67). Actually this second subtype would quite often embarrass Talmy's S-framed and V-framed claims for certain languages, for example Talmy (2000a, pp.240-241) acknowledges that English shows a 'parallel system of conflation' for the non-motion situation in that it can be idiomatically both satellite-framed and verb-framed at the same time, as indicated in sentences (71) and (72).

(71) a. He **choked** *to death* on a bone.

Talmy (2000a, 240), ex.(8a)

b. He **died** from *choking* on a bone.

Talmy (2000a, 241).

(72) a. I **burned** him *to death*.

Talmy (2000a, 240), ex.(8b)

b. I **killed** him *by burning him*.

Talmy (2000a, 241).

In addition, in sentence (73) Croft et al. (2010, 211) have supplemented a counterexample to the putative verb framing Spanish from Aske (1989, 3).

(73) El libro **deslizó** *hasta* el suelo.
the book **slide**:3SG.PST *towards* the floor
'The book slid down to the floor.'

Aske (1989, 3).

With the phenomenon of 'parallel system of conflation' being rediscovered, in this third phase cognitive typology has somewhat shifted its attention away from S-framed or V-framed argument and gained two new features, the first being a more inclusive typological classification on the basis of cross-linguistic comparison. Now Croft et al. have extended Talmy's dichotomy into a four-category classification (p.208):

(74) a. Verb framing (VF)
b. Symmetrical
  i. Coordinate (CD)
  ii. Serial
  iii. Compounding (CP)
c. Satellite framing (SF)
d. Double framing (DF)

Croft et al. (2010, 208), ex.(31)

[10]So far among Talmy's five types of framing event, we have introduced the type of motion event, and the other four types will be introduced in Chapter 5.

This expansion can cover more phenomena from various languages. For example within the symmetrical category compounding has been defined as a structure in which 'the two forms are morphologically bound or at least more tightly integrated than the serial strategy', and at the same time both of its internal components may still be able to occur as verbs in the language (p.207). Except for compounding, coordination is also considered as a symmetrical strategy that can express this *manner-result* complex event. Moreover, there is the double framing construction in which 'the path or framing expression is expressed twice, once as a detached satellite and once as part of the verb' (Croft et al., 2010, 208). This double framing has been treated as non-symmetrical for the reason that the framing information is 'encoded partly in the verb form and partly by a satellite' (ibid.). Sentence (75) in Russian has been quoted from Talmy (1985, 105) as showing this double framing feature.

(75) Ja **vy-** bežal *iz* doma.
I **out-** ran *from* house:GEN
'I ran out of the house.'

Talmy (1985, 105).

On the basis of cross-linguistic comparison Croft et al. have proposed the formal scale for the degree of morpho-syntactic integration (p.220):[11]

(76) **double framing, satellite framing**<verb framing, compounding<*coordination*

Syntactically speaking, coordination is of the lowest integration degree in that it contains two main predicates within two separate clauses respectively for manner and result; verb framing and compounding are of intermediate integration degree as the manner is encoded in a likely adverbial and/or bounded form that cannot stand on its own; satellite framing and double framing are of the highest integration degree for the reason that the result encoding element such as adposition for the former (sentence (73)) and affix for the latter (sentence (75)) is a 'paradigmatically restricted form' and 'least like a separate clause' (pp.221-222). Croft et al. have also provided some conceptual evidence for this morpho-syntactic integration degree, suggesting that 'more typical or natural process + result combinations in complex events will be encoded in more highly integrated morpho-syntactic constructions' (p.225).

The expanded typological classification in (74) along with the morpho-syntactic integration degree in (76) clearly belong to the synchronic domain, and Croft et al. further

[11] Various degrees are indicated by different typefaces: bold means higher, roman means intermediate, and italic means lower.

try to trace the reason of (76) back to two diachronic grammaticalization processes as in (77), which is the second feature of this revised typology:

(77) a. Coordination>Serialization>Satellite framing>Verb-Satellite fusion
b. Coordination>Verb framing>Verb-Adverb fusion

Croft et al. (2010, 226), ex.(95), ex.(96)

According to the formulas in (77), Croft et al. (2010, 226) suggest that 'serial constructions probably arose via the grammaticalization of asyndetic coordination', and certain verbs, such as the deictic morpheme *wang* in Mandarin Chinese, may lose their independent usage (formerly as a verb meaning 'go') and become a satellite (now as a satellite/preposition meaning 'toward') through further grammaticalization. We shall discuss the questions of how in Mandarin Chinese SVC comes into being and further develops in Chapter 6.

2.4.2 Problems of the revised typology

So far we have introduced the revised typology along with its two features of additional types and diachronic grammaticalization. However, each of those two features has its own problem as mentioned earlier.

First, we think the term '**compounding**' in Croft's et al. framework is too broad and needs more detailed analysis. The strategy of verbal compounding within the additional types, as far as we can tell, includes three sub-cases.

The first sub-case of verbal compounding in this revised typology is illustrated by the Kiowa example in sentence (78), where it is 'the combination of a path component ('reach') and a deictic component ('come'), both of which may occur as verbs in the language' (Croft et al., 2010, 207).

(78) ɔ̀:pàl sép cándé -a: nɔ̀ pàhi: bà-t^{h}adáy.
nearer rain reach -come and.DS clearly get.wet.ASP
'The rain is coming closer and it is clear we will get wet.'

Watkins (1984, 179).

In addition, there is also the kind of aspectual compounding (CPasp) where it is the perfective prefix compounded to a main verb such as in Bulgarian (p.216).

(79) Te go *za-* **streljaxa**.
they him *ASP-* **shoot:AOR**
'They shot him [dead].'

Croft et al. (2010, 216), ex.(66)

The last sub-case is the verbal compound from Japanese, where two verbs are either linked by the *i*- marker or the *te*- marker:

(80) a. Watashi wa ie ni **kake- -konda**.
I TOP house to **run- -go.into**:PST (*i*-compound)
'I ran into the house.'

Croft et al. (2010, 218), ex.(79a)

b. Watashi wa ie ni **hashitte- haitta**.
I TOP house to **run- -go.into**:PST (*te*-compound)
'I ran into the house.'

Croft et al. (2010, 218), ex.(79b)

Conceptually speaking, the sub-case examples of Kiowa and Japanese do not have much difference from SVC as we have analyzed in Chapter 1, especially the so called *i*-compound and *te*-compound from Japanese,[12] since the two kinds of Japanese verbal compound share the conceptual similarity with SVC in that the internal V_1 is a typical process/activity ('run') and the internal V_2 is a typical achievement ('go.into'), and together these two internal verbs constitute the single event of an accomplishment. A similar idea is held by Nishiyama (1998, 175), who suggests from the perspective of Minimalism framework that there is 'a fundamental structural similarity' between serial verb construction and V-V compounds in Japanese. Maybe the only difference between the Japanese verbal compounds and our proposed SVC is that the former use kinds of linking markers between their internal components, and for this reason we will maintain the term of V-V compounds for the Japanese multi-verbal structure in our research.

A more severe problem is the classification of aspectual compounding. Despite the fact that in sentence (79) the main verb 'contains both the encoding of manner or process and the encoding of the result' (Croft et al., 2010, 216), it cannot be denied that aspectual compounding is 'technically satellite framed', since 'the perfective aspect prefixes cannot be main predicates on their own' (ibid.). And this satellite-framing nature of aspectual compounding clearly violates the presupposed symmetrical feature for compounding as indicated in (74). Therefore aspectual compounding should be moved from the classification of symmetrical and should be adapted into the classification of satellite framing, as we will do later in Chapter 3.

[12] As in the example of Kiowa where it is constituted by a path verb and a deictic component, we will treat it as a (non-canonical) case of SVC according to SVC research traditions, as readers will see later in Chapter 4.

Secondly, the two **grammaticalization chains** in (77) can hardly be supported by a cross-linguistic investigation as each of the languages only provides fragmentary evidence on certain historical periods. For those two processes the so-called separable prefix constructions from Dutch might support the grammaticalization from satellite framing to verb-satellite fusion in (77a): the Dutch path morpheme is a classic satellite in the simple or present circumstances without any auxiliary but will become a prefix when it is used with an auxiliary (Croft et al., 2010, 227). However, this is the only intra-linguistic evidence that Croft et al. provide for the final grammaticalization step in their proposed chain (77a), and what has been offered for other steps are mainly fragmentary evidence from cross-linguistic descriptions with those languages belonging to different families.[13] And this, we would point out, can not provide strong argument for the proposed grammaticalization chains. Instead, testing of a proposal on grammaticalization requires a complete diachronic investigation of certain language or languages within the same family, and for this our research will focus on the long-history featured Mandarin Chinese. However, before going further we need to summarize the three phases of cognitive typology reviewed so far, and propose our relevant research questions.

2.5 Summary and research questions

Throughout those three phases we can find two main changes for cognitive typology. The first is that it oscillates between multiple situations and single situation for the investigation object. Talmy has listed five framing events, among which Slobin only focuses on the motion type, and finally Croft et al. return to the multiple event scope yet with a simplification of those five events into the manner-result typology that contains motion situations and non-motion situations. The second change is that there is an expansion of the typological classifications. Talmy's typology is a dichotomous one that includes satellite-framing and verb-framing classifications, upon which Slobin has added the third type of equipollently-framing, while Croft et al. further amend that E-type into the symmetrical strategy that covers three subtypes (coordinate, serial, and

[13] One example as noted above, is that the grammaticalization process from serialization to satellite framing is exemplified by Mandarin Chinese (for this recall the example of *wang* that changes its meaning from 'go' to 'toward' as we have mentioned in subsection 2.4.1), however, it is clear that Chinese and Dutch belong to different language families, and this would make Croft's et al cross-linguistic evidence for (77a) not so convincing.

compounding), and complement double-framing as the fourth classification. With those developments of cognitive typology as well as corresponding changes there emerge new research questions for Chinese.

Since the acknowledged S-framed English can employ a V-framing structure (see sentences (71b) and (72b)) and the acknowledged V-framed Spanish can employ an S-framing structure (see sentence (73)), it is quite natural to ask whether Mandarin Chinese can also use multiple strategies to encode the relevant manner-result information. If yes, then what is the most typical feature among those various strategies: satellite-framing as suggested by Talmy, equipollently-framing as suggest by Slobin, or serial as suggested by Croft et al.? Therefore the first research question can be raised as: What is the prototypical characteristic for modern Chinese under the expanded manner-result framework at the synchronic level?

On the diachronic level Shi and Wu (2014) have investigated the evolution of motion expressions in ancient Chinese, and concluded that Chinese demonstrates a typological shift from V-framing to S-framing. However, that conclusion is only tentatively workable for the motion situation where the path verbs show a decreasing number of types according to the main verb properties proposed by Talmy (2009). One gap in Shi and Wu's discussion is that they only cover verbal constructions ('manner + path', 'manner' and 'path') but leave out some of the strategies in (74) such as coordination and double framing, which makes their conclusion for motion expression less convincing. Another gap is that since the manner-result cognitive typology includes not only motion situations but also non-motion situations, without investigation of the latter the diachronic research cannot make an overall claim. This therefore produces our second research question: What is the evolutionary profile of ancient Chinese under the expanded manner-result framework on the diachronic level? And this question also fills the gap in Croft's et al. diachronic investigation, that is, a complete diachronic research on Chinese can verify or partially verify their grammaticalization chains as in (77).

Those two research questions should make a comprehensive typological discussion for Chinese, both at the synchronic level and the diachronic level under the expanded classification of the manner-result typology. And hopefully through the diachronic discussion we can find the historical reason for the typological characteristic of modern Chinese as well.

2.6 Conclusion

In this chapter we have reviewed the three developmental phases of cognitive typology, which has been simplified into the manner-result framework that covers motion situations and non-motion situations, and has acquired two new features: an expanded classification and a grammaticalization viewpoint. Among those three phases Chinese has been considered as S-framed by Talmy, E-framed by Slobin, and a particular symmetrical strategy of Serial by Croft et al. Therefore at the synchronic level we need to search for the most dominant type as the prototypical feature of Mandarin Chinese typology. In addition, on the diachronic level there needs a comprehensive investigation of cognitive typology for ancient Chinese. Researches both at the synchronic level and the diachronic level should be carried out under the expanded classification that covers motion situations and non-motion situations, and those two situations would mainly correspond to the motion-path domain and cause-effect domain, the two basic domains of prototypical SVC usages as we have suggested in Chapter 1.

Chapter 3

Methodology

3.1 Introduction

In Chapter 2 we reviewed the three developmental phases of cognitive typology, which as has been concluded in Chapter 2, would lead to two research questions: the prototypical typology feature of modern Chinese at the synchronic level and the evolutionary chain of ancient Chinese at the diachronic level. For those two questions this chapter introduces the methodology. In section 3.2 we will apply the revised typology of Manner-Result lexicalization patterns onto Mandarin Chinese, with certain adaptations of the typological framework. Section 3.3 introduces how data can be collected both within modern Chinese and ancient Chinese, and section 3.4 offers a sample data analysis to show how the analysis is carried out.

3.2 Application of the revised typology to Chinese

As reviewed in Chapter 2, the latest cognitive typology has been revised into Manner-Result lexicalization patterns by Croft et al. (2010), and for lexicalization Brinton and Traugott (2005, 18) have suggested that this term covers two ideas: the synchronic 'lexicalization pattern' on the coding of conceptual categories, and the diachronic definition of 'adoption into the lexicon' or 'falling outside the productive rules of grammar'. This research mainly focuses on the former kind of 'lexicalization patterns' of manner-result information in Mandarin Chinese for the purpose of cognitive typology research.

In Chapter 2 we introduced the revised four-classification framework from Croft et al. (2010, 208), and here we repeat it as (81). In this section we will analyze and

apply those four classifications to Mandarin Chinese in turn.

(81) a. Verb framing (VF)
b. Symmetrical
i. Coordinate (CD)
ii. Serial
iii. Compounding (CP)
c. Satellite framing (SF)
d. Double framing (DF)

Croft et al. (2010, 208), ex.(31)

3.2.1 Verb-framing structures in Chinese

With **verb-framing** type referring to the phenomenon that the result information is encoded in the main verb while the manner information is encoded in an affiliated satellite, we can find something similar in Chinese. To be specific, the converb as well as some of the alternative manner expressions seem to be manner denoting satellites in that they cannot be used independently. And their combination with some result denoting verbs can result in the verb-framing structures. In Chapter 1 we have treated converb as the property-describing element that subordinates to the main verb, and pointed out that converb could be properly translated as equal to the present participle in English. Hsiao (2009, 9) has revealed that 'V_1-*zhe* V_2' can be considered as the ***converb construction*** in Chinese. This construction shows a V-framing characteristic for the self-initiated motion as in (82), as *pao-zhe* 'running' cannot be used by itself but has to be affiliated to its following main verb *jin* 'enter'.[1]

(82) 我 付 清 车 费，就 跑 着 进 了 大 门。
Wo fu qing che fei, jiu *pao-zhe* **jin** le da men.
I pay off taxi fee, then run-CONV enter ASP main entrance
'After paying the taxi fee, I ran into the main entrance.' (lit. After paying off the taxi fee, I entered the main entrance running.)

(《读者》*Du Zhe* 'Readers')
cited from PKU corpus: http://ccl.pku.edu.cn:8080/ccl_corpus/

As a common idea in motion event discussions, ***alternative expression of manner (AEM)*** is often defined as non-verbal element used to 'encode manner of motion, thus

[1]Notice this V-framing characteristic of converb construction mainly works for self-initiated motion in Chinese, but for caused motion the converb construction would not normally apply except for some very colloquial usages such as 'qiu *ti-zhe ti-zhe* jiu **jin** le: ball *kick-zhe kick-zhe* conj. **enter** ASP: The ball has entered (the goal) through on-and-on kicking'.

compensating for the relative difficulty of encoding both path and manner in verbal constructions', especially for V-type languages (Özçalışkan and Slobin, 2003, 265). Shi and Wu (2014, pp.1254-58) have made an application of such AEM to Chinese study, towards which they particularly argue that such AEM 'expresses an action but not motion', therefore should 'be separated from the event referred to by the following motion verbs' (p.1256) by referring to the example sentence:

(83) 叔孙 [...] 捉 发 走 出。
Shusu [...] zhuo fa zou chu.
Shusu [...] hold hair run exit
'Shusun ran out with hair held in his hand.'

(《左传 • 僖公二十八年》)
(*Zuo Zhuan • Xigong the 28th year*)
cited from Shi and Wu (2014, 1257), ex.(23)

For sentence (83) Shi and Wu acknowledge that there are both manner *zou* 'run' and path *chu* 'exit'. Moreover, they consider *zhuo fa* 'holding hair' as an AEM for the reason that it extends 'the manner information of the latter event' (p.1257). However, recalling the initial function of AEM from Özçalışkan and Slobin (2003), we can find that its purpose is to compensate for the difficulty of encoding manner within a verbal construction, therefore we doubt the feasibility of considering an extra action expression as AEM when both manner and path are available.

In this research we will comply with the definition of AEM from Özçalışkan and Slobin (2003), which means that AEM should only refer to the non-verbal expression of manner that leads to a result, and this 'AEM + result' construction satisfies the criterion of V-framing lexicalization pattern because the non-verbal AEM is affiliated to the following result verb and cannot be used on its own. In the following chapters of data analysis we will expand the types of AEM based on the classification from Özçalışkan and Slobin (2003): adverbial expressions, descriptions of internal state or physical condition that allows one to infer the manner, and the physical setting that might influence manner of movement.[2] And here we offer an example where it is the adverbial expression with de_2 that functions as AEM as in sentence (84).

[2] Actually Özçalışkan and Slobin (2003) seem not to strictly follow their idea of AEM as 'compensating for the relative difficulty of encoding both path and manner in verbal construction' by quoting *He jumped up **like a coiled spring*** as an AEM when both manner 'jump' and path 'up' can be detected in that sentence. In this research we will focus on the function of AEM to compensate for the difficulty of encoding manner within a construction, therefore excluding any extra descriptive expressions upon an intact manner-result construction as AEMs.

(84) 一瘸一拐 地 进 了 挂号 室。
Yiqueyiguai *DE*$_2$ **jin** le guahao shi.
crippled **enter** ASP registration room
'He entered the registration room, being crippled.'

(《地球就诊记》*Diqiu jiuzhen ji* 'The earth goes to a doctor')
cited from: http://www.iasku.com/shiti/259537

3.2.2 Symmetrical structures in Chinese

According to Croft et al. the **symmetrical** classification covers three strategies of coordinate, serial, and compound. Here we will search for the corresponding Chinese expressions in turn, with proper analysis and adaptations for the strategy of compound as mentioned above as well as in Chapter 2.

We can find two possibilities for the strategy of ***coordination***: the syndetic one with an overt conjunction like in (85a), and the asyndetic one without any conjunction as in (85b).

(85) a. 身 不 由 主 的 便 腾跃 而 起。
Shen bu you zhu DE$_1$ bian tengyue **er** qi.
body NEG self control DE$_1$ then jump CD rise
'Not being able to control herself, (Zhou zhiruo) then jumped up and rose.'
(《倚天屠龙记》*Yi Tian Tu Long Ji* 'Dragon Buster')
cited from PKU corpus: http://ccl.pku.edu.cn:8080/ccl_corpus/

b. 马 航 失 联 客机
Ma hang shi lian keji
Malaysia Airline lose communication airliner
飞行 4 个 小时 能 到达 哪里?
feixing 4 ge xiaoshi neng **daoda** nali?
fly 4 CLF hour can arrive where
'Having been flying for four hours, where can the Malaysian airliner that has lost communication arrive?'
cited from: http://bbs.tiexue.net/post_7098761_1.html

As for the strategy of ***serial***, in Chapter 2 we listed some examples such as (68a), and here we repeat it as (86a). That sentence is the case of motion-path, and we can also have the case of cause-effect like (86b), which is the corresponding translation of sentence (72) in Chapter 2.

(86) a. 他 走 进 了 公园。
Ta zou jin le gongyuan.
he walk enter ASP park
'He walked into the park.'

(Talmy, 2009, 398), ex.(3a)

b. 我 烧 死 了 他。
Wo shao si le ta.
I burn die ASP he
'I burned him to death./I killed him by burning him.'

The examples within sentence (86) represent the two prototypical usages of canonical SVC as we have analyzed in Chapter 1. Except for these there are also some noncanonical cases worth mentioning, that is, neutral manner verbs as V_1 for the motion-path situation and causative SVC for the cause-effect situation.

Shi and Wu (2014, 1252) have summarized two types of neutral manner verbs for the motion-path situation that are labelled as N_a and N_b. N_a comes from Beavers et al. (2010, 362) and refers to the 'pure motion verbs' that express general motion without encoding either manner or path, such as *go* and *move* in English. In parallel Shi and Wu (2014, 1253) have classified *xing* 'move' in ancient Chinese into this type. N_b comes from Chen and Guo (2009, 1756) and includes verbs that do not express motion but would 'acquire the motion meaning once they are combined with the path verb', such as *mo* 'fumble' in 'mo-dao: fumble-arrive' and *zhan* 'stand' in 'zhan-dao: stand-reach'. For the cause-effect situation, causative SVC tends to be asymmetric in that the causative verbs usually form a closed set with limited numbers (Aikhenvald, 2006a, 16).[3] Typical examples include 'make' in English and 'shi/rang: make/let' in Chinese.

The reason for us to treat the above examples as noncanonical SVC is that they are either less dynamic (like the N_a verbs in the motion-path case and causative verbs in the cause-effect case), or can acquire the manner meaning only under certain pragmatic context (like the N_b verbs in the motion-path case). Of course, the noncanonical case description here is not exhaustive, and we might encounter some other examples in later linguistic data investigation.

[3]Aikhenvald's original term is 'asymmetrical'. However, this might be confused with symmetrical classification from Croft et al. in (81), where both the internal components within certain individual constructions can function as independent predicates. Therefore, here we use the term 'asymmetric' for the SVC type where one internal verb comes from the open class while the other comes from the closed class.

In Chapter 2 we reviewed that ***compounding*** from Croft et al. (2010, 207) is defined as a structure in which 'the two forms are morphologically bound or at least more tightly integrated than the serial strategy', and at the same time both of its internal components may still be able to occur as verbs in the language. Furthermore, we have pointed that Croft's et al. compounding covers three sub-cases: the combination of path component and deictic component in Kiowa, the *i*-compound and *te*-compound in Japanese, as well as the aspectual compounding in Bulgarian. However, as we have also discovered that the first two sub-cases share the same conceptual similarity with SVC while the third sub-case of aspectual compounding is the feature of satellite-framing, the idea of verbal compound from Croft et al. is too broad to be workable for Mandarin Chinese and this phenomenon should be redefined. Yet for this redefinition we shall maintain the standard of 'more tightly integrated than serial' from Croft et al., and seek some reference from the definition of nominal compound.

Spencer (2011) has pointed that there are two kinds of analysis of noun-noun compound: Lee's solution that emphasizes a semantic relation within the internal components, and Downing's solution that argues for a pragmatic relation. The former solution usually works for the lexicalized compound, while the latter solution is often applicable to the online or nonce compound. Or in other words, Lee's solution will lead to a narrow definition of compound whereas Downing's solution will result in a broad description of the phenomenon. Since in this whole study we have tended to adopt a narrow perspective on SVC (for this, recall the broad sense and narrow sense of SVC definition from Bisang (1995) in Chapter 1), here for compound we will go with the narrow viewpoint for a comparison with SVC, to be specific, a narrow sense of verb-verb compound (VV compound in short).

For Chinese VV compound research Hong and Huang (2015, 177) have offered a trichotomy classification: Coordinate, Modificational, and Resultative. For the modificational case they have offered such examples as 'wei (tiny) xiao (laugh): to smile' and 'nan (difficult) ao (suffer): to not suffer'.[4] As it can be seen that V_1 within this modificational case can be of adjective property and behaves less like a canonical verb, so Hong and Huang's modificational case is excluded from our VV compounding discussion. And for the resultative case Hong and Huang's examples include 'da (hit) si

[4]For me 'nan ao' would mean 'to suffer' but not 'to not suffer'. However, the point here is only to show what Hong and Huang (2015) mean of modificational compound by quoting their examples.

(kill): to hit and kill' and 'chi (eat) bao (full): to eat until full', from which we can see that the resultative case is exactly the cause-effect SVC we have been discussing, so it is not a proper idea for our VV compound as well. Therefore there remains only the Coordinate idea.

Hong and Huang's coordinate type is illustrated by the following examples: 'zhui (pursue) sha (kill): to pursue and kill', 'gong (attack) shou (defend): to attack and defend', and 'shou (collect) qu (collect): to collect'. It seems those three examples represent three sub-types respectively: coordinate with a purpose reading like 'zhui-sha: to pursue and kill' that is somewhat similar to the purpose SVC mentioned in Chapter 1 (pursue in order to kill); multiple event coordination such as 'gong-shou: to attack and defend'; and the third type like 'shou-qu: to collect'. For the first sub-type it might show a weaker feature of compound as it also resembles certain properties with SVC as we have discussed, and for the second sub-type it behaves much more like a pure coordination as an overt coordinating conjunction can be inserted while maintaining the same acceptable usage of the structure: both 'gong-shou: to attack and defend' and 'gong-he-shou: to attack and defend' are grammatical linguistic expressions. Therefore compared with SVC these first two sub-types either show an almost equal integration (the first sub-type) or even a looser relationship (the second sub-type), which would reduce their legitimacy as compound under the integration standard from Croft et al. as mentioned earlier. So that we only have the third sub-type of 'shou-qu: to collect', which also conforms to the description of 'more tightly integrated' for compound as both of the two internal components are of the same meaning 'collect'. For this reason it might be proper to call such compound 'synonymous compound', the kind that is considered as Chinese verbal compound for this research when the other types are excluded.

A closer observation would tell that both 'shou' and 'qu' are result verbs (R in short), and a similar 'RR' construction can be found in Chinese motion SVC discussion by Chen and Guo (2009, 1755), where expressions such as 'dao (arrive) da (reach): arrive' and 'jing (pass) guo (pass): pass by' are excluded from their motion event SVC samples. Though Chen and Guo have not gone further to claim such expressions as compound, they did acknowledge that the two internal morphemes are 'not separable morphological units'. This also means such expressions are 'more tightly integrated', the property that makes it reasonable to consider them as compound, as in 'shou-qu' in

Hong and Huang's compound research.[5] Except for this 'RR' type of compound, there is a parallel case of combination between manner verbs (M in short) with example like 'pi (criticize) dou (denounce): to criticize and denounce' that can be found in Hong and Huang (2015, 188).

Therefore for the VV compound in Chinese we have followed Lee's solution and adopted a narrow perspective. We have narrowed it down to the 'synonymous compound' within the coordinate type of Hong and Huang's paper, and discovered it can be either 'RR' or 'MM' case through further observation. However, for the reason that this synonymous compound in Chinese does not encode the manner-result information (for this compare it with the verbal compound in Kiowa and Japanese), we will not include this kind of compounding into the revised framework for our typology study of Chinese.

3.2.3 Satellite-framing structures in Chinese

Within **satellite-framing** construction the result information is encoded by a satellite while the manner information is encoded by a main verb. Croft et al. (2010, 226) have quoted from Li and Thompson (1981, 361) that the directional path form *wang* 'toward' in Mandarin Chinese can be regarded as a satellite for the motion-path situation, and for this we provide sentence (87) as an example.

(87) 这 时 容生 嫂嫂 走 往 大 门口。
Zhe shi Rongsheng saosao **zou** *wang* da menkou.
this moment Rongsheng sister-in-law walk towards main door
'At this moment Rongsheng's sister-in-law walks towards the main door.'

(《滚滚红尘》 *Gungun Hongchen* 'Mundane World')
cited from PKU corpus: http://ccl.pku.edu.cn:8080/ccl_corpus/

As analyzed in Chapter 2 aspectual compounding in Bulgarian is of satellite-framing feature, with the perfective aspectual prefixes implying the result information (Croft et al., 2010, pp.215-216). Though in Chinese it might not be proper to term certain morphemes as affixes, we do find two types of aspect-denoting markers that connote the result information for the cause-effect situation. Moreover, those aspectual markers

[5] Chen and Guo (2009) have occasionally considered this 'RR' construction (Path + Path in their term) to be SVC, such as 'hui (return) dao (arrive): return back' (p.1756), however, this kind of construction has been excluded from the SVC group in their later paper (Guo and Chen, 2009). Yet we would argue that Chen and Guo's example of 'hui dao: return back' is not the same kind of 'RR' synonymous compound as we have suggested, and should be considered as a subtype of SVC. We will discuss this further in Chapter 4.

have quite often lost their independent status and need to go after the manner-encoding main verbs, and these two kinds of aspectual marker are *le* as in sentence (88a) and grammaticalized verbs as in sentence (88b). For the latter case we choose *dao* as an example, which means 'arrive' when used independently but would only indicate aspectual information when used after a main verb for the cause-effect case.[6]

(88) a. 论文　　写　了　一　篇　又　一　篇。

Lunwen **xie** *le* yi pian you yi pian.
paper write ASP one CLF and one CLF
'Several papers have been written one by one.'

(1998 年《人民日报》)
(*Renmin Ri Bao* 'People's Daily', in the year of 1998.)
cited from PKU corpus: http://ccl.pku.edu.cn:8080/ccl_corpus/

b. 找　　到　他 住　的　地下室。

Zhao *dao* ta zhu DE_1 dixiashi.
search ASP he live DE_1 basement
'(I) have found the basement that he lives in.'

(《中国北漂艺人生存实录》)
(*Zhong Guo Beipiao Yiren Shengcun Shilu*)
('A profile of living conditions for the artist drifters in Beijing')
cited from PKU corpus: http://ccl.pku.edu.cn:8080/ccl_corpus/

For the satellite-framing structures in Mandarin Chinese, we have also discovered the same motion-path situation and cause-effect situation as that of SVC. The former refers to prepositions functioning as the directional path elements and the latter covers two subtypes where *le* and grammaticalized verbs are used as the aspectual markers. For these two situations we shall encounter more examples within Chapter 4 and Chapter 5.

3.2.4 Double-framing structures in Chinese

As introduced in Chapter 2 Croft et al. (2010, 208) have defined **double framing** as a structure where 'the path or framing expression is expressed twice, once as a detached satellite and once as part of the verb', and they have listed the Russian sentence as an example, which we repeat here as (89).

[6] Actually *le* might also be treated as a grammaticalized verb, as it can be used independently with the meaning of 'complete' in ancient Chinese. However, the difference between *le* and grammaticalized verbs is that in modern Chinese the grammaticalized verbs still maintain their independency when used as single verbs, but this is not the case for *le*. Therefore we differentiate them as two types of aspectual markers.

(89) Ja **vy-** bežal *iz* doma.
I **out-** ran *from* house:GEN
'I ran out of the house.'

Talmy (1985, 105).

In parallel Shi and Wu (2014, 1241) have argued that the same kind of structure can be found in the Chinese sentence (90), where the path information is similarly encoded twice, partially as 'climb with foot (upward)' in *deng* and partially as 'ascend' in *shang*.

(90) 接着 我 登 上 十 米 平台。
Jiezhe wo deng shang shi mi pingtai.
then I climb with feet (upward) ascend ten meter platform
'Then I climbed onto the ten-meter platform.'

(《过把瘾就死》) (*Guo ba Yin jiu Si* 'Sacrifice for Fun')
adapted from Shi and Wu (2014, 1241), ex.(4)

However, different from the asymmetrical feature in the Russian example (notice that the path information is partially encoded by the detached satellite *iz* in sentence (89)), the double-framing structure in Chinese is symmetrical for the reason that both of its internal components can be used on their own, as can be illustrated by sentence (91a) for *deng* 'climb' and sentence (91b) for *shang* 'ascend'.

(91) a. 我们 缓 步 登 山。
Women huan bu deng shan.
we slow walk climb moutain
'Walking slowly, we climbed the mountain.'

(1994 年《人民日报》)
(*Renmin Ri Bao* 'People's Daily', in the year of 1994.)
cited from PKU corpus: http://ccl.pku.edu.cn:8080/ccl_corpus/

b. 我们 上 山 摘 酸枣 吧。
Women shang shan zhai suanzao ba.
we ascend mountain collect wild jujube MOD
'Let's climb the mountain and collect wild jujubes.'

(1994 年《报刊精选》*Bao Kan Jing Xuan*
'A Selection of Newspaper and Magazine', in the year of 1994.)
cited from PKU corpus: http://ccl.pku.edu.cn:8080/ccl_corpus/

Actually double framing structure in Chinese can be treated as a special type of SVC for its symmetrical nature. However, in this research we shall list double framing as a separate type, on the one hand to comply with Croft's et al. classification to emphasize its twice-encoded feature of framing information, and on the other hand for the reason that double framing structures in modern Chinese would largely correspond to synthetic verbs in ancient Chinese, a kind of single verb that encodes multiple information at the same time. In sentence (90) we have encountered one example of *deng* that inherits this

synthetic feature from ancient Chinese, as there it simultaneously encodes both manner information 'climb with feet' and path information 'upward'. In the later chapters we will discuss more about double framing structures and synthetic verbs, both for the motion-path situation and cause-effect situation.

3.2.5 A summary of the adapted framework in Chinese

So far in modern Chinese we have discussed converb construction and construction with alternative expressions of manner (AEM) as **Verb-framing (VF)** types, coordinate and SVC as **Symmetrical** types. We have also discovered that **Satellite-framing (SF)** structure in Chinese covers the same motion-path situation and cause-effect situation like SVC, and this kind of Satellite-framing structure as we shall see in later chapters, corresponds to the phenomenon of Verb-complement construction in traditional Chinese linguistic studies, with the motion-path situation and cause-effect situation paralleling Verb-directional construction and Verb-resultative construction respectively. Moreover, **Double framing (DF)** has been defined as a kind of structure that twice encodes the path or framing expression, and here we have analyzed the symmetrical nature of this structure in Chinese. Also we have defined VV compound in Chinese as synonymous compound that includes RR compound and MM compound. However, since this kind of verbal compound does not encode the manner-result information, we will exclude it from our typological classifications. Based on the above analysis, the adapted typological framework for Chinese can be summarized in Table 3.1.

Table 3.1: Adapted typological framework for Chinese

Classification	Sub-classification		Property	Example
Verb framing (VF)	Converb construction		converb affiliated to main verb	*pao-zhe* **jin** '*run-CONV* **enter**'
	AEM		non-verbal expression of manner that leads to a result	*yiqueyiguai* DE_2 **jin** '*crippled* **enter**'
Symmetrical	Coordinate	Syndetic	with an overt conjunction	tengyue **er** qi 'jump **and** rise'
		Asyndetic	without any conjunction	feixing...daoda... 'fly...arrive...'
	Serial	Motion-path	motion-path SVC	zou jin 'walk enter'
		Cause-effect	cause-effect SVC	shao si 'burn die'
Satellite framing (SF) (Verb-complement cons.)	Motion-path (Verb-directional cons.)		preposition as directional path form	zou *wang* 'walk towards'
	Cause-effect (Verb-resultative cons.)		aspectual compounding	**xie** *le* 'write ASP'
				zhao *dao* 'search ASP'
Double framing (DF)			symmetrical; path encoded twice	deng shang 'climb (upward) ascend'

As we have seen in this section that all the four types within the adapted framework can be applied to Chinese with corresponding expressions, it is therefore crucial to seek the most prototypical feature for Mandarin Chinese to see whether it is indeed Serial type as claimed by Croft et al. (2010, 207). In next two chapters we shall investigate the practical percentage of each of those types among all the manner-result expressions, but before that we need to introduce how data can be collected and analyzed in our research.

3.3 Data for modern Chinese and ancient Chinese

In this research we will adopt the methodology from Chen and Guo (2009) for the modern Chinese investigation and the one from Shi and Wu (2014) for the ancient Chinese part. Moreover, to make the collection of data more convenient, we will introduce a segmentation software to the modern Chinese passages for tagging various lexicalization patterns, and then compare their counterparts within the ancient Chinese texts. This comparison would enable us to solve our two research questions for the whole study.

3.3.1 Modern Chinese data

For the question of prototypical typological characteristic of modern Chinese this research will mainly refer to the methodology from Chen and Guo (2009), that is, to carry out a statistical analysis of the types and tokens of manner-result expressions within modern Chinese passages. However, this research will code those expressions under the framework of Croft et al. (2010) that has been introduced in Chapter 2 and further adapted in section 3.2 of this chapter. Given the fact that the revised Manner-Result typology covers both motion situations and non-motion situations, we will leave out the Ground that is an exclusive element for previous motion event researches, and treat the frequently discussed AEM as a lexicalization pattern of V-framing feature both for motion and non-motion situations in the modern passages.

As for the source of those passages we will choose the modern translations of original ancient texts mainly from the internet. This would enable us to develop an ancient-modern Chinese comparison study, thus solving our typology research questions for these two languages at the same time. Meanwhile, by comparing with modern translations

we can diminish the indeterminacy of parts of speech for the ancient Chinese words, therefore locating the relevant manner-result expressions in the ancient text with higher precision. One of the reasons that we choose data (translated modern passages) from the internet is that this will avoid the influence of translating style from certain translators. We do not deny the likely inaccuracy of the anonymous translations from the internet, and for this potential problem we will compare more versions of translation to make sure. More information on the data source will be supplied in subsection 3.3.2.

This research will use the segmentation software **NLPIR** to assist lexicalization pattern labelling.[7] This software is claimed to be the best for word segmentation in Chinese, and can label parts of speech automatically such as tagging a noun as 'n' and a verb as 'v'. As we can infer that all of the four typological classifications within (92) will be labelled as 'v' since they all necessarily contain the category of verb as one of the internal components at least. The software NLPIR is first to be applied to the translated passages to pick out those manner-result expressions in the modern language, then their counterparts in ancient Chinese will be matched up manually. For this a detailed operation can be found at subsection 3.4. The reason that we do not directly apply this software to ancient Chinese is that there would be some parts of speech transfer throughout the evolution, so that the software might not work so well for ancient Chinese. Moreover, we would double check it again to ascertain the parts of speech for the ancient words with the aid of the online ancient Chinese dictionary: http://wyw.hwxnet.com. The way to use NLPIR will be demonstrated in section 3.4, and next comes the introduction to the part of ancient Chinese data.

3.3.2 Ancient Chinese data

On the diachronic level ancient Chinese differs from modern Chinese in that it mainly uses single verb to express manner-result event, therefore the nature of that single verb would determine the typology of ancient Chinese: should it be the manner verb then the language would correspond to S-type; should it be the result verb then the language would correspond to V-type. This also means for ancient Chinese we are turning back to Talmy's initial main verb focused typology due to the fact that there hardly exists

[7]The software NLPIR was initially known as ICTCLAS (Institute of Computing Technology, Chinese Lexical Analysis System) that has been developed by the Institute of Computing Technology, Chinese Academy of Science. It can be downloaded for free from this website: http://ictclas.nlpir.org.

the so-called satellite (it does occasionally as we shall see later) but only the single main verb in the quite isolating ancient Chinese, a nature that also largely makes some of the symmetrical strategies unapplicable.

The analysis of ancient Chinese calls for a diachronic investigation on the manner-result expressions within this language, which is to be divided into three periods that include seven phases according to Yuan (1999).[8] This three period and seven phase classification is different from the four-period division (Old, Middle, Pre-Modern and Modern) from Shi and Wu (2014), partially for the reason that it provides more detailed diachronic sections, and partially for the reason that it offers the most typical genres within each of those seven phases. As for the text genre of data Shi and Wu only choose spoken narratives for their four periods (p.1250). However, selection of the most representative genres within each of the diachronic phases would produce a more thorough profile. Here is a brief introduction to the detailed sections together with the typical genres for each of them, quoted from Yuan (1999, pp.12-20).

As the source of Chinese literature, the period of **Primary Ancient Time (Before 3^{rd} Century B.C.)** can be further divided into two phases. Pre-Qin (1^{st} phase) is famous for Classical Prose, as well as Ancient Ode & Poetry, while Qin and Han Dynasties (2^{nd} phase) is best known for Poetic Essay & Prose, along with Folk Poems. **Mediaeval Ancient Time (3^{rd} century B.C. - 16^{th} century A.D.)** is a long period when Chinese literature becomes more developed. Subsections of this period include Wei & Jin to Mid-Tang (3^{rd} phase), Mid-Tang to Southern Song (4^{th} phase) and Yuan Dynasty to Mid-Ming (5^{th} phase). The 3^{rd} phase is a time of Poetry with Tang Poem as the representative. In addition, the poetized Parallel Ode is also worth mentioning within this phase. The 4^{th} phase features Poetry & Prose, Song Ci, as well as the popularity of Legend Novels. Genre types of the 5^{th} phase mainly include Yuan Poetic Drama, Yuan Qu, as well as the later developed River Novels in the form of common language. **Late Ancient Time (16^{th} century A.D. - 1919)** is a comparatively short period that covers two specific phases: Mid-Ming to Opium War (6^{th} phase) and Opium War to May Fourth Movement (7^{th} phase). Literature genres within this period include Prose, Drama & Poem, Novels and Scientific Literature, with the 6^{th} phase mainly focusing on the first three genres while the 7^{th} phase paying more attention to

[8] Readers can access this website http://www.wenhuacn.com/wenxue/lishi/01/index.htm for an electronic version of Yuan's book.

translations of scientific and technological literature from western countries. Table 3.2 provides a summarization of the diachronic subdivision.

Table 3.2: Diachronic subdivisions of ancient Chinese

Times	**Primary Ancient Time (Before 3rd century B.C.)**		
Phase	1^{st}	2^{nd}	
Duration	Pre-Qin	Qin to Han	
Genres	Classical Prose, Ancient Ode & Poetry	Poetic Essay & Prose, Folk Poems	
Times	**Mediaeval Ancient Time (3rd century B.C.-16th century A.D.)**		
Phase	3^{rd}	4^{th}	5^{th}
Duration	Wei & Jin to Mid-Tang	Mid-Tang to Southern Song	Yuan to Mid-Ming
Genres	Poetry, Parallel Ode	Poetry & Prose, Song Ci, Legend Novels	Yuan Poetic Drama, Yuan Qu, River Novels
Times	**Late Ancient Time (16th century A.D.-1919)**		
Phase	6^{th}	7^{th}	
Duration	Mid-Ming to Opium War	Opium War to 4th May 1919	
Genres	Prose, Drama & Poem, Novel, Scientific Literature		

After the diachronic subdivision of ancient Chinese is identified, we are to select source texts from five websites that provide the original ancient passages along with their modern translations.[9] As this research investigates both motion situations and non-motion situations, the exclusively motion describing episode of 'the movement of a major protagonist, beginning from a stationary position and continuing to move until arriving at another stationary position where a plot-advancing event occurs' (Özçalışkan and Slobin, 2003, 206) will not be sufficient for our object of study. Therefore we will expand to tag both of those two situations, that is, all of the manner-result expressions including motion-path situation and cause-effect situation. The selected ancient passages along with their modern translations will constitute our corpus. For those selected passages see Table 3.3.

[9]Those five websites include: http://www.fainfo.com/puton/ created and maintained by Wu Weile, http://wyw.5156yuwen.com created and maintained by Zhang Xiu, http://ewenyan.com created and maintained by Zhang Weipeng, http://yw.eywedu.com created and maintained by Xie Xingcun, as well as http://www.gushiwen.org created and maintained by Tang Jihua. Special thanks to them!

Table 3.3: Genre & passages within each diachronic phase

Genre & Passages	**Primary Ancient Time**		
	1^{st}	2^{nd}	
	Classical Prose: 1. Cao Gui lun zhan 2. Guaren zhiyu guo ye 3. Quan xue 4. Xiaoyao you	Poetic Essay & Prose: 1. Qian chu shi biao 2. Chen She shijia 3. Funiao fu 4. Jin Ke ci Qin Wang 5. Zixu fu 6. Chang Men fu (bing xu)	
	Ancient Ode & Poetry: 1. Li Sao 2. Jiu Ge 3. Shi Jing 4. Dengtuzi hao se fu	Folk Poems: 1. Kongque dong nan fei 2. Beifen shi 3. Fengjian shi 4. Mo shang sang	
	Mediaeval Ancient Time		
	3^{rd}	4^{th}	5^{th}
	Poetry: 1. Mulan shi 2. Chun jiang hua yue ye 3. Du Fu's Poems 4. Li Bai's Poems	Poetry & Prose: 1. Chang hen ge 2. Tai Shang ganying pian 3. Prose collection	Yuan Poetic Drama: 1. Dou'e Yuan 2. Xi Xiang Ji
		Song Ci: 1. Xin Qiji's Ci 2. Li Qingzhao's Ci	Yuan Qu: 1. Gao Zu huan xiang 2. Yi zhi hua • bu fu lao
	Parallel Ode: 1. Luo shen fu 2. Teng Wang Ge xu	Legend Novels: 1. Qiu ran ke	River Novels: 1. Shui Hu Zhuan
	Late Ancient Time		
	6^{th}	7^{th}	
	Prose: 1. Xiang Ji Xuan zhi 2. Shu Zuo Zhong Yi Gong yishi	Prose: 1. Feng Wanzhen sheng Yingren yu Xie Zhuang 2. You Qixia Ziyun dong ji	
	Drama & Poem: 1. Mudan Ting • Gui shu 2. Taohua Shan • Que lian 3. Yuanyuan qu 4. Zang hua yin		
	Novel: 1. Lang 2. Ban gui	Novel: 1. Lao Can You Ji 2. Guanchang Xian Xing Ji	
	Scientific Literature: 1. He zhong shi shou	Scientific Literature: 1. Tian Yan Lun • Cha bian 2. Shaonian Zhong Guo shuo 3. Hai Guo Tu Zhi • xu	

Once the lexicalization patterns in ancient Chinese are identified, the typological characteristic of this language within each period and phase should be clear: result verb as the (single) main verb suggests V-type, manner verb as the (single) main verb suggests S-type. Shi and Wu (2014, 1278) have argued that for the motion situation there is an evolutionary change from V-type towards S-type, but in Chapter 2 we have pointed out that their research does not include all the typological classifications from Croft et al. (2010, 208) and does not touch the non-motion situation. For these problems we will make a diachronic research under the adapted framework both to the motion-path domain and cause-effect domain. This diachronic investigation enables us to re-examine the typological shift for ancient Chinese on the one hand, and to verify the assumed grammaticalization chains proposed by Croft et al. on the other hand. The next section provides a sample data processing to show how the analysis is to be done.

3.4 Sample data processing and analysis

In this section we choose the sample passage *Guaren zhiyu guo ye* 'How should the king manage his kingdom' from *Mengzi* that dates back to around 300 B.C. and belongs to the earliest period of ancient Chinese (1^{st} phase, Primary Ancient Time). As we have observed the modern translation is first to be processed so that manner-result expressions can be located. In order to do this we should import the passage into the software NLPIR by pasting it into the upper textbox or clicking *Open*, and then we are to choose the option of *Fine* for the Segmentation Fineness and whichever option for the Part of Speech Tagging Standard (as those four options make little difference for the labelling of verbs). Finally by clicking *Common Segmentation* we will get the segmented passage in the lower textbox with all the words segmented and tagged for their parts of speech. A processing page file is shown in Figure 3.1

Figure 3.1: Sample data processed in NLPIR

After the segmentation we are to pick out the manner-result expressions in the modern passages that are quite likely tagged as 'v' or 'vv', and locate their counterparts in the original ancient passages manually. A collection of those expressions will reveal

the typological characteristics of modern Chinese and ancient Chinese, and here we offer a brief demonstration by several selected examples. In the following examples we will display sentences of modern translations first and then provide their corresponding original ancient sentences. The processing results are introduced according to motion-path domain and cause-effect domain.

Within the **motion-path domain**, we have discovered that modern Chinese does use SVCs for the manner-result expressions, such as the motion SVCs in sentence (92a). Meanwhile, it is worth noticing that the relevant expressions within the corresponding ancient sentence (92b) show a typical S-framing feature due to the manner-encoding main verb *yi* 'transfer' and the result-encoding preposition *yu* 'to'.[10] This is also the reason for us to list it separately from the situation where there is only the single manner verb without any preposition as we shall see later.

(92) a. 把 百姓 迁移 到 河 东，
Ba baixing qianyi dao he dong,
BA people transfer arrive east side of Yellow River,
把 粮食 运 到 河 内。
ba liangshi yun dao he nei.
BA food transport arrive north side of Yellow River
'(I will) transfer people to the east side of Yellow River, and transport food to the north side of Yellow River.'
(《寡人之于国也》译文，引自
http://www.fainfo.com/puton/lang/lang15/lang157.htm)
(Translation of *Guaren zhiyu guo ye* 'How should the king manage his kingdom', cited from
http://www.fainfo.com/puton/lang/lang15/lang157.htm)

b. 移 其 民 于 河 东，
yi qi min *yu* he dong,
transfer there people to east side of Yellow River,
移 其 黍 于 河 内。
yi qi shu *yu* he nei.
transport there millet to north side of Yellow River
'(I will) transfer people to the east side of Yellow River, and transport millet to the north side of Yellow River.'
(《寡人之于国也》 *Guaren zhiyu guo ye* 'How should the king manage his kingdom')

[10] As can be seen that here the modern Chinese translation is introduced before the original ancient Chinese sentence, and this is in accordance with the order of our data processing, i.e. picking out manner-result expressions in modern Chinese first and then matching up their counterparts in ancient Chinese. However, for the ancient Chinese typology discussion within Chapter 4 and Chapter 5, the order of the comparing sentences will be reversed, i.e. ancient Chinese sentences first and then their modern translation, and this is for the reason that the primary focus will be on the part of ancient Chinese there.

Moreover, we have also discovered that in this sample passage SVC within modern Chinese can correspond to single result verb, and this can be shown by sentence (93). As analyzed in subsection 3.3.2, we will treat the ancient Chinese sentence (93b) that employs a main verb to encode result information as verb-framing structure.

(93) a. 那么 天下 的 老百姓
Name tianxia DE_1 laobaixing
so that whole world DE_1 people
就 会 投奔 到 梁 国 来 了。
jiu hui touben dao Liang Guo lai le.
then will rush arrive Liang Kingdom DEI ASP
'Then people from the whole world would come to the Liang Kingdom.'
(《寡人之于国也》译文，引自
http://www.fainfo.com/puton/lang/lang15/lang157.htm)
(Translation of *Guaren zhiyu guo ye*
'How should the king manage his kingdom', cited from
http://www.fainfo.com/puton/lang/lang15/lang157.htm)

b. 则 天下 之 民 至 焉。
Ze tianxia zhi min **zhi** yan.
then whole world POSS people arrive MOD
'Then people from the whole world would arrive at Liang Kingdom.'
(《寡人之于国也》*Guaren zhiyu guo ye*
'How should the king manage his kingdom')

As for the case of **cause-effect domain**, we have found that when it is the same strategy of SVC in modern Chinese for the manner-result expression, it can be single manner verb, single result verb, or SVC in ancient Chinese for the same purpose.[11] Those comparisons are collectively demonstrated by sentence (94) in turn.

(94) a. i. 战 鼓 冬冬 敲 响。
Zhan gu dongdong qiao xiang.
war drum MIME hit loud
'The war drums are hit loudly.'
(《寡人之于国也》译文，引自
http://www.fainfo.com/puton/lang/lang15/lang157.htm)
(Translation of *Guaren zhiyu guo ye*
'How should the king manage his kingdom', cited from
http://www.fainfo.com/puton/lang/lang15/lang157.htm)

ii. 填然 鼓 之。
Tianran **gu** zhi.
MIME play the drum PRO
'Play the drum loudly.'
(《寡人之于国也》*Guaren zhiyu guo ye*
'How should the king manage his kingdom')

[11]Notice that for the SVC case in sentence (94c-ii) it is an inverted structure where the result verb *sheng* 'end' is put before the manner verb *shi* 'eat' under the negation syntactic environment, and this inverted structure under negation is quite popular in primary ancient time Chinese.

b. i. 道路 上 有 饿 死 的 人，
Daolu shang you e si DE_1 ren,
road on exist starve die DE_1 people,
却 不 打 开 粮仓 赈救。
que bu da kai liangcang zhenjiu.
but NEG unbolt open granary relieve
'Even there are people starving to death on the road, (the king) does not open the granary to provide disaster relief.'
(《寡人之于国也》译文，引自 http://www.fainfo.com/puton/lang/lang15/lang157.htm)
(Translation of *Guaren zhiyu guo ye* 'How should the king manage his kingdom', cited from http://www.fainfo.com/puton/lang/lang15/lang157.htm)

ii. 涂 有 饿莩 而 不 知 发。
Tu you epiao er bu zhi **fa**.
road exist people starve to death but NEG realize open
'Even there are people starving to death on the road, (the king) does not realize that he should open the granary to provide disaster relief.'
(《寡人之于国也》*Guaren zhiyu guo ye* 'How should the king manage his kingdom')

c. i. 鱼 鳖 就 不 会 吃 完。
Yu bie jiu bu hui chi wan.
fish turtle then NEG can eat end
'Then fish and turtles cannot be eaten up.'
(《寡人之于国也》译文, 引自 http://wyw.5156yuwen.com/135.html)
(Translation of *zhiyu zhiyu guo ye* 'How should the king manage his kingdom', cited from http://wyw.5156yuwen.com/135.html)

ii. 鱼 鳖 不 可 胜 食 也。
Yu bie bu ke sheng shi ye.
fish turtle NEG can end eat MOD
'Then fish and turtles cannot be eaten up.'
(《寡人之于国也》*Guaren zhiyu guo ye* 'How should the king manage his kingdom')

In addition, from this sample passage we have also discovered the possibility where it can be coordinate both in modern Chinese and ancient Chinese to encode manner-result information, and this is shown in sentence (95).

(95) a. 拿着 刀子 刺 人 把 人 杀 死。
Nazhe daozi ci ren ba ren sha si.
holding knife stable people BA people kill die
'Stab someone with a knife and kill him.'
(《寡人之于国也》译文, 引自 http://wyw.5156yuwen.com/135.html)
(Translation of *Guaren zhiyu guo ye* 'How should the king manage his kingdom', cited from http://wyw.5156yuwen.com/135.html)

b. 刺 人 而 杀 之。
Ci ren **er** sha zhi.
stab people CD kill PRO
'Stab someone and kill him.'

(《寡人之于国也》*Guaren zhiyu guo ye*)
'How should the king manage his kingdom')

So far we have listed all the coding strategies discovered for the manner-result information in modern Chinese and ancient Chinese within the sample passage. Due to the small scale of this sample, the lexicalization patterns demonstrated above do not make an exhaustive coverage for all the typological classifications in (92). However, certain preliminary conclusions can be made based on our observations. In modern Chinese SVC is the main type to encode manner-result information, while in ancient Chinese single main verb is the main type for the same purpose. Moreover, this conclusion can also be partially supported by the token percentages of each of those lexicalization patterns as summarized in Table 3.4, where SVCs in modern Chinese and single verbs in ancient Chinese respectively do not show low percentages. Of course our statistical analysis will get optimized with more data included and investigated in later chapters.

Table 3.4: Analysis results of sample passages

Modern Chinese			Ancient Chinese		
Motion-path domain					
Lexicalization pattern	Token	Percentage	Lexicalization pattern	Token	Percentage
SVC	4	100%	Satellite-framing	2	50%
			R	2	50%
Total	4	100%	Total	4	100%
Cause-effect domain					
SVC	10	90.91%	M	1	9.09%
Coordiante	1	9.09%	R	4	36.36%
			SVC	5	45.45%
			Coordinate	1	9.09%
Total	11	100%	Total	11	100%

3.5 Conclusion

In this chapter we have first applied the typological framework from Croft et al. (2010) to Mandarin Chinese with certain adaptations, and then introduced how data can be collected both in modern Chinese and ancient Chinese. Finally we have offered a sample passage of primary ancient time for an analysis to show how the statistical analysis can be carried out.

Through the sample passage analysis it is discovered that SVC is the main lexi-

calization pattern in modern Chinese, while result verb takes a quite high proportion in ancient Chinese. This might indicate that modern Chinese accords with the Serial strategy as Croft et al. (2010) have suggested, and ancient Chinese within the earliest period is of verb-framing feature, as Shi and Wu's (2014) have concluded. However, our adapted framework covers more types of classification both for motion-path domain and cause-effect domain, and a comprehensive investigation upon those classifications should provide an overall typological profile both for modern Chinese and ancient Chinese within those two domains. These will be tasks of the next two chapters.

Chapter 4

Synchronic and diachronic analysis of motion-path SVC

4.1 Introduction

This chapter discusses the motion case of Manner-Result typology, with a particular focus on the lexicalization pattern of motion-path SVC mainly for two reasons. First statistically speaking motion-path SVC forms the dominant percentage within modern Chinese for motion expressions, therefore making it the most typical representation of motion-path lexicalization patterns. Second lexically speaking motion-path SVC offers a good starting point for manner verb and path verb analyses, and this helps us to better understand other types of motion lexicalization patterns such as converb construction, which can be decomposed as an affiliated element (like converb) attached to an independent element (like path verb). This chapter starts with a theoretical description of motion-path SVC in section 4.2, discusses both synchronically and diachronically various kinds of motion-path lexicalization patterns in section 4.3, and expands to fictive motion, a subtype of the motion situation that also largely appears in the form of SVC in section 4.4. Section 4.5 concludes the whole chapter.

4.2 Theoretical description of motion-path SVC

As one of the two prototypical usages of SVC, motion-path SVC satisfies the kinds of canonical criteria demonstrated in Chapter 1, among which the criterion of single event

deserves special attention. It has been argued that canonical SVC expresses the single event of accomplishment that comes from a dynamic and atelic subevent 1 and its telos of subevent 2 that can be various possibilities. Among those subevents activity/process can be encoded either by a manner verb or by a path verb within the motion-path SVC, which would sometimes make it hard to tell these two verbs from each other. Moreover, Chinese has a number of verbs (one subtype of synthetic verbs) that simultaneously conflate manner and path such as *deng* 'ascend with foot', and this is a typical example of what we can term the 'synthetic' nature of the ancient Chinese lexicon, which would further blur the boundary between manner and path. This section will discuss these questions for some clear descriptions of manner verb and path verb.

4.2.1 Double framing and synthetic verb

In Chapter 2 we have introduced from Croft et al. (2010, 208) the type of double framing structure, in which 'the path or framing expression is expressed twice'. In Chapter 3 we also introduced double framing phenomenon in modern Chinese following Shi and Wu (2014, 1241), and here we repeat that example sentence as (96), in which the twice-encoded path information comes from V_1 **deng** and V_2 **shang**. This is because **deng**, as argued by Shi and Wu (2014, 1241), 'encodes not merely the manner but also the path information (i.e. 'ascend', 'go up').'

(96) 接着 我 登 上 十 米 平台。
Jiezhe wo **deng** **shang** shi mi pingtai.
then I **climb** **ascend** ten meter platform
'Then I climbed onto the ten-meter platform.'

(《过把瘾就死》)
(*Guo ba Yin jiu Si* 'Sacrifice for Fun')
cited from Shi and Wu (2014, 1241), ex.(4)

Actually, the feature that **deng** encodes both manner and path information is an inheritance from its ancient usage, and in his monograph Shi (2014, 235) has offered a further illustration as in sentence (97).

(97) 孔子 登 东 山 而 小 鲁。
Kongzi **deng** Dong Shan er xiao Lu.
Confucius **climb/ascend** East Mountain and diminish Lu
'Confucius ascended the East-Mountain and regarded Shandong to be small.'

(《孟子 • 尽心上》250-150 B.C.)
(*Mencius* • *Jinxin shang* 250-150 B.C.)
cited from Shi (2014, 235), ex.(505)

In sentence (97) **deng** functions as the sole verb and incorporates both path information (upward) and manner information (with foot) (Shi, 2014, 235). This shows the synthetic feature of ancient Chinese words. Being synthetic means that multiple semantic elements are coalesced into the same and one surface form, therefore generating a many-one correspondence between semantic element and surface form (Shi, 2014, 307).[1] Thus it is obvious that the double framing feature of modern Chinese is mainly due to the path encoding (as well as manner) synthetic verb.

According to Shi (p.135), discussion of synthetic verb in modern Chinese can date from as early as research of Meng (1988), where path information of 'up' can be entailed from verbs like 'jump' and 'climb', while 'down' can be entailed from 'squat' and 'kneel'. In his monograph Shi has provided more similar cases both in modern Chinese and ancient Chinese, in which the entailed path information can either be *departure* (pp.189-190) or *arrival* (pp.306-307), as exemplified by sentence (98a) and sentence (98b).

(98) a. 他 哈哈 大 笑， 惊 飞 树 上 一窝 宿 鸟。
Ta haha da xiao, jing **fei** shu shang yiwo su niao.
he MIME big laugh, scare **fly** tree above flock sleeping bird
'He burst into laughter, scaring the flock of sleeping birds away from the tree.'

(《恩来》*Enlai*)
cited from Shi (2014, 189), ex.(333)

b. 我 决起 而 飞,
Wo jueqi er fei,
I bounce and fly,
抢 榆
qiang yu
impact against/fly towards/surpass/plough into elm
枋
fang...
sandalwood...
'I would bounce and fly, impacting against/flying towards/surpassing/ ploughing into the elm and sandalwood trees.'

(《庄子 • 逍遥游》403-221 B.C.)
(*Zhuangzi* • *Xiaoyao you* 403-221 B.C.)
(Enjoyment in untroubled ease 403-221 B.C.)
cited from Shi (2014, 306), ex.(24a)

We shall illustrate *departure* and *arrival* as path information in subsection 4.2.2, and here these two cases above may be worth more discussion. It can be seen that

[1] The conflation between manner and path as in sentence (97) is only one subtype of synthetic feature from ancient Chinese, and others include conflation between figure and motion, between cause and path etc. Readers are referred to Shi's monograph for more details.

the entailed departure information from **fei** in (98a) is due to the context background, that is, the tree, and this would guarantee **fei** itself as a manner verb that mainly expresses the flying manner of motion.[2] In contrast, the arrival information from **qiang** in (98b) is encoded in the verb itself, as Shi (p.307) acknowledges that within those four versions of translation both manner information (impact/fly/plough) and path information (against/towards/into) are expressed. Therefore we can judge **qiang** in sentence (98b) as a true synthetic verb in comparison with the implied path information of **fei** in (98a) from the context. This means that although we can follow Shi (p.175) in classifying verbs like **fei** as manner verb in statistical analysis, true synthetic verbs such as **deng** and **qiang** should be listed separately. Considering that synthetic verbs largely exist within ancient Chinese (Shi, 2014, 324), distinguishing synthetic verb from manner verb and path verb may provide a new typological perspective for ancient Chinese as well as its modern counterpart.

Except for the horizontal path information like *departure* and *arrival*, Shi (2014, 297) has also mentioned verbs that encode the descending vertical path information such as **diao**, **luo**, **zhui**, (meaning fall, drop), claiming that they encode both manner information and path information as well. Moreover, in his later statistical analysis (p.382) Shi has followed Chen and Guo (2009, 1757) in treating these kinds of verbs, as with **fei**, as manner verbs. This is however, not so convincing, and would require some more specific standards to tell path verbs from manner verbs. We shall discuss this in subsection 4.2.2.

4.2.2 Path verbs and manner verbs revisited

In fact the phenomenon that in some languages certain verbs can encode both manner information and path information has also been detected. *Climb* for instance has been considered to express a clambering manner and an upward path (Jackendoff, 1985; Fillmore, 1982, 32). However, Rappaport Hovav and Levin (2010), by proposing manner/result complementarity hypothesis, consider that this kind of verb lexicalizes only one meaning, either manner or path when actually used. Following Geuder and Weis-

[2]Levin and Rappaport Hovav (2013, pp.62-65) have also mentioned this phenomenon that for some verbs the path information can be inferred from context with a case study of 'climb'. While this confirms verbs with the inferred path information from context as manner verbs, it does not deny the synthetic nature of Chinese verbs that encode both manner information and path information such as **deng**, although the latter is often translated as 'climb' in English. We shall see more of this in subsection 4.2.2.

gerber (2008), Levin and Rappaport Hovav (2013, pp.58-59) argue that the manner information lexicalized by *climb* is not 'clambering' but 'force exertion against gravity', so that we can either say 'John climbed down the mountain' or 'The train climbed up the mountain', where both of the two **climb**s express only the 'against gravity' manner information but no path at all. However, this manner/result complementarity claim does not work for synthetic verbs in Chinese such as **deng** introduced above. Since the manner information encoded by **deng** is 'with foot', a train can climb up the mountain in English but the verb is less likely to be **deng** in Chinese. Also the 'upward' path information encoded within **deng** will make any attempt to '**deng** down a mountain' ungrammatical. Nevertheless, the difference between path morpheme and manner morpheme observed by Rappaport Hovav and Levin (2010) along with Rappaport Hovav (2008) is still helpful to tell manner verbs from path verbs, which has been applied by Lin (2011, pp.35-40) to Chinese cases. This subsection gives a brief introduction to this.

Path verb: dispute, descriptions, and standards

In traditional Chinese linguistic studies it is agreed that within modern Chinese there is a limited number of 'pure path verbs' that denote only directions, 11 in **?**, 16 and Liu et al. (2001, 546) or 13 in Chen and Guo (2009, 1757).[3] It is mainly this closed class of path verb that leads to the S-type claim of modern Chinese from Shi and Wu (2014, 1262) as introduced in Chapter 2. However, we have seen some disputes on the number of path verbs in modern Chinese from recent cognitive studies. For example Yang (2014, pp.221-223) has collected a much larger number of path verbs in Chinese, 54 in total as listed in Appendix (1). If this is true, the previously concluded closed class of path verb as well as the S-type claim for modern Chinese would be undermined.

A closer scrutiny of Appendix (1) reveals that there are four reasons for Yang to have such a large amount of path verb. First some synthetic verbs like **deng** have been taken as path verbs, yet as discussed above synthetic verbs should be separated from manner verbs and path verbs. Secondly some disyllabic words such as *jing'guo* 'pass, go through, undergo' have been included in Yang's research. However, as illustrated

[3]The 11 types of path verbs in **?**, 16 and Liu et al. (2001, 546) include *lai* 'come', *qu* 'go', *shang* 'ascend', *xia* 'descend', *jin* 'enter', *chu* 'exit', *hui* 'return', *guo* 'cross', *qi* 'rise', *kai* 'part/open', *dao* 'arrive/reach' while the 13 path verbs in Chen and Guo (2009, 1757) include *dao* 'arrive/reach', *chu* 'exit', *jin* 'enter', *guo* 'cross', *xia* 'descend', *shang* 'ascend', *hui* 'return', *qi* 'rise', *kai* 'part/open', *li* 'leave/part', *ru* 'enter', *dao* 'fall down', *zai* 'at'. It should be noted that *zai* 'at' is a coverb that acquires a sense of path when used together with a manner verb.

in Chapter 3 those disyllabic words are derived from path verbs and are primarily VV compounds. Thirdly it is quite noteworthy that some less manner/path prototypical verbs, for example *diao* 'fall', *chen* 'sink' etc. are listed in Appendix (1). Actually those verbs are quite controversial as in previous researches, *diao* 'fall' for example is considered as a manner verb by Chen and Guo (2009, 1757) and Shi (2014, 382) but a path verb by Lamarre (2008, 74). Fourthly some verbs with a 'chasing' meaning such as *nian* and *zhui* are classified by Yang as the path verb. Among those four reasons the type of less prototypical verbs as well as verbs of 'chasing' meaning would determine the number of path verb in modern Chinese. Should they perform more of path verb property, the 11 or 13 number of path verb class from 'pure path verbs' would be expanded and typological feature of modern Chinese might be further influenced. In order to have some better understanding of path verbs we now go back to theoretical descriptions on Path, particularly from Talmy (2000b) and Chu (2004).

Talmy (2000b, 53) has classified **Path** into three sub-categories: Vector, Conformation, and Deictic. Chu (2004) has added another two sub-categories: Direction and Dimension (Deictic has been adapted into the category of Perspective in Chu's classification that extends attention from speaker to Ground). Vector refers to the relative positions between Figure and Ground through motion and includes Arrival, Traversal, as well as Departure. Such information can be encoded by prepositions as in the English sentence (99a), while by path verbs like *li* and *dao*, *guo* as indicated in the Chinese sentences (99b) and (99c) that are adapted from sentences (98a) and (98b).

(99) a. He ran out of$_{Departure}$ the classroom across$_{Traversal}$ the playground to$_{Arrival}$ the dormitory.

Talmy (1985, 103), ex.(62a)

b. 一窝 宿　　鸟　飞 离　　了　树木。
Yiwo su　　niao fei li$_{Departure}$　　le　shumu.
flock sleeping bird fly leave$_{Departure}$ ASP tree
'The flock of sleeping birds flied away from the tree.'

c. 我们 决起 而 飞，碰 到
Women jueqi er fei, peng dao$_{Arrival}$
We bounce and fly, impact against$_{Arrival}$
/超 过 榆 树 和 檀 树
/chao guo$_{Traversal}$ yu shu he tan shu...
/surpass across$_{Traversal}$ elm tree and sandalwood tree...
'We would bounce and fly, impacting against/surpassing the elm and sandalwood trees.'

Conformation refers to the spatial geometry relation between Figure and Ground throughout (and after) the motion, such as 'in/out', 'above/beneath' etc. Direction is the tropism of Figure during the spatial movement and mainly includes vertical as well as horizontal. Chu (2004, pp.156-159) has summarized several sub-types of Direction as below:

(100) a. Vertical:
Up: F(igure) moves vertically and gets further away from the horizon.
Down: F moves vertically and gets closer to the horizon.

b. Horizontal:
Forward: F moves horizontally and gets further away from the Departure G(round) and closer to the Arrival G.
Backward: F moves on the same route of its earlier horizontal motion, but in the direction opposite to that of the earlier motion.

c. Facing:
Front: F moves in the direction it faces or its head points to.
Back: F moves in the opposite direction it faces or its head points to.

d. Returning:
F moves on the same route of its earlier motion, but in the direction opposite to that of the earlier motion.

e. Verging:
Divergent: different F move divergently away from the same G.
Convergent: different F move convergently towards the same G.

Chu (2004, pp.156-157), ex.(127)

Shi (2014, 171) has added some verbs denoting direction information based on Chu's summarization, as listed in Table 4.1:

Table 4.1: Verbs denoting Direction

Subtype	**Example verbs**
Vertical (Up/Down)	上 (*shang* 'ascend'), 下 (*xia* 'descend') 起 (*qi* 'rise'), 落 (*luo* 'fall')
Horizontal (Forward/Backward)	往前 (*wangqian* 'forward'), 向前 (*xiangqian* 'forward') 往后 (*wanghou* 'backward'), 向后 (*xianghou* 'backward')
Returning	返回 (*fanhui* 'return') 回 (*hui* 'return')
Verging (Divergent/Convergent)	聚 (*ju* 'gather'), 围 (*wei* 'enclose') 拢 (*long* 'gather'), 散 (*san* 'scatter')

adapted from Shi (2014, 171), Table 3-9.

It is quite noticeable that in Table 4.1 some of the direction denoting verbs, especially the Verging subtype, do not belong to the 11 or 13 'pure path verbs' introduced above. Moreover, Shi's inclusion of *luo* 'fall' as a vertical direction verb here would make his treating it as a manner verb (recall subsection 4.2.1) controversial. This again proves the complex nature of verbs that encode the descending vertical path information, and requires more specific standards for a better determination.

As for the last two sub-categories of **Path**, Dimension covers zero-dimension (point), one-dimension (line), two-dimension (surface), and three-dimension (container), while Perspective (here we would maintain the narrow reference from Talmy) means 'come' and 'go' that are encoded by *lai* and *qu* in Chinese.

Rappaport Hovav and Levin (2010) as well as Rappaport Hovav (2008) have observed two **standards** that are helpful to differentiate manner verbs from path verbs. These two standards are:

First, motion information lexicalized within a path verb can be realized by different manners. Lin (2011, pp.38-39) has applied this standard to *diao* 'fall' in Chinese, and found that it can go after various manner verbs, *piao-zhe* 'floating' in sentence (101a) and *fangun-zhe* 'rolling' in sentence (101b):

(101) a. 它 才 随 风 飘着 掉 了 下 来。
Ta cai sui feng *piao-zhe* **diao** le xia lai.
it only.then with wind *floating* **fall** ASP descend DEI
'Only then did it fall down towards the deictic center in a floating manner in the wind.'

Lin (2011, 38), ex.(20a)

b. 两 辆 车 翻滚着 掉 到 了
Liang liang che *fangun-zhe* **diao** dao le
two CLF car *rolling* **fall** arrive ASP
路 边 大 沟 里。
lu bian da gou li.
road side big channel inside
'The two cars fell into the big channel besides the road in a rolling manner.'

Lin (2011, 39), ex.(20b)

Second, a manner verb can take either a result verb or a path verb as the result state brought about by the motion, while a path verb can only be followed by another related path verb as its result, usually the endpoint of first path. Example of this standard can already be detected from the above sentence (101), where the verbs after *diao* can be

xia-lai and *dao*, both of which are the further endpoints that result from *diao*. Moreover, Lin (2011, pp.37-39) has provided some examples to show this difference. For example the manner verb *pao* 'run' can take the result verb *diu* 'lose' in sentence (102a), forming a cause-effect SVC, yet the path verb *diao* 'fall' cannot be followed by the same result verb in sentence (102b).

(102) a. 他 跑 丢 鞋子 了。
Ta pao diu xiezi le.
he run lose shoe ASP
'He lost his shoes as a result of running.'
Lin (2011, 37), ex.(18b)

b. * 货车 掉 丢 轮子 了
* Huoche diao diu lunzi le
truck fall lose wheel ASP
#'The truck lost its wheel as a result of its falling' (intended meaning)
Lin (2011, 39), ex.(21b)

In short, a path verb differs from a manner verb in that the former can go after different manner verbs and can only be followed by another path verb as its endpoint. With these standards Lin (p.39) confirms *diao* as a path verb. Moreover, through a case study Lin (2011, pp.42-45) also illustrates *chen* 'sink' to be a path verb.[4] These descriptions and standards can help judge the controversial types of 'path verb' in Yang's classification. The direction denoting verbs such as *diao* 'fall' and *chen* 'sink' have been proved to be path verbs, while the 'chasing' verbs like *nian* and *zhui* should be disqualified, for the reason that they can be followed by a result verb, not just another path verb (see sentences (103a) and (103b)). Moreover, we also find a type of 'following' verb *sui*, and identify it as a path verb according to the standards (see sentence (103c)). Here we mainly apply the second standard to *nian*, *zhui* and *sui*, and discover that the 'chasing' verbs can take a result verb such as *lei* 'being tired', while such a result verb is prohibited from the 'following' verb:

[4]Lin argues that on the one hand *chen* can only be followed by another endpoint path verb like *dao* 'arrive', while on the other hand *chen* can go after different manner verbs such as *zhuang* 'bump' and *ji* 'hit'. We agree with the allocation of *chen* with its endpoint path verb, yet regard its distribution with these two manner verbs as not so convincing, for the reason that *zhuang-chen* 'bump-sink' and *ji-chen* 'hit-sink' would be more of cause-effect SVC but not motion-path SVC. Actually given the fact that most of the direction denoting verbs are activity/process themselves, their preceding manner verbs within the motion-path situation are more likely to be converbs that occur almost at the same time as them, such as the cases in sentences (101a) and (101b). We will discuss this further in the next subsection.

(103) a. 他 撵 累 了。
Ta nian lei le.
he chase being tired ASP
'He chased and got tired.'
b. 他 追 累 了。
Ta zhui lei le.
he chase being tired ASP
'He chased and got tired.'
c. * 他 随 累 了
* Ta sui lei le
he follow being tired ASP
#'He followed and got tired' (intended meaning)

With the standards introduced in this part, we can give a preliminary answer to the dispute about the number of path verb in modern Chinese. Except for the traditional 11 or 13 'pure path verbs', direction denoting verbs (such as *diao* 'fall', *luo* 'fall' and *chen* 'sink') as well as the 'following' verb should also be counted as path verbs, yet the 'chasing' verbs behave more of the manner property and therefore should not be taken as path verbs. And the detailed number of path verbs within modern Chinese will be revealed by the statistical analysis later in this chapter.

Manner verb: manner verb as path and neutral verb as manner

Shi (2014, 135) points out that there are **two types of manner verb** in Chinese, one type of 'pure manner verbs' that encode only manner information and one type of manner verbs that also contain path information. In subsection 4.2.1 we have concluded that the path information from some of the second type of manner verb comes from context, and there are also some different cases where the path information is derived from an implied contextual background. Sentences (104a) and (104b) illustrate these two types of manner verb, both with the (synonymous) verb of *zou* as the example.

(104) a. 静 愁 惟 忆 醉， 闲 走 不 胜 眠。
Jing chou wei yi zui, xian **zou** bu sheng mian.
quiet sorrow only remember drunken, free walk no better sleep
'Surrounded by quiet sorrows I only long for being drunken, then I tried a free walk only to find it worse than a deep sleep.'
(《九日寄钱可复》 *Jiuri ji Qian Kefu*)
(A letter sent to Qian Kefu on the date of 9^{th})
cited from Shi (2014, 147), ex.(186)

b. 你 别 走， 我 还 有 话 和 你 说 呢。
Ni bie **zou**, wo hai you hua he ni shuo ne.
you not leave, I also have words with you talk MOD
'Please don't go, I also have some words to talk with you.'
(《红楼梦》*Hong Lou Meng*)
(A Dream of the Red Mansion)
cited from Shi (2014, 187), ex.(330b)

c. 那 鸟儿 没 处 歇，就 飞走 了。
Na niaoer mei chu xie, jiu fei zou le.
that bird no place rest, so that fly leave ASP
'Without any place to rest, that bird just flew away.'
(《官场现形记》)
(*Guanchang Xian Xing Ji* 'A Profile of Officialdom')
cited from Shi (2014, 188), ex.(330d)

Zou within sentence (104a) is its basic meaning and expresses the manner information of 'walking', therefore being a 'pure manner verb'. By contrast *zou* in sentence (104b) expresses more of the 'leaving' meaning, and Shi (2014, 187) regards *zou* within this sentence as encoding the departure motion information, thus treating it as a path verb. Moreover, the manner information of 'walking' within *zou* is further weakened as the path information of 'leaving' can be realized by other manners such as 'flying' in sentence (104c). In this research we will follow Shi in treating *zou* with the 'leaving' meaning as a path verb.

For manner verb there is also another special case, that is a **neutral verb** used as a manner verb as mentioned in Chapter 3. In Chapter 3 we noted that there are two kinds of neutral verb, respectively N_a and N_b (Shi and Wu, 2014, pp.1252-1253). N_a comes from Özçalışkan and Slobin (2003) and refers to motion verbs that express neither manner information nor path information, like *go* and *move* in English. *Xing* 'move' has also been treated by Shi and Wu (2014, 1253) as a N_a verb. N_b comes from Chen and Guo (2009) and refers to non-motion verbs that would acquire a manner meaning when used before a path verb. Some examples of N_b verbs in modern Chinese include *mo* 'touch/slip' in *mo-jin* 'touch-enter' and *ji* 'squeeze' in *ji-dao* 'squeeze-arrive'. Both of these two kinds of neutral verb have been found in our research.

Path verb encoding activity/process within SVC

In spite of the fact that most motion-path SVCs are composed of a manner verb as V_1 and a path verb as V_2, occasionally two path verbs can also form the motion-path SVC. Sentence (105) illustrates several possibilities.

(105) a. 他 看到 那 个 人 的 脑袋
Ta kandao na ge ren DE_1 naodai
he see that CLF person DE_1 head
掉 进 了 池塘。
diao jin le chitang.
drop enter ASP pool
'He saw the head of that person drop into the pool.'
(《一九八六年》 *Yi jiu ba liu Nian* 'The Year of 1986')
cited from Shi (2014, 297), ex.(2)

b. 我们 回 到 树 村。
Women hui dao shu cun.
we return arrive tree village
'We returned to Tree Village.'
cited from Lin (2011, 118), ex.(40a)

c. 马 俊仁 步履 沉重 地 进 到 楼 里。
Ma Junren bulv chenzhong DE_2 jin dao lou li.
Ma Junren pace heavy DE_2 enter arrive building inside
'Ma Junren entered the building with a slow pace.'
(《马家军调查》)
(*Majia Jun Diaocha* 'A Survey on Ma's Troop')
cited from Shi (2014, 341), ex.(18)

It can be observed that *diao* in sentence (105a) and *hui* in sentence (105b) are direction denoting path verbs as introduced above. Moreover, under the Aktionsarten perspective we can find that both of these two verbs are durative, dynamic, and atelic, and are therefore the event type of activity/process. This is also why the converbs *piao-zhe* 'floating' and *fangun-zhe* 'rolling' can be used in sentences (101): the durative manners expressed by these converbs occur almost simultaneously with the same durative activity/process of *diao* 'drop'. The activity/process *diao* and *hui*, together with the achievement *jin* 'enter' and *dao* 'arrive', would make the motion-path SVCs in sentences (105a) and (105b).

As for the internal components of *jin-dao* 'enter-arrive' in sentence (105c), it is true that both of them are achievement path verbs. However, Shi (2014, 341) argues that these two components encode different kinds of path information, 'inward movement' in *jin* and 'arrival' in *dao*. Therefore, even though both *jin* and *dao* are achievement encoding path/result verbs, *jin-dao* is not the type of synonymous RR compound introduced in Chapter 3. The component *jin* is dynamic but not entirely punctual, since it can encode an activity/process (cf. English 'he was slowly entering the courtyard'), while *dao* is closer to being a typical achievement predicate. For this reason *jin-dao* can

be regarded as an SVC as well, perhaps a less canonical one in comparison with other SVCs in which V_1 is a typical activity/process.

4.3 Motion-path lexicalization patterns in modern Chinese and ancient Chinese

This section investigates typological characteristics of modern Chinese and ancient Chinese through statistical analysis. Subsection 4.3.1 first illustrates each of the lexicalization patterns with example sentences, and then concludes the overall typological feature of modern Chinese. Subsection 4.3.2 follows a similar route, but with a diachronic subdivision of ancient Chinese into various phases and times as introduced in Chapter 3. This is in order to reveal how ancient Chinese changes (if at all) its typological feature in different periods. Passage resources and methodology have been demonstrated in Chapter 3, and results of this section will be presented in visualized tables and figures for a better understanding.

4.3.1 Typology of motion-path in modern Chinese

As introduced in Chapter 3, the modern Chinese corpus comprises modern translations of ancient Chinese passages selected from 5 websites. These multiple sources, together with two online Chinese dictionaries as well as two hardcopy dictionaries,[5] helps cross-check the translation and guarantees the accuracy of motion-path lexicalization patterns in modern Chinese. All through the corpus 506 entries of such lexicalization patterns are discovered, with a coverage of 6 kinds as introduced in Chapter 2 and Chapter 3, namely Serial Verb Construction (SVC), Double Framing (DF), Satellite Framing, Converb Construction, Coordinate, and Alternative Expression of Manner (AEM). This subsection will analyze the typological feature of modern Chinese with a discussion of those 6 kinds in turns.

[5]Of the two online Chinese dictionaries, one is mainly for ancient Chinese and can be accessed via this website: http://wyw.hwxnet.com/, and the other is mainly for modern Chinese as from http://www.zdic.net/. For the two hardcopy dictionaries, both of them are for modern Chinese as can be seen from their names, *Xiandai Hanyu Ba bai Ci* 'Eight Hundred Lexicons in Modern Chinese' and *Xiandai Hanyu Cidian (di 6 ban)* 'Modern Chinese Dictionary (6^{th} edition)'.

Motion-path lexicalization patterns in modern Chinese

Among the 506 entries within the corpus 364 are found to be **SVC**, and can be further classified into three subcategories, that is, motion-path SVC in space, motion-path SVC in time, as well as virtual factive motion.

Motion-path SVC in space refers to motion that occurs in space with the lexicalization pattern of SVC. And within the SVC the slots of V_1 and V_2 can be fulfilled by various kinds of components that can combine in a somewhat flexible order. For example the construction can be composed of an M verb and an R verb, where the combination can either be M-R as suggested in sentence (106a), or R-M as in (106b):[6]

(106) a. 飞 $_{[M]}$ 上 $_{[R]}$ 九 天 扫 除 彗星。

Fei$_{[M]}$ shang$_{[R]}$ jiu tian sao chu huixing.
fly ascend nine sky sweep remove comet

'Fly up to the highest level of heaven and brush aside the comet.'

(《九歌 • 少司命》译文，引自 http://so.gushiwen.org/fanyi_8345.aspx)

(Translation of *Jiu Ge • Shao si ming* 'Nine Songs • Junior destiny manager', cited from http://so.gushiwen.org/fanyi_8345.aspx)

b. 蚂蚁 上 案头 沿着 $_{[R]}$ 砚水 爬 $_{[M]}$。

Mayi shang antou yan-zhe$_{[R]}$ yanshui pa$_{[M]}$.
ant ascend desk along water leaked from inkstone climb

'Ants ascended the desk and climbed along the water leaked from the inkstone.'

(《牡丹亭 • 闺塾》译文，引自 http://ewenyan.com/articles/wy/1_2/179.html)

(Translation of *Mudan Ting • Gui shu* 'The Peony Pavilion • Boudoir teaching' cited from http://ewenyan.com/articles/wy/1_2/179.html)

Occasionally the path information can be implied from the context, largely through the noun after the main verb. For this M-N combination we treat it as a special case of (noncanonical) SVC, such as sentence (107).

[6] It should be noted that the R component *yan-zhe* 'along-converb' in sentence (106b) is not an independent verb but a converb that should go with its following M verb, therefore *yanzhe...pa* 'along...climb' is not a canonical SVC. However, we suppose *yan* maintains some property of verb from its ancient usage, where in the original ancient passage it functions as the sole predicate that corresponds with the modern motion-path construction *yanzhe...pa*, and the original ancient sentence is *Yi shang antou* ***yan*** *yanshui* 'Ants ascended the desk and **along** the water leaked from inkstone (climbing)'. Moreover, *yan* differs from the prepositions such as *xiang* and *wang* in that *yan* can only appear before the main verb whereas the prepositions can appear either before the main verb or after it.

(107) 幽幽 黑暗 中 急 奔 $_{[M]}$ 东方 $_{[N]}$。
Youyou heian zhong ji ben$_{[M]}$ dongfang$_{[N]}$.
thick darkness amidst hurriedly rush east
'Amidst the darkness rush hurriedly towards east.'

(《九歌 • 东君》译文，引自
http://ewenyan.com/articles/cc/2.html)
(Translation of *Jiu Ge • Dong jun*
'Nine Songs • Gentleman at the east', cited from
http://ewenyan.com/articles/cc/2.html)

It is further discovered that path information can be encoded by a coverb that occurs at V_2 slot, and a typical example is *zai* 'at'. Both Chen and Guo (2009, 1757) as well as Shi (2014, 383) have mentioned this phenomenon, and in our corpus *zai* functioning as the path V_2 has also been discovered, with the preceding V_1 either being an M verb (sentence (108a)), or an R verb (sentence (108b)).

(108) a. 把 禅 衣 扔 $_{[M]}$ 在 $_{[Coverb]}$ 澧 水 之 滨。
Ba chan yi reng$_{[M]}$ zai$_{[Coverb]}$ Li Shui zhi bin.
BA Buddhist clothes cast at Li Water POSS side
'Cast the Buddhist's clothes at the side of Li Water.'
(《九歌 • 湘夫人》译文，引自 http://ewenyan.com/articles/cc/2.html)
(Translation of *Jiu Ge • Xiang furen*
'Nine Songs • Lady at the Xiang River', cited from
http://ewenyan.com/articles/cc/2.html)

b. 有时候 飞 不 到， 便 落 $_{[R]}$ 在 $_{[Coverb]}$ 地上 就是了。
Youshihou fei bu dao, bian luo$_{[R]}$ zai$_{[Coverb]}$ dishang jiushi le.
sometimes fly not arrive, so fall at ground this's it
'Sometimes I cannot fly to it, then I would just fall on the ground.'
(《逍遥游》译文，引自
http://www.fainfo.com/puton/lang/lang12/lang1241.htm)
(Translation of *Xiaoyao you*
'Enjoyment in untroubled ease, cited from
http://www.fainfo.com/puton/lang/lang12/lang1241.htm)

Moreover, it can be a verbal compound that occurs as V_1 with a following R verb as V_2, and the V_1 verbal compound can be MM compound or RR compound. Examples can be found at sentences (109).

(109) a. 从 两 座 山峰 中间 倾泻 $_{[MM]}$ 出 $_{[R]}$ 来。
Cong liang zuo shanfeng zhongjian qingxie$_{[MM]}$ chu$_{[R]}$ lai.
from two CLF peak between pour exit DEI
'(The spring) pours out between the two peaks.'
(《宋散文选 • 醉翁亭记》译文，引自
http://www.fainfo.com/puton/lang/lang13/lang1320.htm)
(Translation of *Prose collection • Zuiweng Ting ji*
'Notes of the Old Tippler's Pavilion', cited from
http://www.fainfo.com/puton/lang/lang13/lang1320.htm)

b. 飞 得 低 的 飘飘洒洒
Fei DE_3 di DE_1 piaopiaosasa
fly DE_3 low DE_1 drifting
沉落 $_{[RR]}$ 到 $_{[R]}$ 低洼 的 水塘 里。
chenluo$_{[RR]}$ dao$_{[R]}$ diwa DE_1 shuitang li.
fall arrive low-lying DE_1 pool inside
'The lower-flying (thatch) drifted and fell down into the low-lying pool.'
(《杜甫诗 • 茅屋为秋风所破歌》译文，引自 http://www.fainfo.com/puton/lang/lang17/lang173.htm)
(Translation of *Du Fu's Poems • Mao wu wei qiu feng suo po ge* 'Thatched cottage destroyed by the autumn wind', cited from http://www.fainfo.com/puton/lang/lang17/lang173.htm)

The path information can also be encoded by RR verbal compound, which may appear as V_2 as in sentence (110a), or as V_1 as in sentence (110b).

(110) a. 樊 於期 走 $_{[M]}$ 上前 $_{[RR]}$ 说：“怎么 办?”
Fan Yuqi zou$_{[M]}$ shangqian$_{[RR]}$ shuo: 'zenme ban?'
Fan Yuqi walk advance say: 'how do?'
'Fan yuqi walked forward and asked, 'What shall I do?'
(《靳轲刺秦王》译文，引自 http://yw.eywedu.com/High/HTML/34.html)
(Translation of *Jin Ke ci Qin Wang* 'Jin Ke stabbed the King of Qin', cited from http://yw.eywedu.com/High/HTML/34.html)

b. 有的 从 东面 的 北 海 吹 来，
Youde cong dongmian DE_1 Bei Hai chui lai,
some from east DE_1 North Sea blow DEI,
不断 地 来回 $_{[RR]}$ 吹 $_{[M]}$。
buduan DE_2 lai-hui$_{[RR]}$ chui$_{[M]}$.
unceasing DE_2 come-return blow
'Some of (the wind) comes from the east side North Sea, and blows to-and-fro unceasingly.'
(《天演论 • 查变》译文，引自 http://www.fainfo.com/puton/lang/lang11/lang1113.htm)
(Translation of *Tian Yan Lun • Cha bian* 'Theory of Natural Selection • On change', cited from http://www.fainfo.com/puton/lang/lang11/lang1113.htm)

Last but not least, some SVCs can be constituted mainly by R verb, either in the form of path verb encoding activity/process that has been introduced in subsection 4.2.2, or in the form of path verb as V_1 followed by a neutral verb as V_2. Illustration can be found at sentences (111).

(111) a. 两 个 石 兽 一起 沉 $_{[R]}$ 入 $_{[R]}$ 河 底。

Liang ge shi shou yiqi chen$_{[R]}$ ru$_{[R]}$ he di.
two CLF stone animal together sink enter river bottom
'The two stone animals sank together into the river bottom.'
(《河中石兽》译文，引自 http://yw.eywedu.com/rj71/HTML/7161.html)
(Translation of *He zhong shi shou* 'Stone animals in the river', cited from http://yw.eywedu.com/rj71/HTML/7161.html)

b. 商人 旅客 不能 前 $_{[R]}$ 行 $_{[Neutral]}$。

Shangren lvke buneng qian$_{[R]}$ xing$_{[Neutral]}$.
businessman tourist cannot forward move
'Businessmen and tourists cannot move forward.'
(《宋散文选 • 岳阳楼记》译文，引自 http://yw.eywedu.com/Teaching/HTML/8722.html)
(Translation of *Prose collection • Yueyang Lou ji* 'Notes of the Yueyang Tower', cited from http://yw.eywedu.com/Teaching/HTML/8722.html)

The above subtypes of motion-path SVC in space can be summarized in Table 4.2.

Table 4.2: Lexicalization patterns of motion-path SVC in space

No.	Subtype	Example	No.	Subtype	Example
1	M-R	飞上 *fei-shang* 'fly-ascend, fly up'	7	RR-R	沉落到 *chenluo-dao* 'sink fall-arrive, fall into'
2	R-M	沿着爬 *yanzhe-pa* 'along-climb, climb along'	8	M-RR	走上前 *zou-shangqian* 'walk ascend forward, walk forward'
3	M-N	急奔东方 *jiben-dongfang* 'rush-east, rush towards east'	9	RR-M	来回吹 *laihui-chui* 'come return-blow, blow to-and-fro'
4	M-Coverb	扔在 *reng-zai* 'cast at, cast at'	10	R-R	沉入 *chen-ru* 'sink-enter, sink into'
5	R-Coverb	落在 *luo-zai* 'fall at, fall at'	11	R-Neutral	前行 *qian-xing* 'forward move, move forward'
6	MM-R	倾泻出来 *qingxie-chulai* 'pour pour-exit come, pour out'			

Motion-path SVC in time refers to motion that occurs in time with the lexicalization pattern of SVC. This type of SVC is quite rare, and within the corpus only three cases are found, all of them ending with the arrival verb *dao* as V_2. Sentences (112) show these examples.

(112) a. 没有 衣服 没有 粗 布衫，

Meiyou yifu meiyou cu bushan,
no coat no coarse cloth,
怎么 挨 到 年底！
zenme ai dao niandi!
how endure arrive the end of the year
'Without any coat or coarse cloth, how can I endure to the end of the year!'
(《诗经 • 七月》译文，引自 http://www.fainfo.com/puton/lang/lang11/lang1159.htm)
(Translation of *Shi Jing • Qi Yue* 'Book of Songs • July', cited from http://www.fainfo.com/puton/lang/lang11/lang1159.htm)

b. 天天　夜里　直　叫　到　五更。
Tiantian yeli zhi jiao dao wugeng.
everyday night on-going chirp arrive early morning
'Every night (the two mandarin ducks) would chirp until early morning.'
(《孔雀东南飞》译文，引自 http://www.fainfo.com/puton/lang/lang14/lang1411.htm)
(Translation of *Kongque dong nan fei* 'The peacock flies to the southeast', cited from http://www.fainfo.com/puton/lang/lang14/lang1411.htm)

c. 如今 轮　到　你　山　阳　县。
Rujin lun dao ni Shan Yang xian.
now turn arrive you Shan Yang County
'Now it turns to you Shan Yang County.'
(《窦娥冤》译文，引自 http://www.docin.com/p-388312023.html)
(Translation of *Dou'e Yuan* 'Snow in Midsummer', cited from http://www.docin.com/p-388312023.html)

Finally there is ***virtual factive motion***.[7] This refers to the factive motion that occurs in a virtual space, and typical examples include motion that happened in the mental space of dream and metaphorical emotion motion. Nevertheless, its lexicalization pattern is still SVC, and this can be suggested by the only two examples discovered in our corpus, listed here as sentences (113).

(113) a. 我 根据 越人　说 的 话
Wo genju yueren shuo DE$_1$ hua
I due to Yue people say DE$_1$ word
梦　游　到　了　绍　兴。
meng you dao le Shao Xing.
dream walk arrive ASP Shao Xing
'According to the words from people living at Yue, in my dream I walked to Shao Xing for a visit.'
(《李白诗 • 梦游天姥吟留别》译文，引自 http://wyw.5156yuwen.com/119.html)
(Translation of *Li Bai's Poems • Meng you Tianmu yin liu bie* 'Tianmu Mountain ascended in a dream', cited from http://wyw.5156yuwen.com/119.html)

b. 又　隐隐　缠绕　上　了　心头。
You yinyin chanrao shang le xintou.
again indistinctly intertwine ascend ASP heart
'(The grief of parting) again indistinctly intertwined upon my heart.'
(《李清照词 • 一剪梅》译文，引自 http://www.fainfo.com/puton/lang/lang12/lang12167.htm)
(Translation of *Li Qingzhao's Ci • Yi jian mei*, cited from http://www.fainfo.com/puton/lang/lang12/lang12167.htm)

[7]This part of virtual factive motion largely benefits from discussion with Dr. Ma Sai, who has helped distinguish the difference between virtual factive motion and fictive motion. The term 'virtual factive motion' also comes from our mutual talk. Special thanks to her!

Within the 364 entries of **SVC** only 5 belong to ***motion-path SVC in time***, 2 belong to ***virtual factive motion***, and all the others are ***motion-path SVC in space***. Actually most of the previous researches only focus on the domain of space (Chen and Guo, 2009; Shi, 2014). Although motion-path SVC in space takes a much higher percentage than motion-path SVC in time and virtual factive motion, the other two categories should not be ignored. So far this subsection has classified 11 subtypes of motion-path SVC in space, which together with the other two categories of SVC in time as well as virtual factive motion SVC, provide a more comprehensive picture of motion-path SVC. Next we shall move to other lexicalization patterns.

In subsection 4.2.1 we have illustrated **Double Framing** in Chinese with *deng-shang* 'climb (upward with feet)-ascend' as the example, and here we will provide further examples of this structure. Altogether 80 entries of double framing have been discovered in our corpus, which can be classified into three subtypes according to their internal components. These forms are Synthetic-R, $R_{Process/activity}$-$R_{Direction}$, and $R_{Direction}$-$R_{Process/activity}$.

Deng-shang 'climb (upward with feet)-ascend' in sentence (96) (repeated here as sentence (114a)) offers an example of ***Synthetic-R*** lexicalization pattern with V_1 *deng* being a synthetic verb. Moreover, closer observation tells us that the twice-encoded 'ascending' path information in *deng-shang* belongs to Up category of Vertical Direction (recall (100) in subsection 4.2.2). Similarly within our corpus some Synthetic-R lexicalization patterns that encode other directions of path information are also discovered. One example is *du-guo* 'cross-through' in sentence (114b). Shi (2014, 201) has pointed out that *du* at the same time encodes path information of 'cross' and manner information of 'how the crossing is carried out' (also there is the background information of 'water'), therefore it would be treated as a synthetic verb as well in our research. In addition, considering the fact that 'water' normally lies horizontally on the ground, *du-guo* would be a double framing word that encodes the Horizontal path information of 'cross'. Also there is Synthetic-R word that twice encodes Down category of Vertical Direction. An example is *yan-xia* 'swallow-descend' in sentence (114c), where the double framing feature is mainly due to the synthetic V_1 *yan* that encodes the manner information of 'swallow' with an implied path information of 'down'.

(114) a. 接着 我 登 $_{Syn}$ 上 $_{R}$ 十 米 平台。

Jiezhe wo deng$_{Syn}$ shang$_{R}$ shi mi pingtai.
then I climb ascend ten meter platform
'Then I climbed onto the ten-meter platform.'

(《过把瘾就死》)
(*Guo ba Yin jiu Si* 'Sacrifice for Fun')
cited from Shi and Wu (2014, 1241), ex.(4)

b. 渡 $_{Syn}$ 过 $_{R}$ 沅 水 湘 水 奔 向 南方。

Du$_{Syn}$ guo$_{R}$ Yuan Water Xiang Water ben xiang nanfang.
cross through Yuan Water Xiang Water rush towards south
'Cross Yuan Water and Xiang Water, and then rush towards the south.'

(《离骚》译文，引自 http://wyw.5156yuwen.com/124.html)
(Translation of *Li Sao*, cited from http://wyw.5156yuwen.com/124.html)

c. 我 恐怕 秦 国 人 饭 也 不能 咽 $_{Syn}$ 下 $_{R}$。

Wo kongpa Qin Guo ren fan ye buneng yan$_{Syn}$ xia$_{R}$.
I afraid Qin people food even cannot swallow descend
'I'm afraid Qin people cannot even swallow down their food.'

(《宋散文选 • 六国论》译文，引自 http://wyw.5156yuwen.com/130.html)
(Translation of *Prose collection • Liu guo lun* 'Discussion on the six states', cited from http://wyw.5156yuwen.com/130.html)

As for the case of $\boldsymbol{R}_{Process/activity}$-$\boldsymbol{R}_{Direction}$, its double-framing feature partially comes from V_1 path verb that expresses a process/activity, and partially comes from V_2 path verb that further indicates the same direction. It should be noted that this $R_{Process/activity}$-$R_{Direction}$ differs from *R-R motion-path SVC* in that for the double-framing case the V_2 path verb indicates further the direction that accords with the process/activity expressed by the V_1 path verb, while for the SVC case the V_2 path verb normally expresses the further result caused by the V_1 process/activity (cf. sentences (115a) (115b) (111a)). For the lexicalization pattern of $R_{Process/activity}$-$R_{Direction}$ two sub-cases are found, one twice encoding Up Direction as in sentence (115a), and one twice encoding Down Direction as in sentence (115b).

(115) a. 水波 荡漾 升 $_{Pro/act}$ 起 $_{Dire}$ 阵阵 烟雾。

Shuibo dangyang sheng$_{Pro/act}$ qi$_{Dire}$ zhenzhen yanwu.
water wave ripple elevate rise puff fog
'Water wave ripples, and fog rises upward.'

(《李白诗 • 梦游天姥吟留别》译文，引自 http://www.fainfo.com/puton/lang/lang16/lang166.htm)
(Translation of *Li Bai's Poems • Meng you Tianmu yin liu bie* 'Tianmu Mountain ascended in a dream', cited from http://www.fainfo.com/puton/lang/lang16/lang166.htm)

b. 勇士 争先 哪怕 乱 箭 交 坠 $_{Pro/act}$ 下 $_{Dire}$。
Yongshi zhengxian napa luan jian jiao zhui$_{Pro/act}$ xia$_{Dire}$.
warrior strive even many arrow collide fall descend
'Warriors strived even many arrows collided and fell down.'
(《九歌 • 国殇》译文，引自 http://so.gushiwen.org/fanyi$_8$345.aspx)
(Translation of *Jiu Ge • Guo shang*
'Nine Songs • National martyr', cited from
http://so.gushiwen.org/fanyi$_8$345.aspx)

Also the double framing lexicalization pattern can be in the form of $R_{Direction}$-$R_{Process/activity}$, and sentence (116) provides such an example, which twice encodes Down Direction and is the only case found in our corpus.[8]

(116) 神君 盘旋 从 空中 下 $_{Dire}$ 降 $_{Pro/act}$。
Shenjun panxuan cong kongzhong xia$_{Dire}$ jiang$_{Pro/act}$.
god hover from midair descend fall
'God hovered in the midair and fell down.'
(《九歌 • 大司命》译文，引自 http://ewenyan.com/articles/cc/2.html)
(Translation of *Jiu Ge • Da si ming*
'Nine Songs • Senior destiny manager', cited from
http://ewenyan.com/articles/cc/2.html)

These three subtypes of **Double Framing**, together with their sub-cases according to the direction encoded, have been summarized in Table 4.3.

Table 4.3: Subtypes of double-framing lexicalization pattern

No.	Subtype	Direction	Example
1	Synthetic-R	Up	*deng-shang* 'climb up'
		Horizontal	*du-guo* 'cross through'
		Down	*yan-xia* 'swallow down'
2	$R_{Process}$-$R_{Direction}$	Up	*sheng-qi* 'rise upward'
		Down	*zhui-xia* 'fall-down'
3	$R_{Direction}$-$R_{Process}$	Down	*xia-jiang* 'down-fall'

Satellite Framing refers to the lexicalization pattern where the result path is encoded by a dependent element, usually a preposition, in modern Chinese. In Chapter 3 we have mentioned the motion-path situation of satellite framing with the example of *wang* 'towards', and here we offer another two types: *xiang* and *chao* (all meaning 'towards'). Altogether 35 entries are discovered for those three preposition types, and examples are indicated in sentences (117).

[8]Theoretically there should be the same $R_{Direction}$-$R_{Process/activity}$ double framing word that twice encodes Up Direction, and 上升 (*shang-sheng*, 'ascend rise') is such an example. However, we did not find it in our corpus, so this sub-case of double framing has not been listed in Table 4.3.

(117) a. 我 奔 $_{M}$ 向 $_{Prep}$ 那 高高 的 山脊。
Wo ben$_{M}$ xiang$_{Prep}$ na gaogao DE$_1$ shanji.
I rush towards that high-high DE$_1$ ridge
'I rush towards that high ridge.'
(《离骚》译文，引自 http://www.fainfo.com/puton/lang/lang11/lang113.htm)
(Translation of *Li Sao*, cited from http://www.fainfo.com/puton/lang/lang11/lang113.htm)

b. 大雁 从 北 往 $_{Prep}$ 南 飞 $_{M}$。
Dayan cong bei wang$_{Prep}$ nan fei$_{M}$.
wild goose from north towards south fly
'Wild geese fly from north to south.'
(《西厢记》译文，引自 http://so.gushiwen.org/fanyi_25736.aspx)
(Translation of *Xi Xiang Ji* 'Romance of the Western Chamber', cited from http://so.gushiwen.org/fanyi_25736.aspx)

c. 屠夫 转过 身 来 继续 朝 $_{Prep}$ 前 走 $_{M}$。
Tufu zhuanguo shen lai jixu chao$_{Prep}$ qian zou$_{M}$.
butcher turn around body DEI continue towards front walk
'The butcher turned around and continued to walk ahead.'
(《狼 • 之一》译文，引自 http://wyw.5156yuwen.com/52.html)
(Translation of *Lang • No.1* 'Wolf • No.1', cited from http://wyw.5156yuwen.com/52.html)

As introduced in Chapter 3 there are two types of **Coordinate** for our modern Chinese data of motion-path, the syndetic one with an overt conjunction marker such as *er* 'and', and the asyndetic one without the overt conjunction marker but composed of two independent motional predicates that are linked by a causal relation. 13 entries of coordinate are discovered within the corpus, and these two types are shown in sentences (118a) and (118b).

(118) a. 潜藏 的 巨 龙 在 深渊 腾跃 而 起。
Qiancang DE$_1$ ju long zai shenyuan tengyue **er** qi.
hidden DE$_1$ huge dragon at abyss prance CD rise
'The hidden huge dragon prances and rises from the abyss.'
(《少年中国说》译文，引自 http://www.fainfo.com/puton/lang/lang14/lang1431.htm)
(Translation of *Shaonian Zhong Guo shuo* 'Youth China', cited from http://www.fainfo.com/puton/lang/lang14/lang1431.htm)

b. 石 阶 光滑， 旋转着 走 就 可以 下 去。
Shi jie guanghua, xuanzhuanzhe zou jiu keyi xia qu.
stone step smooth, awhirl walk then can descend DEI
'The stone steps are very smooth, but you can descend by walking the awhirl route.'

(《游栖霞紫云洞记》译文，引自
http://gz.eywedu.com/Article_37/200852619520500-1.html)
(Translation of *You Qixia Zi yun dong ji*
'A visit to Zi yun Cave at Qixia Mountain', cited from
http://gz.eywedu.com/Article_37/200852619520500-1.html)

Also there are two types of **AEM** discovered, one without a manner verb where the manner information is provided by an AEM like adjective in sentence (119a), and one with a manner verb but there is a concomitant AEM that further explains how the manner is generated such as sentence (119b). In both of the two types there exists a causal relation between the AEM information and the result path verb. In all 13 entries of AEM expression are identified.

(119) a. 犹犹豫豫 靠近 来 看，却是 死 狼。
Youyouyuyu **kaojin** lai kan, queshi si lang.
hesitant approach come see, that's dead wolf
'(The butcher) approached in a hesitant manner to see, and found that was a dead wolf.'

(《狼 • 之一》译文，引自
http://www.fainfo.com/puton/lang/lang11/2008/lang11051223182618.htm)
(Translation of *Lang • No.1* 'Wolf • No.1', cited from
http://www.fainfo.com/puton/lang/lang11/2008/lang11051223182618.htm)

b. 那个 英 国 军官， 飞 马 冲 在 前面。
Nage Ying Guo junguan, *fei ma* chong zai qianmian.
that British commander, fly horse rush at front
'That British commander rushes on a galloping horse in the front.'

(《冯婉贞胜英人于谢庄》译文，引自
http://wyw.5156yuwen.com/260.html)
(Translation of *Feng Wanzhen sheng Ying ren yu Xie Zhuang*
'Feng Wanzhen defeats the British invaders at Xie's Village', cited from
http://wyw.5156yuwen.com/260.html)

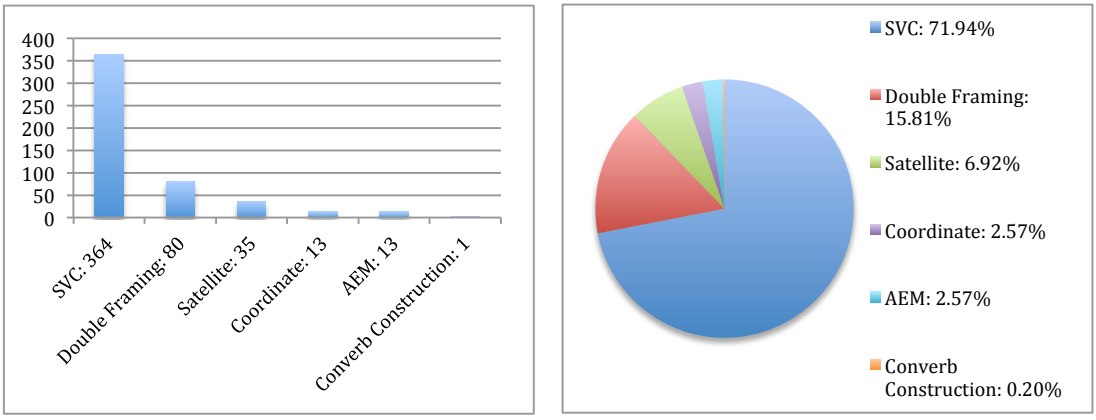
Finally, as introduced in Chapter 3, **Converb Construction** for motion-path expression is mainly in the form of V_1-*zhe*-V_2, within which the converb V_1-zhe cannot be used on its own and would lead to the result encoded in V_2. There is only one such example obtained from our corpus as in sentence (120), where it should be noted that V_2 is a verbal compound that comes from two neutral activity verbs.

(120) 列子 驾 着 风 游行， 轻妙 极 了。
Liezi *jia-* *zhe* *feng* youxing, qingmiao ji le.
Liezi drive-CONV wind travel, lambent extreme CRS
'Liezi travels by driving the wind in an extreme lambent way.'

(《逍遥游》译文，引自
http://www.fainfo.com/puton/lang/lang12/lang1241.html)
(Translation of *Xiaoyao you*
'Enjoyment in untroubled ease', cited from
http://www.fainfo.com/puton/lang/lang12/lang1241.htm)

A brief summary and discussion

So far we have demonstrated the 6 kinds of lexicalization patterns for motion-path expression in modern Chinese, and in this subsection we will provide a brief summary and discussion. From the corpus we have extracted 506 relevant entries, which can provide us with the **typological profile** of modern Chinese on the part of motion-path lexicalization pattern. First, modern Chinese does show a versatile feature as it uses more than one kind of lexicalization pattern for motion-path expression. Second, with 364 entries discovered, SVC takes 71.94% among all the motion-path expressions, so that it can be judged as the most prototypical motion-path typological feature for modern Chinese. For a detailed number and percentage comparison among those 6 kinds see Figure 4.1.



a. Number of each kind

b. Percentage of each kind

Figure 4.1: 6 kinds of motion-path lexicalization patterns

Those 506 entries can also provide us with numbers of **M type and R type** within motion-path lexicalization in modern Chinese. In all we have extracted 93 types of

manner verb and 3 of them are neutral (N_a) ones, as shown in Table 4.4.[9]

Table 4.4: Types of manner verb in motion-path domain

No.	Verb	Meaning	No.	Verb	Meaning	No.	Verb	Meaning
1	挨 ai	endure	32	溅 jian	splash	63	收 shou	collect
2	摆 bai	place	33	交 jiao	hand in	64	送 song	deliver
3	搬 ban	carry	34	叫 jiao	chirp	65	踏 ta	step
4	奔 ben	rush	35	接 jie	escort	66	抬 tai	lift
5	逼 bi	coerce	36	揭 jie	uncover	67	淌 tang	stream
6	贬 bian	exile	37	浸 jin	dip	68	逃 tao	escape
7	乘 cheng	ride	38	卷 juan	roll	69	腾 teng	gallop
8	冲 chong	dash	39	扛 kang	shoulder	70	跳 tiao	jump
9	穿 chuan	drill	40	列 lie	rank	71	推 tui	push
10	传 chuan	summon	41	领 ling	lead	72	吞 tun	gulp
11	吹 chui	blow	42	流 liu	flow	73	挖 wa	dig
12	刺 ci	pierce	43	轮 lun	turn	74	网 wang	net
13	带 dai	bring	44	买 mai	buy	75	袭 xi	raid
14	登 deng	climb	45	摸 mo	fumble	76	献 xian	offer
15	丢 diu	throw	46	拿 na	seize	77	休 xiu	divorce
16	躲 duo	shun	47	爬 pa	clamber	78	引 yin	guide
17	翻 fan	tramp	48	抛 pao	toss	79	涌 yong	surge
18	放 fang	place	49	跑 pao	run	80	游 you	swim
19	飞 fei	fly	50	飘 piao	flutter	81	运 yun	load
20	扶 fu	support	51	扑 pu	swoop	82	载 zai	load
21	浮 fu	float	52	铺 pu	spread	83	召 zhao	summon
22	盖 gai	cover	53	沁 qin	exude	84	谪 zhe	exile
23	赶 gan	hurry	54	请 qing	invite	85	震 zhen	vibrate
24	跟 gen	follow	55	取 qu	fetch	86	征 zheng	crusade
25	刮 gua	blow	56	惹 re	provoke	87	追 zhui	chase
26	关 guan	barrier	57	扔 reng	throw	88	走 zou	walk
27	灌 guan	pour	58	洒 sa	sprinkle	89	钻 zuan	drill
28	滚 gun	trundle	59	塞 sai	plug	90	坐 zuo	sit
29	混 hun	foist	60	捎 shao	take	91	行 xing	move
30	寄 ji	send	61	射 she	shoot	92	迁 qian	move
31	嫁 jia	marry	62	伸 shen	stretch	93	移 yi	move

44 types of path verb have been identified, which is more than the 13 types from Chen and Guo (2009) and Shi and Wu (2014), but fewer than the 54 types from Yang (2014). This is because on the one hand we have followed the two standards for manner verb and path verb in Chinese from Lin (2011), which have helped us to identify more path verbs that denote direction based on the five sub-categories of Path proposed by Chu (2004); and on the other hand synthetic verb as well as verbs of 'chasing' meaning have been excluded from Yang's category of path verb. According to the sub-categories of Path introduced in 4.2.2, our 44 path verbs can be summarized in Table 4.5.

Also there are 16 types of synthetic verb in modern Chinese, as summarized in Table 4.6.

[9]Within Table 4.4 several verbs need explanation. *Deng* (No.14) would mainly maintain its manner meaning 'climb' when used together with a non-direction-denoting verb such as *dao* 'arrive', but both its manner meaning 'climb' and path meaning 'ascend' would be profiled when followed by a direction denoting verb like *shang* 'ascend'. Therefore it is treated as a manner verb in Table 4.4 but a synthetic verb in Table 4.6. And a similar situation also applies to *zuo* 'sit' (No.90) in Table 4.4. Although *gen* (No.24) means 'follow', it can take result verb like *lei* 'being tired', therefore according to the standards introduced in subsection 4.2.2 it is considered as a manner verb here. Verbs of *xing* (No.91), *qian* (No.92), and *yi* (No.93) are classified as neutral (N_a) verbs due to their pure motion meaning 'move'.

Table 4.5: Types of path verb in motion-path domain

Vector	Departure	离 *li* 'leave', 逝 *shi* 'elapse', 走 *zou* 'leave', 开 *kai* 'leave'	
	Traversal	渡 *du* 'cross', 过 *guo* 'cross', 越 *yue* 'pass'	
	Arrival	达 *da* 'arrive', 到 *dao* 'arrive', 临 *lin* 'arrive', 至 *zhi* 'arrive'	
Confirmation	In	进 *jin* 'enter', 入 *ru* 'enter'	
	Out	出 *chu* 'exit'	
Direction	Vertical	Up	起 *qi* 'rise', 上 *shang* 'ascend', 升 *sheng* 'ascend'
		Down	沉 *chen* 'sink', 垂 *chui* 'droop', 低 *di* 'lower', 掉 *diao* 'fall', 降 *jiang* 'fall', 落 *luo* 'fall', 下 *xia* 'descend', 坠 *zhui* 'fall'
	Horizontal	Forward	往 *wang* '(move) towards', 迎 *ying* '(move) toward'
		Backward	退 *tui* '(go) backward'
	Returning	归 *gui* 'return', 还 *huan* 'return', 回 *hui* 'return'	
	Verging	Divergent	散 *san* 'scatter'
		Convergent	聚 *ju* 'gather', 靠 *kao* '(move) close', 拢 *long* 'gather', 近 *jin* '(move) close'
Deictic	来 *lai* 'come', 去 *qu* 'go'		
Others	倒 *dao* 'fall (from the supporting point)', 绕 *rao* 'circle', 随 *sui* 'follow', 沿 *yan* '(move) along', 转 *zhuan* 'turn (the direction to)', 在 *zai* 'at'		

Table 4.6: Types of synthetic verb in motion-path domain

No.	**Verb**	**Meaning**	**Example**
1	昂 ang	hold (one's head) high	昂起 *ang-qi* 'hold-rise, hold high'
2	登 deng	climb (with feet) up	登上 *deng-shang* 'climb-ascend, climb up'
3	渡 du	cross (with certain manner)	渡过 *du-guo* 'cross-cross, cross'
4	顿 dun	yank (downward)	向下一顿 *xiangxia-yidun* 'downward-yank, yank downward'
5	跪 gui	kneel (down)	跪下 *gui-xia* 'kneel-descend, kneel down'
6	举 ju	heave (upward)	举起 *ju-qi* 'heave-rise, heave up'
7	拾 shi	pick (up)	拾起 *shi-qi* 'pick-rise, pick up'
8	耸 song	rise straight up	耸起 *song-qi* 'rise-rise, rise straight up'
9	抬 tai	lift (upward)	抬起 *tai-qi* 'lift-rise, lift up'
10	腾 teng	prance (upward)	腾起 *teng-qi* 'prance-rise, prance up'
11	提 ti	bring up	提起 *ti-qi* 'bring-rise, bring up'
12	跳 tiao	jump up	跳起 *tiao-qi* 'jump-rise, jump up'
13	咽 yan	swallow (down)	咽下 *yan-xia* 'swallow-descend, swallow down'
14	跃 yue	leap (upward)	跃起 *yue-qi* 'leap-rise, leap up'
15	站 zhan	stand (up)	站起 *zhan-qi* 'stand-rise, stand up'
16	坐 zuo	sit (down)	坐下 *zuo-xia* 'sit-descend, sit down'

Our corpus has provided a greater number of types both for manner verb and path verb compared with the data from Chen and Guo (2009, 1757) (41 types of manner verb and 13 types of path verb). Although in our investigation the type of manner verb highly surpasses that of path verb, 44 types will not make path verb a kind of closed class. Therefore the previous Satellite-claim for modern Chinese based on main verb properties (Talmy, 2009; Shi and Wu, 2014) would be refuted. But rather, modern Chinese shows a versatile feature as it uses 6 kinds of lexicalization pattern for motion-path expression. Furthermore, considering that SVC scores 71.94% among all the 6 kinds of patterns,[10] our statistical analysis supports the Serial claim for the motion-path typology of modern Chinese from Croft et al. (2010), but would adjust the statement as 'the prototypical motion-path typology of modern Chinese is Serial'.

Moreover, given the feature that synthetic verbs encode both manner information

[10]The double framing structure in modern Chinese is also realized in the lexicalization pattern of SVC, and the figure of Serial percentage would be higher if it was added.

and path information, it is separated from manner verb and path verb throughout our modern Chinese investigation, and we will do the same for the following research on ancient Chinese.

4.3.2 Typology of motion-path in ancient Chinese

The 506 entries of lexicalization pattern discussed in subsection 4.3.1 come from modern translations of ancient Chinese, which would correspond to 506 entries of motion-path lexicalization pattern in ancient Chinese. In addition, in our corpus there are 3 passages of highly colloquial ancient Chinese novels without modern translation and they provide 90 more entries.[11] Thus there are 596 entries of motion-path expressions for ancient Chinese in all, which covers 13 kinds of lexicalization patterns. In this part we will first discuss those ancient Chinese lexicalization patterns, and then analyze how the motion-path typological feature changes from a diachronic perspective. Finally we will end this part with the question of difference between SVC and Verb-complement Construction.

Motion-path lexicalization patterns in ancient Chinese

Altogether there are 13 kinds of motion-path lexicalization patterns discovered in ancient Chinese, and they are: single verbs of Result, Manner and Synthetic, Alternative Expression of Manner (AEM), Neutral Verbs, SVC, Double Framing, Coordinate, Satellite, Disyllabic Verb and MM Compound, Noun and the combination of Noun-Verb. All of those 13 kinds in ancient Chinese would correspond to at least one of the 6 lexicalization patterns in modern Chinese introduced in subsection 4.3.1. Following are the examples of those 13 ancient lexicalization patterns (labelled as sentence (i)), together with the comparison with their modern counterparts (labelled as sentence (ii)) where it is applicable.

Due to the isolating nature of ancient Chinese, motion-path information in this language is mainly expressed by **single verbs** that include result verb, manner verb and synthetic verb, all of which can correspond to more than one kind of modern lexicalization pattern, that is, the original R and M entries in ancient Chinese can be

[11] Those 3 colloquial novels are *Shui Hu Zhuan* 'Water Margin' (phase 5, Time 2), *Lao Can You Ji* 'A Travel by Lao Can' and *Guanchang Xian Xing Ji* 'A Profile of Officialdom' (both of the latter two novels belong to phase 7, Time 3).

translated into various kinds of lexicalization patterns in the modern passages.

For example, the ancient ***R entry*** can correspond to a double framing expression as shown in sentence (121a), a satellite structure in (121b), an SVC in (121c), an AEM in (121d) and a coordinate in (121e).

(121) a. i. 我 腾跃 而 上， 不过 数 仞 而 下。
Wo tengyue er shang, buguo shu ren er **xia**.
I jump and ascend, but several metre and descend
'I would jump and ascend, only to descend after several metres.'
(《逍遥游》)
(*Xiaoyao you* 'Enjoyment in untroubled ease')

ii. 我 向上 跳跃，
Wo xiangshang tiaoyue,
I upward jump,
不 超过 几 丈 就 落 下 来。
bu chaoguo ji zhang jiu luo xia lai.
no more than several metre then fall descend DEI
'I would jump upward, and fall down after several metres."
(《逍遥游》译文，引自
http://www.fainfo.com/puton/lang/lang12/lang1241.html)
(Translation of *Xiaoyao you*
'Enjoyment in untroubled ease', cited from
http://www.fainfo.com/puton/lang/lang12/lang1241.html)

b. i. 且 适 南 冥 也。
Qie **shi** nan ming ye.
would reach south sea MOD
'(That bird) would leave for the South Sea.'
(《逍遥游》)
(*Xiaoyao you* 'Enjoyment in untroubled ease')

ii. 将要 飞 往 南 海。
Jiangyao **fei** *wang* nan hai.
would fly towards south sea
'(That bird) would fly towards the South Sea.'
(《逍遥游》译文，引自
http://www.fainfo.com/puton/lang/lang12/lang1241.html)
(Translation of *Xiaoyao you*
'Enjoyment in untroubled ease', cited from
http://www.fainfo.com/puton/lang/lang12/lang1241.html)

c. i. 昔者 瓠 巴 鼓 瑟， 而 流 鱼 出 听。
Xi'zhe Hu Ba gu se, er liu yu **chu** ting.
previously Hu Ba play Chinese Zither, and float fish exit listen
'Previously when Hu Ba plays the Chinese Zither, fish in the water would exit and listen.'
(《劝学》)
(*Quan xue* 'To encourage learning')

ii. 古　　有　　瓠 巴 弹　瑟，
Gu　you　Hu Ba tan　se,
previously there be Hu Ba play Chinese Zither,
水　中　鱼儿 也　浮　出　水　面　倾听。
shui　zhong　yu'er ye　fu　chu　shui　mian　qingting.
water amidst fish　also float exit water surface listen
'Previously when Hu Ba plays the Chinese Zither, fish in the water would float out and listen.'
(《劝学》译文，引自 http://wyw.5156yuwen.com/139.html)
(Translation of *Quan xue* 'To encourage learning', cited from http://wyw.5156yuwen.com/139.html)

d. i. 白　云　一 片　去 悠悠。
Bai　yun　yi pian **qu** youyou.
white cloud a　CLF go　slow
'A slice of white would go slowly.'
(《春江花月夜》)
(*Chun jiang hua yue ye* 'Moonlit river in spring')

ii. 游子　像　一 片　白　云　缓缓　地　离去。
Youzi　xiang yi pian bai　yun　*huanhuan* DE_2　liqu.
wanderer like　a　CLF white cloud slow　DE_2 leave
'The wanderer would leave slowly like a slice of white could.'
(《春江花月夜》译文，引自 http://www.fainfo.com/puton/lang/lang14/lang1428.html)
(Translation of *Chun jiang hua yue ye* 'Moonlit river in spring', cited from http://www.fainfo.com/puton/lang/lang14/lang1428.html)

e. i. 君　不　见，　黄　河　之　水　天上　来。
Jun bu　jian, Huang He　zhi　shui　tianshang **lai**.
you don't see,　Yellow River POSS water from sky　come
'Don't you see that the water of Yellow River comes from the sky.'
(《李白诗 • 将进酒》)
(*Li Bai's Poems* • *Qiang jin jiu* 'To drink')

ii. 你　没　见　那　黄　河　之　水
Ni　mei　jian na　Huang He　zhi　shui
you don't see　that Yellow River POSS water
从　天上　奔腾　而　来。
cong tianshang benteng **er**　lai.
from sky　gallop　CD come
'Don't you see that the water of Yellow River gallops and comes from the sky.'
(《李白诗 • 将进酒》译文，引自 http://ewenyan.com/articles/sc/rsbbgs/43.html)
(Translation of *Li Bai's Poems* • *Qiang jin jiu* 'To drink', cited from http://ewenyan.com/articles/sc/rsbbgs/43.html)

Similarly, the ancient ***M entry*** can also correspond to the modern lexicalization patterns of double framing in sentence (122a), satellite in (122b), SVC in (122c), AEM in (122d) and coordinate in (122e).

(122) a. i. 乘 彼 诡 垣。
Cheng bi gui yuan.
ride that broken wall
'(I) climb onto that broken wall.'
(《诗经 • 氓》)
(*Shi Jing* • *Meng* 'Book of Songs • Common people')

ii. 登 上 残破 的 墙垣。
Deng shang canpo DE_1 qiangyuan.
climb ascend broken DE_1 wall
'(I) climb onto that broken wall.'
(《诗经 • 氓》译文，引自 http://ewenyan.com/articles/sj/41.html)
(Translation of *Shi Jing* • *Meng* 'Book of Songs • Common people', cited from http://ewenyan.com/articles/sj/41.html)

b. i. 飞 龙 兮 翩翩。
Fei long xi pianpian.
fly dragon (boat) MOD swift and fast
'The dragon boat flies swiftly and fast.'
(《九歌 • 湘君》)
(*Jiu Ge* • *Xiang jun*
'Nine Songs • Gentleman at the Xiang River')

ii. 龙 舟 轻 又 快 啊 飞 向 前。
Long zhou qing you kuai a **fei** *xiang* qian.
dragon boat swift and fast MOD fly towards forward
'The dragon boat flies forward swiftly and fast.'
(《九歌 • 湘君》译文，引自 http://ewenyan.com/articles/cc/2.html)
(Translation of *Jiu Ge* • *Xiang jun*
'Nine Songs • Gentleman at the Xiang River', cited from http://ewenyan.com/articles/cc/2.html)

c. i. 溘 吾 游 此 春 宫 兮。
Ke wu **you** ci chun gong xi.
abrupt I travel this spring palace MOD
'Abruptly I would travel this Spring Palace.'
(《离骚》)
(*Li Sao*)

ii. 匆匆 地，
Congcong DE_2,
abruptly,
我 游 到 了 东方 的 春 宫。
wo you dao le dongfang DE_1 chun gong.
I travel arrive ASP east DE_1 spring palace
'Abruptly I travelled to the Spring Palace at east.'
(《离骚》译文，引自 http://www.fainfo.com/puton/lang/lang11/lang113.htm)
(Translation of *Li Sao*, cited from http://www.fainfo.com/puton/lang/lang11/lang113.htm)

d. i. 落　絮　　轻　沾　扑　绣　　帘。
Luo xu qing zhan **pu** xiu lian.
fallen catkin gentle touch drift embroidery curtain
'The fallen catkin drifts and touches gently at the embroidery curtain.'
(《葬花吟》)
(*Zang hua yin* 'Burying flowers')

ii. 漫　天　飘　散　　的　柳絮　随 风　扑　来，
Man tian piao san DE$_1$ liuxu *sui feng* pu lai,
full sky waft scatter DE$_1$ catkin with wind drift come,
沾　满　了　绣花　的　门　帘。
zhan man le xiuhua DE$_1$ men lian.
touch full ASP embroidery door curtain
'The catkin wafts all over the sky and drifts with wind, touching full of the whole embroidery curtain.'
(《葬花吟》译文，引自 http://so.gushiwen.org/fanyi_17897.aspx)
(Translation of *Zang hua yin* 'Burying flowers', cited from http://so.gushiwen.org/fanyi_17897.aspx)

e. i. 公　将　　驰　之。
Gong jiang **chi** zhi.
king would gallop PRO
'The king would gallop (the chariot) to pursue (the enemy).'
(《曹刿论战》)
(*Cao Gui lun zhan* 'War discussion by Cao Gui')

ii. 庄公　　准备　驱　车　　追　　去。
Zhuanggong zhunbei qu che zhui qu.
king of Zhuang prepare drive chariot pursue DEI
'The King of Zhuang prepares to drive the chariot and pursue (the enemy).'
(《曹刿论战》译文，引自 http://www.fainfo.com/puton/lang/lang13/lang132.htm)
(Translation of *Cao Gui lun zhan* 'War discussion by Cao Gui', cited from http://www.fainfo.com/puton/lang/lang13/lang132.htm)

By contrast, the ancient entry of ***synthetic verb*** would not correspond to so many kinds of lexicalization patterns in modern Chinese, and can be translated as the double framing entry as shown in sentence (123a), SVC in (123b), and coordinate in (123c).

(123) a. i. 登　阆　风　　而　绁 马。
Deng Lang Feng er xie ma.
climb Lang Feng Hill and tie horse
'Climb the Lang Feng Hill and tie my horse there.'
(《离骚》)
(*Li Sao*)

ii. 登 上 阆 风 把 马 拴 在 山 上。
Deng shang Lang Feng ba ma shuan zai shan shang.
climb ascend Lang Feng Hill BA horse tie at hill upward
'Climb the Lang Feng Hill and tie my horse up there.'
(《离骚》译文，引自 http://wyw.5156yuwen.com/124.html)
(Translation of *Li Sao*, cited from http://wyw.5156yuwen.com/124.html)

b. i. 同 我 妇 子，
Tong wo fu zi,
with my wife children,
馌 彼 南 亩。
ye bi nan mu.
send food to farmland that south farmland
'(I'm so busy working) with my wife and children that the food has to be sent to the farmland.'
(《诗经 • 七月》)
(*Shi Jing* • *Qi Yue* 'Book of Songs • July')

ii. 和 我 的 妻子 儿女 一起 劳动，
He wo DE_1 qizi ernv yiqi laodong,
with my wife children together work,
忙 得 把 饭 带 到 田间 地头。
mang DE_3 ba fan dai dao tianjian ditou.
so busy that BA food bring arrive farmland
'I work together with my wife and children, and we are so busy that the food has to be brought to the farmland.'
(《诗经 • 七月》译文，引自 http://www.fainfo.com/puton/lang/lang11/lang1159.htm)
(Translation of *Shi Jing* • *Qi Yue* 'Book of Songs • July', cited from http://www.fainfo.com/puton/lang/lang11/lang1159.htm)

c. i. 潜 龙 腾 渊。
Qian long **teng** yuan.
hidden dragon prance abyss
'The hidden dragon prances from the abyss.'
(《少年中国说》)
(*Shaonian Zhong Guo shuo* 'Youth China')

ii. 潜藏 的 巨 龙 在 深渊 腾跃 而 起。
Qiancang DE_1 ju long zai shenyuan tengyue **er** qi.
hidden DE_1 huge dragon at abyss prance CD rise
'The hidden huge dragon prances and rises from the abyss.'
(《少年中国说》译文，引自 http://www.fainfo.com/puton/lang/lang14/lang1431.htm)
(Translation of *Shaonian Zhong Guo shuo* 'Youth China', cited from http://www.fainfo.com/puton/lang/lang14/lang1431.htm)

As for **AEM** and **neutral verb**, these would correspond to a much narrower scope of modern lexicalization patterns. For example, modern translations of ancient AEM

are only found either to be SVC as suggested in sentence (124a) or AEM in sentence (124b), while ancient neutral verbs can either be translated as satellite structure in sentence (125a), or SVC in sentence (125b).

(124) a. i. 争　　得　蛾眉　匹马　还。
Zheng DE_3 e'mei *pima* **huan**.
rob beauty horse return
'Rob the beauty and carry her back on a horse.'
(《圆圆曲》)
(*Yuanyuan qu* 'A song to Yuanyuan')

ii. 用　匹马 载　她　归还。
Yong pima zai ta guihuan.
use horse load she return
'Carry her back on a horse.'
(《圆圆曲》译文，引自 http://so.gushiwen.org/fanyi_24757.aspx)
(Translation of *Yuanyuan qu* 'A song to Yuanyuan', cited from http://so.gushiwen.org/fanyi_24757.aspx)

b. i. 逡巡　　近　　视 之，则　死　狼 也。
Qunxun **jin** shi zhi, ze si lang ye.
hesitant approach see PRO, that's dead wolf MOD
'(The butcher) approached in a hesitant manner to see, and found that was a dead wolf.'
(《狼 • 之一》)
(*Lang • No.1* 'Wolf • No.1')

ii. 犹犹豫豫　靠近　　来　看，却是　死　狼。
youyouyuyu **kaojin** lai kan, queshi si lang.
hesitant approach come see, that's dead wolf
'(The butcher) approached in a hesitant manner to see, and found that was a dead wolf.'
(《狼 • 之一》译文，引自 http://www.fainfo.com/puton/lang/lang11/2008/lang11051223182618.htm)
(Translation of *Lang • No.1* 'Wolf • No.1', cited from http://www.fainfo.com/puton/lang/lang11/2008/lang11051223182618.htm)

(125) a. i. 蜷局　顾　　而　不　行。
Quanju gu er bu **xing**.
curl up turn around and not move
'(My horse) curls up and turns around, and would not move.'
(《离骚》)
(*Li Sao*)

ii. 退缩　回　头　不肯　走　向　前方。
Tuisuo hui tou buken **zou** *xiang* qianfang.
curl up turn head not walk towards forward
'(My horse) curls up and turns around, and would not move forward.'
(《离骚》译文，引自 http://yw.eywedu.com/gushici/HTML/3048.html)
(Translation of *Li Sao*, cited from http://yw.eywedu.com/gushici/HTML/3048.html)

b. i. 彼 明日 将 迁 居 他 方。
Bi mingri jiang **qian** ju ta fang.
they tomorrow will move live other place
'Tomorrow they will move to other place to live.'
(《少年中国说》)
(*Shaonian Zhong Guo shuo* 'Youth China')

ii. 他们 明天 就 将 迁 到 别 的 地方 住。
Tamen mingtian jiu jiang qian dao bie DE$_1$ difang zhu.
they tomorrow then will move arrive other place live
'They will move to other place to live tomorrow.'
(《少年中国说》译文，引自 http://wyw.5156yuwen.com/193.html)
(Translation of *Shaonian Zhong Guo shuo* 'Youth China', cited from http://wyw.5156yuwen.com/193.html)

In ancient Chinese there also exist multi-verbal constructions like **SVC** and **double framing**. However, these occupy only a small percentage in ancient Chinese and can be translated to the same narrow scope of modern lexicalization patterns. SVC entries in ancient Chinese correspond to the modern lexicalization patterns of SVC (sentence (126a)), coordinate (sentence (126b)), and satellite structure (sentence 126c), while double framing in ancient Chinese can be translated either as AEM (sentence (127a)) or double framing (sentence (127b)) in modern Chinese.

(126) a. i. 渐 之 滫，
jian zhi xiu,
dip arrive foul water,
君子 不 近， 庶人 不 服。
junzi bu jin, shuren bu fu.
gentleman not approach, servant not touch
'Once (vanilla) dips into the foul water, neither gentlemen nor servants will touch it.'
(《劝学》)
(*Quan xue* 'To encourage learning')

ii. 一旦 浸 入 臭 水 里，
Yidan jin ru chou shui li,
once dip enter foul water inside,
君子 下人 都 会 避 之 不 及。
junzi xiaren dou hui bi zhi bu ji.
gentleman servant both would shun away from it
'Once (vanilla) dips into the foul water, both gentlemen and servants would shun away from it.'
(《劝学》译文，引自 http://wyw.5156yuwen.com/139.html)
(Translation of *Quan xue* 'To encourage learning', cited from http://wyw.5156yuwen.com/139.html)

b. i. 太子 闻 之， 驰 往。
Taizi wen zhi, chi wang.
prince hear PRO, gallop go
'Prince heard about it and galloped to get there.'
(《荆轲刺秦王》)
(*Jin Ke ci Qin Wang* 'Jin Ke assassinates King of Qin')

ii. 太子 急 速 驾 车 赶 去。
Taizi ji su jia che gan qu.
prince hastily speed drive chariot pursue go
'Prince heard about it and drove the chariot hastily to get there.'
(《荆轲刺秦王》译文，引自
http://www.fainfo.com/puton/lang/lang14/lang144.htm)
(Translation of *Jin Ke ci Qin Wang*
'Jin Ke assassinates King of Qin', cited from
http://www.fainfo.com/puton/lang/lang14/lang144.htm)

c. i. 奔流 到 海 不 复 回。
Benliu dao hai bu fu hui.
flow arrive ocean not again return
'(Once the water of Yellow River) flows into the ocean it will never return back.'
(《李白诗 • 将进酒》)
(*Li Bai's Poems* • *Qiang jin jiu* 'To drink')

ii. 一 去 不 回 头 直 奔 向
Yi qu bu hui tou zhi **ben** *xiang*
once go not return head straight rush toward
烟波 浩渺 的 东 海。
yanbo haomiao DE_1 Dong Hai.
mist-covered East Ocean
'(The water of Yellow River) rushes straightly towards the mist-covered East Ocean.'
(《李白诗 • 将进酒》译文，引自
http://www.fainfo.com/puton/lang/lang12/lang1254.htm)
(Translation of *Li Bai's Poems* • *Qiang jin jiu*
'To drink', cited from
http://www.fainfo.com/puton/lang/lang12/lang1254.htm)

(127) a. i. 御 轻 舟 而 上 溯。
Yu qing zhou er shang su.
drive light boat and ascend walk against the water flow
'Drive the light boat and ascend against the water flow.'
(《洛神赋》)
(*Luo shen fu* 'Ode to Goddess at Luo Water')

ii. 就 不 顾 一切 地 驾着 轻 舟
Jiu bu gu yiqie DE_2 jiazhe qing zhou
then at all hazards driving light boat
逆 流 而 上。
ni *liu* *er* **shang**.
against water flow ATTR ascend
'Then ascend against the water flow by driving a light boat at all hazards.'
(《洛神赋》译文，引自 http://yw.eywedu.com/Teaching/HTML/823.html)
(Translation of *Luo shen fu* 'Ode to Goddess at Luo Water', cited from http://yw.eywedu.com/Teaching/HTML/823.html)

b. i. 吾 恐 秦 人 食 之 不 得 下 咽 也。
Wu kong Qin ren shi zhi bu DE_3 xia yan ye.
I afraid Qin people eat PRO cannot descend swallow MOD
'I'm afraid Qin people cannot swallow down their food at meal.'
(《宋散文选 • 六国论》)
(*Prose collection* • *Liu guo lun* 'On the six states')

ii. 我 恐怕 秦 国 人 饭 也 不能 咽 下。
Wo kongpa Qin Guo ren fan ye buneng yan xia.
I afraid Qin people food even cannot swallow descend
'I'm afraid Qin people cannot even swallow down their food.'
(《宋散文选 • 六国论》译文，引自 http://wyw.5156yuwen.com/130.html)
(Translation of *Prose collection* • *Liu guo lun* 'On the six states', cited from http://wyw.5156yuwen.com/130.html)

Coordinate in ancient Chinese can correspond to a much wider scope of lexicalization patterns in modern Chinese. In detail, it can be translated as satellite structure, SVC, AEM, coordinate, as well as converb structure, and those cases are listed collectively in sentences (128).

(128) a. i. 转 头 向 户 里。
Zhuan tou xiang hu li.
turn head orientate room inside
'Turn (his) head towards the room.'
(《孔雀东南飞》)
(*Kongque dong nan fei* 'The peacock flies to the southeast')

ii. 把 头 转 向 屋子 里。
Ba tou **zhuan** *xiang* wuzi li.
BA head turn to room inside
'Turn (his) head towards the room.'
(《孔雀东南飞》译文，引自 http://so.gushiwen.org/fanyi_1639.aspx)
(Translation of *Kongque dong nan fei* 'The peacock flies to the southeast', cited from http://so.gushiwen.org/fanyi_1639.aspx)

b. i. 史 噤 不 敢 发 声， 趋 而 出。
Shi jin bu gan fa sheng, qu **er** chu.
Shi silent not dare make voice, run CD exit
'Not daring to make a voice, Shi kept silent and ran out.'
(《书左忠毅公逸事》)
(*Shu Zuo Zhong Yi Gong yishi*
'Anecdote of Lord Zuo Zhong Yi')

ii. 史 公 闭 口 不 敢 作 声，
Shi Gong bi kou bu gan zuo sheng,
Shi lord close mouth not dare make voice,
赶快 跑 了 出 去。
gankuai pao le chu qu.
hurry run ASP exit DEI
'Lord Shi shut his mouth and dared not to make a voice. Instead he ran out in a hurry.'
(《书左忠毅公逸事》译文，引自 http://wyw.5156yuwen.com/164.html)
(Translation of *Shu Zuo Zhong Yi Gong yishi*
'Anecdote of Lord Zuo Zhong Yi', cited from
http://wyw.5156yuwen.com/164.html)

c. i. 英 将 也， 驰 而 前。
Ying jiang ye, chi **er** qian.
British commander MOD, gallop CD move ahead
'A British commander galloped his horse and moved ahead.'
(《冯婉贞胜英人于谢庄》)
(*Feng Wanzhen sheng Ying ren yu Xie Zhuang*
'Feng Wanzhen defeats the British invaders at Xie's Village')

ii. 那 个 英 国 军官，
Na ge Ying Guo junguan,
that CLF British commander,
飞 马 冲 在 前面。
fei ma chong zai qianmian.
fly horse rush at front
'That British commander rushes on a galloping horse in the front.'
(《冯婉贞胜英人于谢庄》译文，引自
http://wyw.5156yuwen.com/260.html)
(Translation of *Feng Wanzhen sheng Ying ren yu Xie Zhuang*
'Feng Wanzhen defeats the British invaders at Xie's Village', cited
from http://wyw.5156yuwen.com/260.html)

d. i. 石 级 濡 滑， 盘散 乃 可 下。
Shi ji ru hua, pansan nai ke xia.
stone step moist smooth, circle around then can descend
'The stone steps are moist and smooth, but you can descend by walking the awhirl route.'
(《游栖霞紫云洞记》)
(*You Qixia Zi yun dong ji*
'A visit to Zi yun Cave at Qixia Mountain')

ii. 石　阶　光滑，
Shi　jie　guanghua,
stone step smooth,
旋转着　走　就　可以 下　去。
xuanzhuanzhe zou　jiu　keyi xia　qu.
awhirl　walk then can　descend DEI
'The stone steps are very smooth, but you can descend by walking the awhirl route.'
(《游栖霞紫云洞记》译文，引自
http://gz.eywedu.com/Article_37/200852619520500-1.html)
(Translation of *You Qixia Zi yun dong ji*
'A visit to Zi yun Cave at Qixia Mountain', cited from
http://gz.eywedu.com/Article_37/200852619520500-1.html)

e. i. 夫　列子 御　风　而　行，泠然　善　也。
Fu　Liezi yu　feng **er** xing, lingran　shan ye.
MOD Liezi drive wind CD move, lambent good MOD
'Lie'zi drove wind and moved in an good lambent way.'
(《逍遥游》)
(*Xiaoyao you* 'Enjoyment in untroubled ease')

ii. 列子 驾　着　风　游行，轻妙　极　了。
Liezi *jia*　*zhe*　*feng* youxing, qingmiao ji　le.
Liezi drive CONV wind travel,　lambent　extreme CRS
'Liezi travels by driving the wind in an extremely lambent way.'
(《逍遥游》译文，引自
http://www.fainfo.com/puton/lang/lang12/lang1241.html)
(Translation of *Xiaoyao you*
'Enjoyment in untroubled ease', cited from
http://www.fainfo.com/puton/lang/lang12/lang1241.htm)

There are also **satellite structures** in ancient Chinese, and these are mainly composed of an independent verb and the preposition *yu* that might encode path information such as 'across', 'toward' or 'to' under different contexts. The ancient satellite structure can be translated as double framing structure, satellite structure, or SVC in modern Chinese, examples of which are listed in sentences (129).

(129) a. i. 朝　吾 将　济　于 白　水　兮。
Zhao　wu jiang **ji**　*yu* Bai　Shui　xi.
morning I　will　cross at white water MOD
'In the morning I will cross over the White Water.'
(《离骚》)
(*Li Sao*)

ii. 明　早　我 将 渡　过　白　水　啊。
Ming　zao　wo jiang du　guo　Bai　Shui　a.
tomorrow morning I　will　cross cross white water MOD
'Tomorrow morning I will cross over the White Water.'
(《离骚》译文，引自 http://wyw.5156yuwen.com/124.html)
(Translation of *Li Sao*, cited from http://wyw.5156yuwen.com/124.html)

b. i. 日 削 月　割，以　趋 于　亡。
Ri xiao yue　ge,　yi　**qu** *yu*　wang.
day cede month cede, so that go towards extinction
'(Those six states) constantly ceded their territories, so that they all disappeared.'
(《宋散文选 • 六国论》)
(*Prose collection* • *Liu guo lun* 'On the six states')

ii. 天天　割　地，　月月　割　地，
Tiantian ge　di,　yueyue　ge　di,
day-day cede territory, month-month cede territory,
以 至 于 走　向　灭亡。
yi zhi yu **zou** *xiang*　miewang.
so that　go　towards extinction
'(Those six states) constantly ceded their territories, so that they all disappeared.'
(《宋散文选 • 六国论》译文，引自 http://www.fainfo.com/puton/lang/lang12/lang1211.htm)
(Translation of *Prose collection* • *Liu guo lun* 'On the six states', cited from http://www.fainfo.com/puton/lang/lang12/lang1211.htm)

c. i. 移　其　粟　于 河 内。
Yi　qi　shu　*yu* he nei.
transport there millet to north side of Yellow River
'(I will) transport millet there to the north of Yellow River.'
(《寡人之于国也》*Guaren zhiyu guo ye*)
(*How should the king manage his kingdom*)

ii. 把 粮食　运　到　河 内。
Ba liangshi yun　dao　he nei.
BA food　transport arrive north side of Yellow River
'(I will) transport food to the north side of Yellow River.'
(《寡人之于国也》译文，引自 http://www.fainfo.com/puton/lang/lang15/lang157.htm)
(Translation of *Guaren zhiyu guo ye* 'How should the king manage his kingdom', cited from http://www.fainfo.com/puton/lang/lang15/lang157.htm)

Within ancient Chinese there are also two types of similar multi-verbal structure, namely **disyllabic verb structure** and **MM verbal compound**. According to Ma (2016, pp.34-35), the difference between verbal compound and disyllabic verb is that

the former is 'a linguistic phenomenon in modern Chinese', while the latter can 'usually be traced back to ancient Chinese'. Given this difference we will label the kind of ancient multi-verbal structure that is inherited by modern Chinese as verbal compound, and the kind of ancient multi-verbal structure that is not found in modern Chinese as disyllabic verb structure. These two kinds of structures occupy a very small percentage in our corpus, and most of disyllabic verb structure entries are found to be within Primary Ancient Time while MM verbal compounds only occur within Late Ancient Time. Although both disyllabic verb structure and MM verbal compound in ancient Chinese are composed of two synonymous internal components, they can correspond to various kinds of modern motion-path lexicalization patterns. For example, disyllabic verb structure in ancient Chinese can be translated as AEM as shown in sentence (130a), double framing structure in sentence (130b), satellite structure in (130c), and SVC in (130d). In contrast, the corresponding scope for MM verbal compound in ancient Chinese is much more narrow, and it can only be translated to SVC as suggested by sentence (131).

(130) a. i. 踯躅 青骢 马， 流苏 金镂 鞍。
Zhizhu qingcong ma, liusu jinlou an.
loiter around green horse, tassel golden-engraved saddle
'The green horse loiters around with tassels and the golden-engraved saddle on.'
(《孔雀东南飞》)
(*Kongque dong nan fei* 'The peacock flies to the southeast')

ii. 缓 步 前 行 的 青骢 马，
Huan bu **qian** **xing** DE_1 qingcong ma,
slow step forward move DE_1 green horse,
套 有 四周 垂着 彩 缨。
tao you sizhou chuizhe cai ying.
cover exist all around hanging colorful tassel
'The green horse steps slowly forward, covered with the hanging colorful tassels all around.'
(《孔雀东南飞》译文，引自 http://www.fainfo.com/puton/lang/lang14/lang1411.htm)
(Translation of *Kongque dong nan fei* 'The peacock flies to the southeast', cited from http://www.fainfo.com/puton/lang/lang14/lang1411.htm)

b. i. 陟　升　　皇　　之　　赫戏　兮。
Zhi sheng huang zhi haoxi xi.
climb-ascend universe ATTR glorious MOD
'I ascended up to the glorious universe just now.'
(《离骚》)
(*Li Sao*)

ii. 我 刚刚　　升　上　　灿烂　的 天宇。
Wo ganggang sheng shang canlan DE_1 tianyu.
I just rise ascend glorious DE_1 universe
'I have just ascended up to the glorious universe.'
(《离骚》译文，引自 http://ewenyan.com/articles/wy/1_2/22.html)
(Translation of *Li Sao*, cited from http://ewenyan.com/articles/wy/1_2/22.html)

c. i. 激　　水　推　移。
Ji shui **tui** **yi**.
surging water push move
'The surging water pushes and moves ahead.'
(《子虚赋》)
(*Zixu fu* 'Ode to Zixu')

ii. 后　浪　　冲击　前　浪，
Hou lang chongji qian lang,
back spindrift push front spindrift,
滚滚　　向　　前。
gungun *xiang* qian.
roll towards forward
'With back spindrift pushing front spindrift, the water flow rolls forward.'
(《子虚赋》译文，引自 http://so.gushiwen.org/fanyi_27662.aspx)
(Translation of *Zixu fu* 'Ode to Zixu', cited from http://so.gushiwen.org/fanyi_27662.aspx)

d. i. 不久　当　归　　还，　还　　必　相　迎取。
Bujiu dang **gui** **huan**, huan bi xiang yingqu.
soon must return return, return must go take back
'Soon I will return, and then I will take you back.'
(《孔雀东南飞》)
(*Kongque dong nan fei* 'The peacock flies to the southeast')

ii. 不久 我 一定　回　　来，
Bujiu wo yiding hui lai,
soon I must return DEI,
回　　来　后　必定　去 迎接　你　回　　我 家　　来。
hui lai hou biding qu yingjie ni hui wo jia lai.
return DEI after must go take you return my home DEI
'Soon I will return, and then I will take you back to my home.'
(《孔雀东南飞》译文，引自 http://www.fainfo.com/puton/lang/lang14/lang1411.htm)
(Translation of *Kongque dong nan fei* 'The peacock flies to the southeast', cited from http://www.fainfo.com/puton/lang/lang14/lang1411.htm)

(131) a. 一 朝 漂泊 难 寻觅。
Yi zhao **piaobo** nan xunmi.
once drift hard seek
'Once (the flowers) drift away it is hard to seek them.'
(《葬花吟》)
(*Zang hua yin* 'Burying flowers')

b. 一 朝 被 狂 风 吹 去，再 也 无 处 寻觅。
Yi zhao bei kuang feng chui qu, zai ye wu chu xunmi.
once PASS fierce wind blow go, again too no place seek
'Once (the flowers) are blown away by the fierce wind, they can never be sought again.'
(《葬花吟》译文，引自 http://so.gushiwen.org/fanyi_17897.aspx)
(Translation of *Zang hua yin* 'Burying flowers', cited from http://so.gushiwen.org/fanyi_17897.aspx)

Occasionally **noun** and the combination of **noun-verb** in ancient Chinese can correspond to motion-path lexicalization patterns in modern Chinese. Actually there is not a clear distinction between nouns and verbs in ancient Chinese, such as noted by Bisang (2011, pp.225-228): '(in Late Archaic Chinese, i.e. Chinese of the period between the 5^{th} and the 3^{rd} centuries B.C.) the assignment of lexical items to the syntactic categories of N and V depends on pragmatic inferences.' Furthermore, Bisang suggests that there is an animacy hierarchy for this N-V relationship in ancient Chinese, which means that the more a lexeme refers to an abstract item (such as non-human and abstracts), the more likely it occurs in a V-slot (ibid.). This seems true, since many of the examples listed here either refer to non-human items (*yu* 'rain' in sentence (132a-i) and *ling* 'hill' in sentence (132b-i)) or abstract location (*nan* 'south' in sentence (132c-i)). As for their lexicalization patterns, most of them correspond to satellite structures in modern Chinese as in sentences (132c) and (133a). In addition, noun in ancient Chinese can also be translated as modern AEM in sentence (132a) and as double framing structure in sentence (132b), while the ancient noun-verb can also correspond to the modern SVC as in (133b).

(132) a. i. 获 若 雨 兽。
Huo ruo **yu** shou.
acquire like rain animal
'The acquired animals (fell) like rain.'
(《子虚赋》)
(*Zixu fu* 'Ode to Zixu')

ii. 猎　获　　的　野　兽，
Lie　huo　　DE_1 ye　shou,
hunt acquire DE_1 wild animal,
像　雨点　飞 降　般 纷纷　　而　落。
*xiang yudian　fei jiang ban fenfen　　er　***luo***.**
like　raindrop fly descend　one after another ATTR fall
'The hunted wild animals fell one after another like the raindrop.'
(《子虚赋》译文，引自 http://so.gushiwen.org/fanyi_27662.aspx)
(Translation of *Zixu fu* 'Ode to Zixu', cited from http://so.gushiwen.org/fanyi_27662.aspx)

b. i. 陵　景　山。
Ling Jing Shan.
hill　Jing Mountain
'(I) climbed onto the Mountain Jing.'
(《洛神赋》)
(*Luo shen fu* 'Ode to Goddess at Luo Water')

ii. 登　上　　了　景　山。
deng shang　le　Jing Shan.
climb ascend ASP Jing Mountain
'(I) climbed onto the Mountain Jing.'
(《洛神赋》译文，引自 http://www.fainfo.com/puton/lang/lang14/lang142008041021424254.htm)
(Translation of *Luo shen fu* 'Ode to Goddess at Luo Water', cited from http://www.fainfo.com/puton/lang/lang14/lang142008041021424254.htm)

c. i. 而 后 乃　今 将　图　南。
Er hou nai　jin　jiang tu　**nan**.
then　only now will　plan south
'Only then will (the huge bird) plan to fly towards south.'
(《逍遥游》)
(*Xiaoyao you* 'Enjoyment in untroubled ease')

ii. 然后　　才　能　计划 着　　向　　南　飞。
Ranhou cai　neng jihua zhe　　*xiang*　nan　**fei**.
then　only can　plan　CONV towards south fly
'Only then can (the huge bird) plan to fly towards south.'
(《逍遥游》译文，引自 http://www.fainfo.com/puton/lang/lang12/lang1241.htm)
(Translation of *Xiaoyao you* 'Enjoyment in untroubled ease', cited from http://www.fainfo.com/puton/lang/lang12/lang1241.htm)

(133) a. i. 济　沅　　湘　　以　　南　征　　兮。
Ji　Yuan　　Xiang　　yi　　**nan zheng** xi.
cross Yuan Water Xiang Water CONSEC south conquer MOD
'Cross Yuan Water and Xiang Water, and then move towards south.'
(《离骚》)
(*Li Sao*)

ii. 渡 过 沅 水 湘 水 奔 向 南方。
Du guo Yuan Water Xiang Water **ben** *xiang* nanfang.
cross across Yuan Water Xiang Water rush towards south
'Cross Yuan Water and Xiang Water, and then rush towards south.'
(《离骚》译文，引自 http://wyw.5156yuwen.com/124.html)
(Translation of *Li Sao*, cited from http://wyw.5156yuwen.com/124.html)

b. i. 杳 冥冥 兮 以 东 行。
Yao mingming xi yi **dong xing**.
thick darkness MOD CONSEC east move
'Amidst the darkness move towards east.'
(《九歌 • 东君》)
(*Jiu Ge* • *Dong jun* 'Nine Songs • Gentleman at the east')

ii. 幽幽 黑暗 中 急 奔 东方。
Youyou heian zhong ji ben dongfang.
thick darkness amidst hastily rush east
'Amidst the darkness rush hastily towards east.'
(《九歌 • 东君》译文，引自 http://ewenyan.com/articles/cc/2.html)
(Translation of *Jiu Ge* • *Dong jun* 'Nine Songs • Gentleman at the east', cited from http://ewenyan.com/articles/cc/2.html)

All the 13 kinds of motion-path lexicalization patterns in ancient Chinese, as well as their modern correspondents are listed in Appendix (2).

From Appendix (2) we can see that the ancient types of single verb (including R and M) as well as coordinate can correspond to most kinds of modern Chinese lexicalization patterns, and in some ways this might indicate their importance in encoding motion-path information in ancient Chinese. However, Appdendix (2) only lists those 13 ancient patterns but does not offer a practical usage analysis. In addition, the percentage of each of those ancient patterns might vary at different times, therefore leading to a diachronic change of motion-path typology for ancient Chinese. The next part will deal with these questions.

Diachronic changes of motion-path typology in ancient Chinese

As introduced in Chapter 3, in this research we subdivide ancient Chinese into three times that further cover seven phases (recall Table 3.2 in Chapter 3). This seven phase subdivision is more precise than the three periods treatment for ancient Chinese from Shi and Wu (2014), and while both these two kinds of division lead to some similar analysis results for the evolution of ancient Chinese, our seven phase subdivision reveals something more of the diachronic change of motion-path typology. Among the

13 kinds of ancient patterns we will focus on those typology-related ones and calculate their usage percentages within all the 596 lexicalization pattern entries. The typology-related patterns are result verb and manner verb, as well as verb-based structures that include coordinate, SVC, and satellite structure. Moreover, synthetic verb has also been counted as we do not regard it as a subtype of manner verb but needs to be recorded separately.

The period of **Primary Ancient Time** covers the first two phases, within which statistical percentages of those ancient patterns show certain differences.

Those 13 ancient patterns altogether provide 118 lexical entries in *phase 1*, and percentages of our target patterns are as follows. There are 46 tokens of result verb, taking up 38.98% among all the entries. Manner verb occupies 17.80% with 21 tokens in total. With regard to the three types of verb-based structures, there are 6 entries of coordinate (5.08%), 4 entries of SVC (3.39%), as well as 8 entries of satellite structure (6.78%). Finally there are 20 tokens of synthetic verb that takes up 16.95% among all the entries within phase 1.

As for *phase 2* there are 91 entries in all. Result verb takes a quite high percentage of 62.64% with 57 tokens. In contrast there are only 9 tokens of manner verb that take a comparatively low percentage of 9.89%. The three types of verb-based structure all take a low percentage: 2.20% from 2 coordinate, 4.40% from 4 SVC, and 3.30% from 3 satellite structure. Moreover, synthetic verb occupies 10.99% with 10 tokens.

In total there are 209 entries in Primary Ancient Time of ancient Chinese, among which there are 103 tokens of result verb, 30 tokens of manner verb, 8 coordinate, 8 SVC, 11 satellite structure, and 30 synthetic verb. Corresponding percentages of these patterns are: 49.28% for result verb, 14.35% for manner verb, 3.83% for coordinate, 3.83% for SVC, 5.26% for satellite structure, and 14.35% for synthetic verb. In addition, in this period there are 41 types of result verb, 25 types of manner verb, and 15 types of synthetic verb. Overall, ancient Chinese within Primary Ancient Time largely uses single verb (including manner verb, result verb and synthetic verb) to express motion-path information with single verb taking a quite high percentage while verb-based structures such as SVC only taking a quite low percentage among all the ancient patterns. Moreover, result verb dominates among all the patterns both on statistical

percentage and the number of types, and this shows a typical verb-framing typological feature of ancient Chinese within Primary Ancient Time.

Mediaeval Ancient Time covers the middle three phases, and language usage within this period shows a colloquial tendency as can be shown by the detailed statistical analysis.

In *phase 3*, 88 entries have been collected. Result verb still takes a high percentage of 40.91% with 36 tokens. As for manner verb there are 20 tokens and this totals 22.73%. Among the verb-based structures there is 1 coordinate, 11 SVC and 2 satellite structure, which would correspond to 1.14%, 12.50%, and 2.27% respectively. The 12 entries of synthetic verb occupy 13.64% for this kind of lexicalization pattern.

In *phase 4* there are 60 entries, and patterns of single verb still occupy the higher percentages. Result verb takes 46.67% with 28 tokens. Manner verb takes 16.67% with 10 tokens. As for verb-based structures there are 3 coordinate, 7 SVC as well as 2 satellite structure, and statistical percentages for each of these are 5%, 11.67%, and 3.33%. Also there are 7 tokens of synthetic verb that take 11.67% among all the ancient lexicalization patterns.

The three kinds of selected passage genres in *phase 5* all show a colloquial style, and they are Yuan poetic drama, Yuan qu (folk songs) along with River Novel. Poetic drama and folk song are collected together with their modern translations and these two genres provide 34 entries for our ancient Chinese corpus. In contrast river novel is more colloquial and so close to modern Chinese that there is no translation for this genre, and 37 entries have been extracted from passages of this genre. So in total there are 71 entries of motion-path lexicalization patterns in phase 5. Due to the colloquial style of the selected passages, typological feature in phase 5 shows a huge difference. The percentage of result verb falls drastically to 14.08% with only 10 tokens. Manner verb takes 8.45% with 6 entries. Compared with the low percentages of result verb and manner verb, the percentage of verb-based structure increases tremendously. Although SVC is the only type for verb-based structure, the number of 43 tokens (of which 11 are from poetic drama and folk song, and 32 are from river novel) would produce the highest percentage, 60.56%. The percentage of synthetic verb falls synchronously with the other two types of single verb to 5.63%, as there are only 4 tokens within phase 5.

The period of Mediaeval Ancient Time covers 219 entries in all. Token numbers and percentages for each of the lexicalization patterns are: 74 tokens of result verb taking 33.79%, 36 tokens of manner verb taking 16.44%, 4 coordinates that take 1.83%, 61 SVCs that take 27.85%, 4 satellite structures that take 1.83%, and 23 synthetic verbs occupying 10.50%. Moreover, in the period of Mediaeval Ancient Time there are 31 types of result verb, 27 types of manner verb, and 10 types of synthetic verb. In short, single verb (including result verb, manner verb and synthetic verb) is still the main method for ancient Chinese in Mediaeval Ancient Time to express motion-path information. However, the function of SVC within this period is getting more important as its statistical percentage takes around 1/3 among all the patterns. Considering the still dominating status of result verb both on statistical percentage and the number of type, we may judge the typological feature of ancient Chinese within Mediaeval Ancient Time still to be verb-framing, but this feature is being challenged by the quickly increasing percentage of SVC.

Late Ancient Time is the last period of ancient Chinese, covering phase 6 and phase 7. Language usage within this period gets more colloquial and this leads to a reversal of typological feature for our language investigation.

86 entries have been collected in *phase 6*, among which there are 29 result verbs, 14 manner verbs, 1 coordinate, 24 SVCs, 1 satellite structure, and 6 synthetic verbs. Corresponding statistical percentages for each are: 33.72% for result verb, 16.28% for manner verb, 1.16% for coordinate, 27.91% for SVC, 1.16% for satellite structure, and 6.98% for synthetic verb.

In *phase 7* there are 29 entries from passages of classical style and 53 entries from the vernacular novels, so altogether we have 82 entries in phase 7. To be specific, there are 15 tokens of result verb that take 18.29%, 4 tokens of manner verb that take 4.88%, 3 coordinates that occupy 3.66%, 48 SVCs that occupy 58.54%, 2 satellite structures that occupy 2.44%, as well as 1 synthetic verb that takes 1.22%.

Late Ancient Time contains 168 entries in total. Calculation results for each of those patterns are: 26.19% for result verb from 44 tokens, 10.71% for manner verb from 18 tokens, 2.38% from 4 tokens of coordinate, 42.86% from 72 tokens of SVC, 1.79% from 3 tokens of satellite structure, and 4.17% for synthetic verb with 7 tokens. In

addition, there are 25 types of result verb, 16 types of manner verb, as well as 6 types of synthetic verb. In the period of Late Ancient Time the statistical percentage of result verb is surpassed by the percentage of SVC, therefore turning the typological feature of ancient Chinese within Late Ancient Time from verb-framing to serial, though the statistical percentage of SVC within this period is still lower than its counterpart in modern Chinese.

Token numbers of those ancient patterns within each phase and Time are summarized in Table 4.7,[12] and detailed type cases of result verb, manner verb, as well as synthetic verb within each Time are listed in Appendix (3).

Table 4.7: Token and percentage of ancient motion-path lexicalization patterns in each period

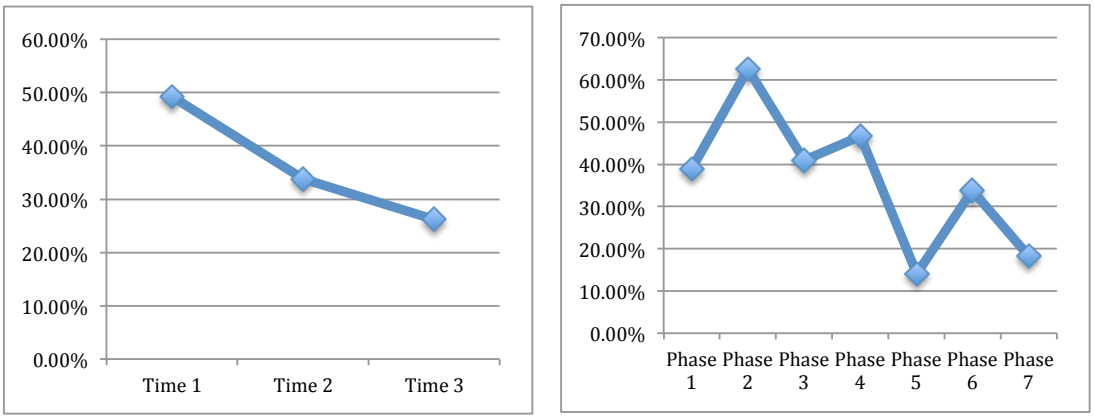
	No.	**PcT.**	**No.**	**PcT.**	**No.**	**PcT.**	**No.**	**PcT.**
Pattern	R	R	M	M	SVC	SVC	CD	CD
Phase 1	46	38.98%	21	17.80%	4	3.39%	6	5.08%
Phase 2	57	62.64%	9	9.89%	4	4.40%	2	2.20%
Phase 3	36	40.91%	20	22.73%	11	12.50%	1	1.14%
Phase 4	28	46.67%	10	16.67%	7	11.67%	3	5.00%
Phase 5	10	14.08%	6	8.45%	43	60.56%	0	0%
Phase 6	29	33.72%	14	16.28%	24	27.91%	1	1.16%
Phase 7	15	18.29%	4	4.88%	48	58.54%	3	3.66%
Pattern	R	R	M	M	SVC	SVC	CD	CD
Time 1	103	49.28%	30	14.35%	8	3.83%	8	3.83%
Time 2	74	33.79%	36	16.44%	61	27.85%	4	1.83%
Time 3	44	26.19%	18	10.71%	72	42.86%	4	2.38%
	No.	**PcT.**	**No.**	**PcT.**	**No.**	**PcT.**	**No.**	**PcT.**
Pattern	Sate.	Sate.	Syn.	Syn.	Others	Others	Total	Total
Phase 1	8	6.78%	20	16.95%	13	11.02%	118	100%
Phase 2	3	3.30%	10	10.99%	6	6.59%	91	100%
Phase 3	2	2.27%	12	13.64%	6	6.82%	88	100%
Phase 4	2	3.33%	7	11.67%	3	5.00%	60	100%
Phase 5	0	0%	4	5.63%	8	11.27%	71	100%
Phase 6	1	1.16%	6	6.98%	11	12.79%	86	100%
Phase 7	2	2.44%	1	1.22%	9	10.98%	82	100%
Pattern	Sate.	Sate.	Syn.	Syn.	Others	Others	Total	Total
Time 1	11	5.26%	30	14.35%	19	9.09%	209	100%
Time 2	4	1.83%	23	10.50%	17	7.62%	219	100%
Time 3	3	1.79%	7	4.17%	20	11.90%	168	100%

Now we shall give **a brief summary and discussion** on the diachronic change of motion-path typology in ancient Chinese partially in comparison with the analysis results from Shi and Wu (2014). In their study Shi and Wu conclude that diachronically percentages of types and tokens of path verb show an incremental fall, while percentages of types and tokens of manner verb show an incremental rise (p.1274), and this conclusion has been regarded as the evidence for a typological shift from V-type to S-type in

[12] Within Table 4.7 the column 'Others' includes lexicalization patterns of: AEM, neutral verb, double framing, disyllabic verb, MM compound, noun, and noun+verb.

ancient Chinese (p.1278). On these aspects our statistical analysis reveals something more.

Is there an incremental fall for the token percentage of path verb? The answer is yes if we analyze the change of ancient Chinese from the coarser subdivision of three times, as the percentage of result verb does decrease from 49.28% in Time 1 to 33.79% in Time 2 then to 26.19% in Time 3. However, if analyzing from the finer subdivision of seven phases, we will get a zigzag changing line with a comparatively lower token percentage of result verb from the beginning point of phase 1. These two versions of changing lines of token percentage for result verb according to different subdivisions are demonstrated in Figure 4.2.



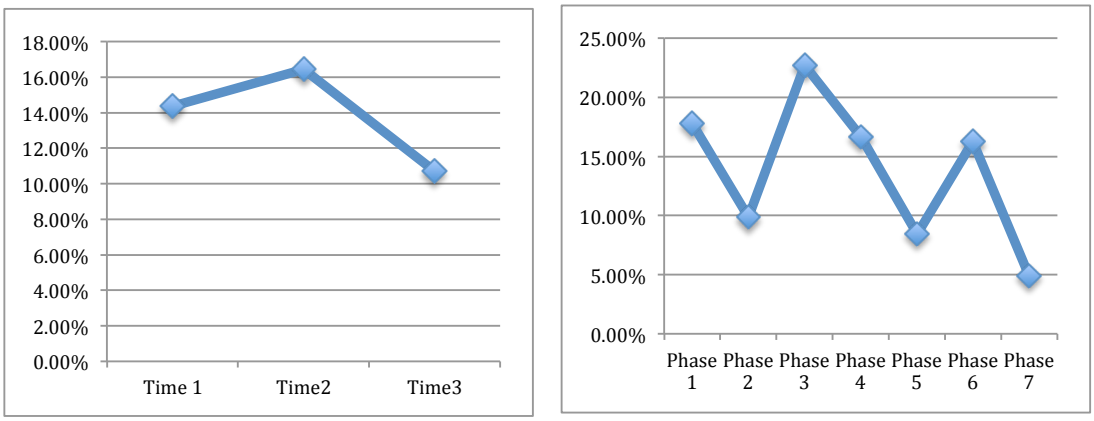
a. Token percentage of Result Verb within each Time: Motion-path

b. Token percentage of Result Verb within each Phase: Motion-path

Figure 4.2: Token percentages of result verb in motion-path domain

Is there an incremental rise for the token percentage of manner verb? For this question we do not get the same conclusion from our statistical analysis. Even though within the finer seven phase subdivision the token percentages of manner verb show an almost correspondingly opposite zigzag line with that of result verb, manner verb maintains a stable token percentage throughout the broader subdivision with a slight fall. These two versions of token percentage changing line for manner verb are collectively shown in Figure 4.3.

Is it true that there is a diachronic typological shift from V-type to S-type in ancient Chinese? There is not such a shift if we consider the above two statistical analyses of both result verb and manner verb. While the incremental fall of path verb percentage



a. Token percentage of Manner Verb within each Time: Motion-path

b. Token percentage of Manner Verb within each Phase: Motion-path

Figure 4.3: Token percentages of manner verb in motion-path domain

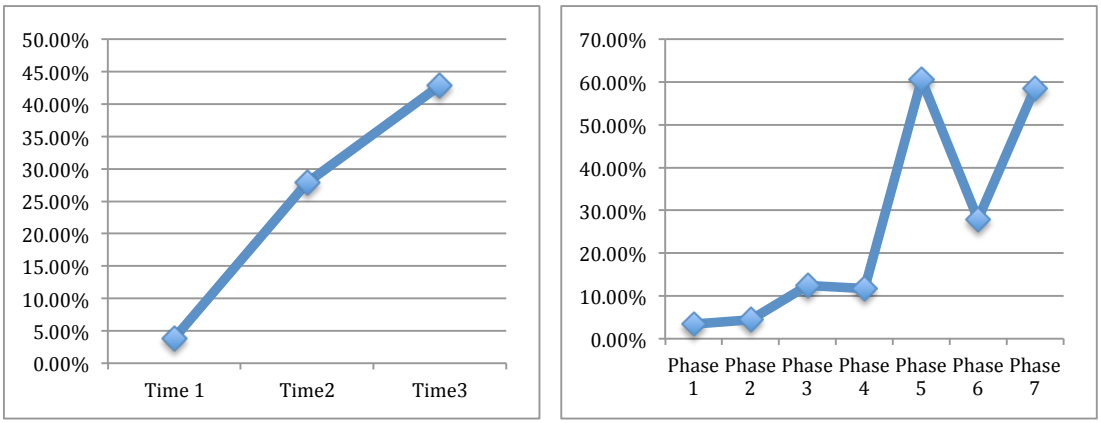
supports a weakening V-type typological feature in ancient Chinese, the stable token percentage with a slight fall of manner verb does not provide evidence of a strengthening of S-type.[13] A closer observation shows that token percentages of both result verb and manner verb fall sharply at phase 5, and this is exactly the phase when the number of SVC rises abruptly. Actually throughout the three times subdivision, SVC shows a steady growth of token percentage with its final result taking the dominating status, and the corresponding change line within the seven phase subdivision grows similarly in spite of a certain fluctuation.[14] This argues for a strengthening of Serial-type feature, and for this reason we will conclude that there is a typological shift from V-type to Serial-type in ancient Chinese. The two changing lines of SVC are demonstrated in Figure 4.4.

Why do the analysis results of the diachronic change of motion-path typology in our research differ from that of Shi and Wu (2014)? We have several reasons.

First, **synthetic verb** has been separated from manner verb and path verb in our research, for the reason that it encodes manner information and path information at the same time. However, in Shi and Wu's research synthetic verb is not separated out. In

[13]This is also true if we consider the diachronic change of satellite structure. As can be seen in Table 4.7, satellite structure only takes a quite small percentage in each of the periods, and the general change of its token percentage is a steady fall in both of the two subdivisions, which together with the slight fall of manner verb percentages, would in fact go against Shi and Wu's claim of S-type tendency for ancient Chinese.

[14]Shi and Wu (2014, 1274) have mentioned a similar diachronic 'incremental rise' of 'manner+path' verb constructions. However, in subsection 4.3.1 we have illustrated that SVC can not only be composed of 'manner verb +path verb', but also can come from combinations of many other types of internal components.



a. Token percentage of SVC within each Time: Motion-path

b. Token percentage of SVC within each Phase: Motion-path

Figure 4.4: Token percentages of SVC in motion-path domain

Table 4.7 we can see that Primary Ancient Chinese, especially Chinese within phase 1 is a highly synthetic language where synthetic verb takes as high as 16.95%, a fact that would produce relatively lower token percentages of both result verb and manner verb, and this is why in Figure 4.2 the zigzag changing line of the result verb percentage starts at a comparatively low point. Therefore separating synthetic verb would challenge Shi and Wu's 'incremental fall' description for result verb from the beginning.

Secondly, the 'incremental fall' claim for result verb from Shi and Wu would be further challenged if we analyze its diachronic change under **a finer subdivision**. Shi and Wu have divided Chinese into four periods: Old-Chinese, Middle Chinese, Pre-Modern Chinese and Modern Chinese, which means that they have adopted a broader three-period view for ancient Chinese. As we have illustrated, while that 'incremental fall' claim for result verb is similarly arrived at under the broader three times subdivision in our research, the finer seven phase subdivision would provide a zigzag changing line for result verb. This shows that under the seeming incremental change there is actually a discontinuous evolution. Moreover, Shi and Wu's corpus is only limited until the end of Yuan (the middle of phase 5 in our subdivision), which means that half of phase 5, phase 6 and phase 7 are excluded from Shi and Wu's corpus, and this, as they themselves acknowledge, means that the corpus they have selected 'may not be typical enough' (p.1250).

Thirdly, a finer subdivision of ancient Chinese also helps us to select the most **representative genres** within each period (recall Table 3.2 in Chapter 3), which include

both passages written in highly classical style and passages written in highly colloquial style. In contrast, Shi and Wu only select narrative texts in their research (p.1250). Though certain colloquial texts such as folk literature have been included in Shi and Wu's corpus, the highly colloquial passages like vernacular novels at Ming Dynasty (phase 5 in our subdivision) and Qing Dynasty (phase 7 in our subdivision) are not counted. The representative genres within each period, especially those highly colloquial vernacular novels at late Mediaeval Ancient Time and Late Ancient Time, reveal the rapidly rising status of SVC and consequently a Serial-type tendency in these two times.

Fourthly, in our research we have followed the standards between manner and path in Chinese from Lin (2011), which better define **the boundary between manner verb and path verb**. By doing so some direction denoting verbs (like *zhui* 'fall' and *cong* 'follow') that used to be regarded as manner verbs by Shi and Wu are classified into the category of path verb, which together with separating out synthetic verbs, would explain why in our research there is no 'incremental rise' for manner verb that instead maintains a stable percentage diachronically.

As an interim summary, when building corpus we have adopted the finer 'seven phases under three times' subdivision for ancient Chinese, which helps us to select the most representative genres within each phase. Moreover, when analyzing data we have followed a clearer boundary among result verb, manner verb, and synthetic verb, and this better defines the typological feature of ancient Chinese within each period. By doing this we have discovered an 'incremental fall' of result verb that comes from discontinuous change, no 'incremental rise' of manner verb, but instead a steady growth of SVC. Thus we conclude there has been a typological shift from V-type to Serial-type for the evolution of motion-path expressions in ancient Chinese.

Difference between SVC and Verb-complement construction: a small question

Before we move to the next subsection there is a small question worth mentioning, that is, the difference between SVC and Verb-complement construction. In traditional Chinese linguistics the term 'SVC' is reserved for the ancient V_1V_2 structure like the

one in sentence (126b-i), and the similar complex verbal structure in modern Chinese is often labelled as verb-complement construction (*dong bu shi*), where V_2 is supposed to have grammaticalized into the complement of V_1. The complement status of V_2 within modern Chinese structure, especially the case for the motion-path situation known as verb-directional construction (*dong qu shi*), is often paralleled with satellite and therefore held by certain scholars as an evidence of S-type for modern Chinese (see (Shi, 2014, 344)). However, as to what is 'verb-directional construction' Shi (2014, 347) claims that 'there is not a definite standard', and for this problem he tries to seek some morpho-syntactic evidence. To be specific, Shi (2014, pp.348-351) uses two example sentences to show the difference between SVC and verb-directional construction, along with the circumstance for the grammaticalization of V_2 into a complement:

(134) a. i. 淳　于髡　说　　毕，趋　　出。
Chun Yukun shuo bi, qu chu.
Chun Yukun discuss over, walk fast exit
'Chun Yukun finished his discussion, and walked out fast/exited by walking fast.'
（《史记 • 田敬仲完世家》91 B.C.）
(*Shi Ji* • *Tianjing Zhongwan shi jia*
'Record of the Grand Historian • The aristocratic family of Tianjing Zhongwan, 91 B.C.)
cited from Shi (2014, 348), ex.(28a)

ii. 李克 趋　　而 出，过 翟 璜 之 家。
Li Ke qu **er** chu, guo Zhai Huang zhi jia.
Li Ke walk fast CD exit, cross Zhai Huang POSS family
'Li Ke walked fast and exited, crossing Zhai Huang's family.'
（《史记 • 魏世家》91 B.C.）
(*Shi Ji* • *Wei shi jia*
'Record of the Grand Historian • The aristocratic family of Wei, 91 B.C.) cited from Shi (2014, 348), ex.(28b)

b. i. 还　至　瑜 家　而 去。
Huan zhi Yu jia **er** qu.
return arrive Yu family CD go_{leave}
'Returned to Yu's family and then left.'
（《法苑珠林》，卷八十三，引《冥祥记》pp.668-683）
(*Fa Yuan Zhu Lin* 'The Garden of Buddha's Doctrine', Volume 83, from *Ming Xiang Ji* 'Record of Auspiciousness from the Nether World', pp.668-683) cited from Shi (2014, 350), ex.(33a)

ii. 一　童子…… 跃　入　云　去。
Yi tongzi.....yue ru yun qu.
one lad... jump enter cloud go$_{arrival}$
'One lad...jumped into the cloud.'
（《太平御览》，卷九百二十二，引《续异记》pp.977-983）
(*Taiping Yu Lan* 'Taiping Imperial Encyclopedia', Volume 922, from *Xu Yi Ji* 'Record of the Supplemented Singularity', pp.977-983) cited from Shi (2014, 350), ex.(33b)

Shi (pp.348-350) claims that it is hard to tell whether the two verbs *qu chu* 'walk-fast exit' in sentence (134a-i) make SVC or verb directional construction by looking at this sentence alone. However, these two verbs within the same period are often linked by the conjunction *er* as in sentence (134a-ii) and this would suggest their independence. For this reason, both these verbs are better regarded as main verbs and therefore have the corresponding structure in (134a-i) as SVC. Then Shi applies the same criterion to the next sentences of (134b), saying that *qu* 'go$_{leave}$' in sentence (134b-i) is a main verb as it is linked by the conjunction *er* with another preceding main verb *zhi* 'arrive' while *qu* 'go$_{arrival}$' in (134b-ii) might be a complement as there is no such conjunction. However, Shi shifts from the morpho-syntactic linker criterion to the semantic criterion for the discussion of grammaticalization, with the case of sentences (134b). He argues that in sentence (134b-i) the path verb *zhi* 'arrive' is telic, therefore forming two events together with its following verb *qu* 'go$_{leave}$', which guarantees the independence of *qu* 'go$_{leave}$' and prevents it from grammaticalization. In contrast *qu* 'go$_{arrival}$' in sentence (134b-ii) can integrate with the preceding *yue ru* 'jump enter' to form a single conceptual event, and this is the circumstance for *qu* 'go$_{arrival}$' in this sentence to grammaticalize into a complement.

Shi's morpho-syntactic criterion on the conjunction *er* for the main verb argument is quite reasonable, but his semantic criterion of events is not so convincing. Actually both sentences (134b-ii) and (134a-i) can be understood as expressing a single accomplishment event, and this 'single event expression' is exactly one of the key criteria for SVC definition: therefore from the point of semantics there is no difference between SVC in (134a-i) and the so-called 'verb-directional construction' in (134b-ii) since both of them encode one single event. Thus we would adopt only the morpho-syntactic criterion for the difference between SVC and Verb-complement construction, but leave it open for a while until our discussion of cause-effect SVC in the next chapter.

4.4 Fictive motion

As the final part of the motion analysis chapter this section will discuss a special kind of motion: fictive motion. Fictive motion resembles factive motion (the motion we have illustrated so far) in that its linguistic form is also dynamic, but it differs from the latter in that its depicted physical entity is static. Subsection 4.4.1 will offer a description of fictive motion, together with the subcategories of fictive motion in modern Chinese from Ma (2016). Subsection 4.4.2 will briefly discuss typological features of fictive motion within modern Chinese and ancient Chinese on the basis of data discovered in our corpus.

4.4.1 A description of fictive motion

Talmy (2000a, 99) defines fictive motion as 'linguistic instances that depict motion with no physical occurrence', and offers a typical example of fictive motion by sentence (135).

(135) This fence goes from the plateau to the valley.

Talmy (2000a, 99)

Sentence (135) depicts the relative position of a fence with respect to the plateau and the valley, within which the physical entity is static as there is no movement of the fence in reality. However, the linguistic form is dynamic as suggested by the motion verb *go* together with directional prepositions *from...to...*.

Ma (2016, 53) extends the definition of fictive motion as 'expressions describing a physical entity or scene involving no motion with dynamic linguistic forms that are normally used to depict moving entities' and further illustrates two points about it. First, fictive motion must be a description of a physical entity or scene 'in the external world', according to which only space domain is acknowledged, but others like emotion domain, time domain, and financial domain are excluded. This is why in subsection 4.3.1 both motion-path SVC in time as well as virtual factive motion are not considered as fictive motion. Second, dynamic linguistic forms include not only verbs but also idioms and nouns that might 'involve a dynamic conceptualization of the entity or scene'. This means fictive motion can be expressed by various types of lexicalization patterns, which can be seen later in subsection 4.4.2.

Talmy (2000a, 105) has classified six types of fictive motion with reference to English:

coextension paths, emanation paths, advent paths, frame-relative motion, pattern paths, and access paths. Ma has provided five other types for Chinese. Features of those fictive motions, together with an example sentence for each of them are listed in appendix (4).

4.4.2 Fictive motion in modern Chinese and ancient Chinese

This part briefly demonstrates fictive motion expressions found in our corpus. In total 57 entries are considered as fictive motion in **modern Chinese**, which include types of emanation paths, macro-frame relative motion, advent paths, coextension paths, implied advent paths, as well as leading fictive motion. These types are listed collectively in turn in sentences (136).[15] In our research we focus more on the lexicalization patterns of fictive motion, for which those 7 sentences correspond respectively to SVC, double framing, satellite structure, coordinate, adverb + monosyllabic verb, verbal compound, and monosyllabic verb.[16]

(136) a. 微弱 的 光线 猛然 射 来。
Weiruo DE_1 guangxian mengran she lai.
tiny DE_1 sunlight abruptly shoot DEI.
'Tiny sunlight shoots here abruptly.'
(《游栖霞紫云洞记》译文，引自 http://gz.eywedu.com/Article_37/200852619520500-1.html)
(Translation of *You Qixia Zi yun dong ji* 'A visit to Zi yun Cave at Qixia Mountain', cited from http://gz.eywedu.com/Article_37/200852619520500-1.html)

b. 太阳 从 东方 升 起。
Taiyang cong dongfang sheng qi.
sun from east elevate rise
'The sun rises up from the east.'
(《陌上桑》译文，引自 http://www.fainfo.com/puton/lang/lang12/lang1227.htm)
(Translation of *Mo shang sang* 'Mulberry tree on the path', cited from http://www.fainfo.com/puton/lang/lang12/lang1227.htm)

c. 我 的 目的 地 已 指 向 西 海。
Wo DE_1 mudi di yi **zhi** *xiang* Xi Hai.
my goal place already point towards West Sea
'My target has pointed towards the West Sea already.'
(《离骚》译文，引自 http://yw.eywedu.com/gushici/HTML/3048.html)
(Translation of *Li Sao*, cited from http://yw.eywedu.com/gushici/HTML/3048.html)

[15] Both sentences (136a) and (136c) belong to the type of emanation paths, but of different subtypes, while both sentence (136d) and (136e) seem to be coextension paths here.

[16] For more kinds of lexicalization patterns that are likely to express fictive motion see Ma (2016, 34).

d. 洞　壁　拔　地　　而　起。
Dong bi　ba　di　　**er**　qi.
cave　wall pluck ground CD rise
'The wall of the cave rises abruptly from the ground.'
(《游栖霞紫云洞记》译文，引自
http://gz.eywedu.com/Article_37/200852619520500-1.html)
(Translation of *You Qixia Zi yun dong ji*
'A visit to Zi yun Cave at Qixia Mountain', cited from
http://gz.eywedu.com/Article_37/200852619520500-1.html)

e. 洞　壁　斜　　出　十多　　丈。
Dong bi　*xie*　**chu** shiduo　　zhang.
cave　wall oblique exit more than ten 3.3 metre
'The wall of the cave stretches obliquely by more than 33 meters.'
(《游栖霞紫云洞记》译文，引自
http://gz.eywedu.com/Article_37/200852619520500-1.html)
(Translation of *You Qixia Zi yun dong ji*
'A visit to Zi yun Cave at Qixia Mountain', cited from
http://gz.eywedu.com/Article_37/200852619520500-1.html)

f. 道路　曲折　回旋，　　没有　一定　的　方向。
Daolu quzhe **huixuan**,　meiyou yiding DE_1 fangxiang.
path　zigzag circle round, without certain DE_1 direction
'The path zigzags and circles round, without any certain direction.'
(《李白诗 • 梦游天姥吟留别》译文，引自
http://www.fainfo.com/puton/lang/lang16/lang166.htm)
(Translation of *Li Bai's Poems • Meng you Tianmu yin liu bie*
'Tianmu Mountain ascended in a dream', cited from
http://www.fainfo.com/puton/lang/lang16/lang166.htm)

g. 旌旆　飘飘　　夹　两岸　　之　山。
Jingqi piaopiao **jia**　liang'an　　zhi　shan.
flag　wave　press both river sides POSS mountain
'Flags wave and press against the mountain by the river sides.'
(《李白诗 • 经乱离后天恩流夜郎忆旧游书怀赠江夏韦太守良宰》译文，引
自 http://so.gushiwen.org/fanyi_2077.aspx)
(Translation of *Li Bai's Poems • A memory to an old friend after departure*, cited from http://so.gushiwen.org/fanyi_2077.aspx)

Compared with the lexicalization patterns of factive motion, fictive motion lacks the patterns of AEM and converb construction, but can use the patterns of adverb + monosyllabic verb, verbal compound and monosyllabic verb.[17] For the 7 lexicalization pattern types among the 57 fictive motion entries there are 25 SVC (43.86%), 8 double framing (14.04%), 11 satellite structure (19.30%), 1 coordinate (1.75%), 7 adverb + monosyllabic verb (12.28%), 4 verbal compound (7.02%), and 1 monosyllabic verb (1.75%). It can be seen that in modern Chinese fictive motion shows certain differences

[17]There is also a pattern of 'noun of locality + monosyllabic verb' for fictive motion in Ma's research, but here we have classified it as a subtype of SVC according to the tradition of SVC research.

from factive motion with regard to lexicalization pattern. Though SVC still takes the dominating status among all the lexicalization patterns in fictive motion, its percentage is comparatively lower than that in factive motion (where it is as high as 71.94%). Also in fictive motion the percentage of satellite structure surpasses that of double framing, whereas it is the opposite in factive motion. There are some lexicalization patterns that are unique to fictive motion (adverb + monosyllabic verb, verbal compound, and monosyllabic verb), and this is why the percentage of SVC is lower in fictive motion in comparison with factive motion.

Those 57 fictive motion entries in modern Chinese correspond to 57 entries in **ancient Chinese**. Meanwhile, there are 4 entries of fictive motion within the highly colloquial ancient passages where there are no modern translations, so altogether there are 61 ancient fictive motion entries in our corpus. There are three main ways to encode fictive motion in ancient Chinese: manner verb, result verb and SVC. These three ways are shown in order in sentence (137), and the original ancient sentences are labelled as sentence (i) while their modern counterparts are labelled as sentence (ii) where applicable.

(137) a. i. 登　轼　而　望　之。
Deng shi er **wang** zhi.
climb crossrail and look PRO
'(Gui) climbed onto the crossrail and looked at the enemy's army.'
(《曹刿论战》)
(*Cao Gui lun zhan* 'War discussion by Cao Gui')

ii. 扶　着　车　前　横　木
Fu zhe che qian heng mu
hold CONV chariot front cross wood
远　望　齐　军　的　队　形。
yuan wang Qi jun DE_1 dui xing.
distance look Qi army DE_1 troop shape
'Holding the crossrail in the front of the chariot, (Cao Gui) looked into distance for the troop shape of Qi's army.'
(《曹刿论战》译文，引自 http://so.gushiwen.org/view$_7$1163.aspx)
(Translation of *Cao Gui lun zhan* 'War discussion by Cao Gui', cited from http://so.gushiwen.org/view$_7$1163.aspx)

b. i. 千　　岩　万　　转　路　不　定。
Qian　yan wan　**zhuan** lu　bu ding.
thousand rock ten thousand turn　path not certain
'Surrounded by thousands of rocks, the path circles round without any certain direction.'
(《李白诗 • 梦游天姥吟留别》)
(*Li Bai's Poems* • *Meng you Tianmu yin liu bie* 'Tianmu Mountain ascended in a dream')

ii. 道路　曲折　回旋，　没有　一定　的　方向。
Daolu quzhe **huixuan**,　meiyou yiding DE_1 fangxiang.
path　zigzag circle round, without certain DE_1 direction
'The path zigzags and circles round, without any certain direction.'
(《李白诗 • 梦游天姥吟留别》译文，引自 http://www.fainfo.com/puton/lang/lang16/lang166.htm)
(Translation of *Li Bai's Poems* • *Meng you Tianmu yin liu bie* 'Tianmu Mountain ascended in a dream', cited from http://www.fainfo.com/puton/lang/lang16/lang166.htm)

c. 那　千佛　山　的　倒　影　映　在　湖　里，
Na　Qianfo Shan　DE_1 dao ying ying zai　hu　li,
that Qianfo Mount DE_1 shadow　reflect into lake inside,
显　得　明明白白。
xian　DE_3 mingming baibai.
display DE_3 clear
'The shadow of Mount Qian'fo reflects into the lake, resulting in a clear reflection.'
(《老残游记》，引自 http://so.gushiwen.org/guwen/bookv_12259.aspx)
(*Lao Can You Ji* 'A Travel by Lao Can', cited from http://so.gushiwen.org/guwen/bookv_12259.aspx)

According to Ma's detailed subclassification, sentence (137a-ii) belongs to the visual path subtype of emanation path (p.122), sentence (137b-ii) belongs to coextension path, and sentence (137c) belongs to the shadow path subtype of emanation path (p.105). Because of the large number of examples of visual path subtypes, ancient Chinese within Primary Ancient Time mainly uses manner verbs to express fictive motion as in sentence (137a-i), with its statistical percentage taking 57.14% during this period (8 tokens of manner verb among 14 fictive motion entries). However, diachronically the percentage of manner verb shows an incremental fall, via 33.33% at Mediaeval Ancient Time (12 tokens of manner verb among 36 entries) until 9.09% at Late Ancient Time (1 manner verb among 11 fictive motion entries). Meanwhile, percentage of SVC slightly falls from 28.57% at Primary Ancient Time (4 tokens of SVC among 14 fictive motion entries) to 16.67% at Mediaeval Ancient Time (6 tokens of SVC among 36 entries), and leaps to 54.55% at Late Ancient Time (6 SVC among 11 fictive motion entries), where it takes

the dominating status at the final evolutionary step. As for result verb, it maintains a relatively steady percentage throughout the three ancient times. Given the evolutionary situations of those three lexicalization patterns, we can conclude that there is also a shift towards Serial-type for fictive motion. However, this shift starts from S-type but not from V-type, and this is a difference between fictive motion and factive motion.

In spite of the relatively small scale of fictive motion expressions in our corpus, we can make an interim summary of the typological feature of fictive motion as well. Synchronically fictive motion also shows a Serial-type feature, but the percentage of SVC is comparatively lower than that of factive motion, and this might be caused by the lexicalization patterns that are unique to fictive motion such as adverb + monosyllabic verb, verbal compound, and monosyllabic verb. Diachronically fictive motion evolves from S-type to Serial-type, and the reason for fictive motion to be of S-type at Primary Ancient Time is likely to be due to the large number of manner verbs to express visual path subtype in that period.

4.5 Summary and conclusion

In this chapter we have first given a theoretical description of motion-path SVC, then extended from SVC to other kinds of motion-path lexicalization patterns in modern Chinese and ancient Chinese for statistical typology research, and have compared the typological features of factive motion and fictive motion both synchronically and diachronically.

Within the theoretical description we have separated synthetic verb from manner verb and path verb, for the reason that synthetic verb encodes both manner information and path information at the same time. Also for the disputes between manner verb and path verb we have sought the two standards to differentiate them in Chinese from Lin (2011), and referred to the five sub-categories of Path from Chu (2004). In addition, we have noted the special cases of SVC, such as manner verb used as path, neutral verb used as manner, and path verb that encodes activity/process within SVC. These theoretical descriptions have paved the way for our following statistical analyses.

As for the statistical analysis we have investigated the typology of motion-path

both in modern Chinese and ancient Chinese. For the synchronic part we have focused on SVC and discovered three types of motion-path SVC, that is, SVC in space, SVC in time, and virtual factive motion. Among these three types we have sub-classified more lexicalization patterns for SVC in space, and found that SVC does not necessarily come from the combination of manner verb and path verb, but may include some other subtypes. Based on the SVC analysis we have extended to more lexicalization patterns, and calculated the statistical percentages for each of them, which on the one hand refutes the S-type claim from previous studies (cf. Talmy (2009); Shi and Wu (2014)) since path verb does not make a closed class, and on the other hand supports the Serial-type from Croft et al. (2010) as SVC does take the highest percentage among all the lexicalization patterns within modern Chinese. For the diachronic part we have demonstrated each of the lexicalization patterns, and calculated their statistical percentages within the detailed diachronic periods of 'seven phases under three times' to see how the motion-path typology of ancient Chinese changes. It is revealed that result verb takes the highest percentage at the beginning of evolution, but shows a zigzag declining change under the finer seven phases subdivision and manifests an incremental fall under the broader three times subdivision; meanwhile although with fluctuation, the percentage of SVC grows steadily throughout the subdivision of three times and takes the dominating percentage at the final step. The evolutions of result verb and SVC do not support the claim of a diachronic typological shift from V-type to S-type in ancient Chinese from Shi and Wu (2014), but instead argues for a shift from V-type to Serial-type. Reasons for the difference between our research and Shi and Wu's research have also been provided.

Finally for the fictive motion, we have provided a description as well as type classification from Ma (2016), then investigated its typological features both in modern Chinese and ancient Chinese through the same statistical analysis. It is discovered that while sharing certain similarities with factive motion, fictive motion does show some typological differences both at the synchronic level and the diachronic level. Synchronically fictive motion is also Serial-type, but the SVC takes a lower percentage compared with that in factive motion; diachronically fictive motion also shows an evolution towards Serial-type, yet starting not from V-type but from S-type. However, it should be noted that our conclusion for fictive motion here is only interim because of the comparatively small scale of fictive motion entries analyzed.

As a whole through statistical analysis, this chapter has illustrated the Serial-type typological feature for modern Chinese and revealed how this feature comes from the evolutionary change in ancient Chinese. However, this is only for the case of motion-path expression. What about the case of the non-motional cause-effect expression? This question, together with the difference between SVC and Verb-complement construction raised in this chapter, will be addressed in Chapter 5.

Chapter 5

Synchronic and diachronic analysis of cause-effect SVC

5.1 Introduction

This chapter discusses the non-motional case of Manner-Result typology, and the focus is again on the lexicalization pattern of cause-effect SVC for the same two reasons introduced in Chapter 4. The structure of this chapter is basically similar to that of Chapter 4: a theoretical description of cause-effect SVC in section 5.2, an investigation of Chinese typology both at the synchronic level and the diachronic level in section 5.3, a discussion of fictive change in section 5.4, and a conclusion in section 5.5. However, as we shall see, this cause-effect case shows a unique lexicalization pattern that resembles the Satellite pattern of motion-path case, that is, aspectual compound according to the term from Croft et al. (2010). Moreover, some of the aspectual markers within aspectual compounds are grammaticalized from independent verbs, and it is this grammaticalization that leads to the difference between SVC and Verb-complement construction, the small question left unanswered in Chapter 4.

5.2 Theoretical description of cause-effect SVC

This part offers a theoretical description of cause-effect SVC from two perspectives, semantics of this construction as well as lexical categories of its internal components. For the perspective of semantics we will start from the other four types of events (ex-

cept for the motion event that has been discussed in Chapter 4) under Talmy's typology framework (Talmy, 2000b), and further to demonstrate how some of those events can be encoded by the lexicalization patterns proposed by Croft et al. (2010). For the perspective of lexical categories of the internal components we will discuss various possibilities of slot 1 and slot 2, which should include canonical case of cause-effect SVC composed by manner verb and result verb, as well as non-canonical cases such as causative SVC and adjectives functioning as V_2 in the kind of structure.

5.2.1 Semantics of cause-effect: change of state

There are five types of event integration according to the schematic core within Talmy's monograph, 'an event of motion or location in space, an event of contouring in time (aspect), an event of change or constancy among states, an event of correlation among actions, and an event of fulfillment or confirmation in the domain of realization' (Talmy, 2000b, pp.217-218). Talmy (p.214) has illustrated these five types with the English sentences in (138), where the schematic cores are expressed by the italic satellites as below:

(138) a. *the path in an event of motion*
The ball rolled *in*.
b. *the aspect in an event of temporal contouring*
They talked *on*.
c. *the changed property in an event of state change*
The candle blew *out*.
d. *the correlation in an event of action correlating*
She sang *along*.
e. *the fulfillment or confirmation in an event of realization*
The police hunted the fugitive *down*

Talmy (2000b, 214), ex.(1)

Among the above five types motion event has been discussed in Chapter 4, so now on the basis of Talmy (2000b) we shall give a brief introduction to the other four, all of which can be analogized to Motion. **Temporal contouring** refers to 'object's progression through time' that 'can be conceptualized as an analogue or metaphoric extension of motion through space' (p.231). Within the event of temporal contouring aspectual notion is considered as the schematic core, which can be expressed either by a lexical verb or an adjoining constituent (p.233). For example English can express the notion of aspect either with the lexical verbs such as *finish, continue, use(d to), wind*

up, be (-ing), or with the satellite as suggested in (138b). Therefore Talmy regards English as presenting 'a mixed typological picture' for the case of temporal contouring event (ibid.).

The core schema of **state change** is the combination of transition together with state that 'is the analog of the Path + Ground of a Motion event' (p.238), and accordingly English shows a parallel mixed feature since both an S-framed sentence like *I kicked the door shut* and a V-framed sentence like *I killed him by burning him* are quite idiomatic in this language (pp.240-241). Furthermore, for the case of state change event Talmy finds English might be more of V-framing feature as it allows only *I broke the window with a kick*, but not **I kicked the window broken* (ibid.). By contrast, Talmy regards Mandarin Chinese to be more of the S-framed type by arguing that it is proper to say *I kicked the window broken* in Chinese for the 'breakage' example (ibid.). By doing so it is clear that Talmy is treating the corresponding lexical entry of 'broken' in Chinese (which should be *po* actually) as a non-verbal element. However, *po* in Chinese is a much more complex case as we shall see in subsection 5.2.2.

As for **action correlating**, this refers to a kind of coactivity where 'the first agency executing a particular activity is associated with a second agency whose activity is correlated with the first', and the correlation within action correlating event is paralleled to the path within motion event (pp.253-254). Furthermore, that correlation can be realized either as the same category between its internal two agencies, with a typical lexicalization pattern of *along* in *I played the melody along with him*, or realized as distinct between the agencies like 'demonstration' in *I showed him how to play the melody* (pp.256-261). English again presents a 'mixed typological picture' when the satellite *along* shows an S-framing feature while the main verb *show* demonstrates a V-framed pattern.

Finally, the event of **realization** focuses on the particular action performed by the agent, and it is an encompassing category that covers two subtypes of **fulfillment** as well as **confirmation** (pp.261-262). To be specific, fulfillment indicates that the intention of that particular goal has been fulfilled, and the schematic core is usually encoded by a dependent satellite that further complements the semantic of its preceding main verb, such as *down* in *The police hunted the fugitive down in five days.* By contrast for the case of confirmation the schematic core of result is usually implicated by the main verb,

and is further confirmed by a confirmation satellite, such as *clean* in *I washed the shirt clean* (pp.262-265). Analyzing from the lexical perspective, Talmy treats *clean* as a state-change satellite, and *down* as an abstract marker of the realization factor (p.266). Whether state-change satellite or abstract marker, English shows an S-framing feature for the event of realization. As well as English, Mandarin Chinese is also classified by Talmy as an S-framed language (p.266). Talmy (p.275) even provides a further example to show this claimed verb-satellite relationship in Chinese by sentence (139), where the verb *zhe* has been glossed as 'to squeeze circumpivotally in on [a linear object] with the intention of thereby breaking [it], with the implicature that [it] gets broken', and the so called 'satellites' *she/duan* have been glossed as past participles, similar to *po* mentioned above. However, treating *she/duan* as satellites for the purpose of classifying Chinese to be a type of S-framed language would present similar problems to the much complex situation of *po*, and we shall see this later.

(139) 我 把 棍子 折 折/断 了。
Wo ba gunzi zhe she/duan le.
I BA stick break broken/snapped ASP
'I broke the stick.'

Talmy (2000b, 275), ex.(50a)

We can see that most of the four Talmyan event types summarized above contain the semantics of change of state, such as *finish* in temporal contouring, all the listed examples in state change, as well as the state-change satellites and abstract markers in realization. And this is why Croft et al. (2010) have treated them collectively as Change of State, the non-motional case of their revised Manner-Result typology. Moreover, Talmy tries to analogize these four events to motion event for his lexicalization pattern typology, but only concluding that there exists the 'mixed typological picture', as we have seen that it can be both V-framed and S-framed for English in most of the cases. This also provides strong motivation for us to go on with Croft's et al. revised typological framework to investigate the non-motional case of Manner-Result typology for Chinese. So now we shall abide by their Serial claim and analyze the internal elements of cause-effect SVC within Mandarin Chinese in the next subsection, and there we will see that *po* in the case of window mentioned above differs from its English past participle counterpart *broken*, and behaves more verbal property, or at least more deadjective verbal property, so that it is better to be considered as V_2 within the cause-effect SVC.

5.2.2 Lexical categories of internal elements

In this subsection we analyze the internal elements of cause-effect SVC from the perspective of lexical categories, which briefly cover two categories of verb and adjective. However, there is a fuzzy boundary between these two categories, as in Mandarin Chinese stative result verb, or stative change of state (COS for short) verbs can be derived from adjectives. Furthermore, verb is subdivided into manner verb, causation verb, as well as result verb for this part of cause-effect SVC analysis. Manner verb and causation verb normally express the semantics of Cause and would occupy slot 1, while result verb, whether dynamic result verb or stative result verb derived from adjective, normally expresses the semantics of Result and would occupy slot 2 within cause-effect SVC. Therefore discussion in this subsection also complements the semantic analysis of cause-effect SVC introduced in the last part.

Two cases of slot 1: Manner verb and causation verb

Manner verb has been fully discussed in Chapter 4, where it would lead to the result of path within motion event. We have shown that Talmy tries to analogize the four state changing events with motion in his monograph. However, for motion, either non-agentive motion like *The bottle floated into the cave* or agentive motion like *I kicked the ball into the box*, it can be treated as self-causing or caused by external forces. Therefore, another way to understand motion is to see it as a special kind of cause-result, which together with change of state, would constitute the whole picture of the revised Manner-Result typology. Thus manner verb within cause-effect SVC is of the same nature as that within motion-path SVC, to be specific, usually a dynamic, durative, and atelic manner-describing verb that encodes the subevent of activity/process. Words like *roll*, *blow*, and *hunt* in sentence (138) are typical manner verbs, and there tends to be an open class of manner verb according to our statistical analysis within Chapter 4.

Compared with manner verb, **causation verb** 'always comes from a closed set of transitive verbs' (Aikhenvald, 2006a, 16). There is a certain overlapping section between causation verbs and light verbs cross-linguistically, upon which Aikhenvald (2006a, pp.48-49) has listed the causative meanings of 'give, do, make', and for this reason causation verbs might not show a strong dynamic feature as manner verbs do.

Actually, causation is often fulfilled by light verbs, as Butt (2010, 72) claims that light verbs 'are unlike main verbs in that they are dependent on another predicative element. That is, they seem to modulate or structure a given event predication', and 'this modulation can be in terms of providing more information about the typical parts of an event', such as 'who did the causation'. Yet occasionally we might encounter certain imperative verbs functioning as causation verbs that are of slight dynamicity, such as *order* in Tariana (Aikhenvald, 2006a, 40). Causation verb together with result verb will make the often termed causative SVCs. Given the dependent nature of causation verb/light verb, in Chapter 1 we have treated causative SVC as a non-canonical case. Here we follow SVC research tradition to classify causative SVC as a subclass of cause-effect SVC (Aikhenvald, 2006a, 25).

Two possibilities of slot 2: Result verb or adjective

There seem to be two types of **result verb** within a cause-effect SVC, dynamic verb as well as stative verb. Dynamic verb encodes the dynamic subevent like achievement or activity/process, and the example Igbo sentence (34) and Mwotlap sentence (35) in Chapter 1 illustrate such cases. We repeat these two sentences as (140) and (141) below:

(140) Ó tì-wà-rà étéré à.
he hit-split.open-PST plate the
'He shattered the plate.'

Lord (1975, 27)

(141) Tali mi-tit teñteñ Kevin
Tali ASP-punch cry:REDUP Kevin.
'Tali made Kevin cry by punching him.'

François (2006, 231), ex.(13)

Stative verb encodes the subevent of state. As for states Dixon (1982, 50) has suggested that '...certain states, naturally described by adjectives, contrast with states that are the result of some action'. The former kind of state is termed by Dixon as *property concepts*, such as speed, age, dimension, colour, etc. that entails no prior events. The latter kind of state is termed as *result states* that is 'the result of some action'. Koontz-Garboden (2005, pp.86-87) provides two contrasting sentences for an illustration, claiming that in (142a) 'if something is *broken*, it must be the case that that something underwent a breaking event', while in (142b) 'in naive physics, at least, there is no sense in which red dirt becomes red'.

(142) a. #The glass is broken, but it never broke.

Koontz-Garboden (2005, 86), ex.(7a)

b. The dirt is red, but nobody reddened it.

Koontz-Garboden (2005, 86), ex.(8a)

However, in certain cases we do find that the property concept like colour results from a preceding event. The Mwotlap sentence (22) in Chapter 1 offers such an example, which is repeated as (143) here.

(143) Nēk mi-tig mēlēmlēg na-lo den kemem.
2sg ASP-stand black ART-sun from 1exc:pl
'Standing as you are, you're hiding the sun from us.' (lit. You're *standing dark* the sun from us)

François (2006, 232), ex.(18)

The possibility that state might be encoded either by a stative result verb or an adjective often makes it hard to tell these two kinds of lexical categories from each other. Mandarin Chinese is especially notorious for this, as suggested by Comrie's quite early observation:

> In Mandarin Chinese...a number of predicates, both adjectives and verbs, that normally refer to a state can have ingressive meaning in the Perfective, e.g. *ta gao* 'he is tall', *ta gao-le* (Pfv.) 'he became tall, has become tall'. (Comrie, 1976, pp.19-20)

As for the category of **adjectives** in Chinese, Arcodia (2014, pp.100-101) has discussed two subclasses: predicative adjectives and non-predicative adjectives, with the former being able to constitute predicates themselves without any copula, while the latter being non-stand-alone predicates but only being modifiers.[1] *Gao* '(being) tall' in Comrie's statement above is an example of the predicative adjective, and it is mainly this kind of adjective that is usually difficult to be differentiated from verbs. Nevertheless, Tham (2013) does propose some standards to tell them apart, and here we offer an introduction to Tham's research on those differentiating criteria.

Contrary to the traditional Chinese linguistic idea that adjectives are regarded as a subclass of verbs (Chao, 1968; Li and Thompson, 1981, 142), Tham (2013, 655) argues that 'property concept states in Mandarin are expressed by adjectives', and stative result verbs (sometimes termed by Tham as 'change of state verbs' (COS verbs for short)) can

[1]For this kind of non-predicative adjectives, Arcodia (2014, 101) has listed the example of *jia* 'fake' with a reference to Li and Thompson (1981, 145), claiming that it cannot constitute a predicate like **na feng xin jia* 'that letter is fake (intended meaning)' but must be nominalized with the particle *de* and the copula *shi* for that purpose, such as *Na feng xin shi jia de* 'That letter is fake.'

be systematically derived from property concept adjectives. In order to support this argument Tham has analyzed the similarity as well as difference between adjective and stative verb. One noticeable similarity between these two lexical categories is that both of them allow modification of intensifying adverbials like *hen* 'very' (p.656), as sentence (144) suggests.

(144) a. 三毛　很　高。
Sanmao hen gao.
Sanmao very tall
'Sanmao is (very) tall.'

b. 三毛　很　喜欢　猫。
Sanmao hen xihuan mao.
Sanmao very like cat
'Sanmao likes cats (very much).'

Tham (2013, 656), ex.(14)

By contrast, there are two differences between adjectives and stative verbs in Chinese, and the first difference is their different interpretations in the absence of degree modification. Tham (2013, pp.657-658) summarizes from previous studies that adjective shows a comparative interpretation without degree modification (Zhu, 1956; Sybesma, 1997),[2] but stative verbs do not. Sentence (145) offers such an illustration.

(145) a. 三毛　高。
Sanmao gao.
Sanmao tall
'Sanmao is taller.' Not: 'Sanmao is tall.'

b. 三毛　喜欢　猫。
Sanmao xihuan mao.
Sanmao like cat
'Sanmao likes cats.' Not: 'Sanmao likes cats more.'

Tham (2013, 658), ex.(17)

The second difference is that 'only lexical adjectives can directly modify nominals, but modifier phrases...must be mediated by DE_1' (pp.660-661). Sentence (146) exemplifies this point by contrasting adjective *gao* 'tall/high' and stative verb *xi'huan* 'like'.[3]

[2]This comparative interpretation is not mentioned in Comrie's observation as quoted above. As a native Mandarin Chinese speaker I tend to agree with Tham's claim here. Of course the comparative meaning of adjectives in the absence of degree modification does not arise in all contexts, and readers can refer to Tham's work for more details.

[3]It is noteworthy that Hengeveld (1992, 63) holds a different idea, regarding that both lexical adjectives (termed as property words by Hengeveld) and modifier phrases (termed as action words by Hengeveld) require a relativiser (which is DE_1 here) 'when modifying a term'. And this idea is also quoted by Croft (2000, 69). However, as a native speaker of Mandarin Chinese, I tend to agree with Tham's claim that lexical adjectives can modify nominals directly.

(146) a. 高 (的) 价格
gao (DE_1) jiage
high DE_1 price
'a high price'

Tham (2013, 661), ex.(23)

b. 青少年 喜欢 *(的) 电影
qingshaonian xihuan *(DE_1) dianying
youth like DE_1 movie
'a movie liked by young people'

Tham (2013, 661), ex.(24a)

Tham (2013, pp.664-668) then turns to the difference between adjectives and COS verbs, for which she claims two standards are helpful in distinguishing them. The first standard is also degree modification including intensifier *feichang* 'extremely' and post-predicate *ji-le* 'to the utmost'. Tham proposes that these kinds of intensifiers can modify adjectives such as *hong* 'red', but cannot modify COS verbs like *zui* 'intoxicated' or *bing* 'sick'. Examples can be found at the contrasting sentences (147) and (148).

(147) a. 树 叶 非常 红。
Shu ye feichang hong.
tree leaf extremely red
'The leaves are extremely red.'

b. 树 叶 红 极 了。
Shu ye hong ji le.
tree leaf red utmost CRS
'The leaves are extremely red.'

Tham (2013, 664), ex.(29)

(148) a. * 三毛 很/非常 醉/病
* Sanmao hen/feichang zui/bing
Sanmao very/extremely intoxicated/sick
#'Sanmao is very/extremely drunk/sick' (intended meaning)

b. * 三毛 醉/病 极 了
* Sanmao zui/bing ji le
Sanmao intoxicated/sick utmost CRS
#'Sanmao is extremely drunk/sick' (intended meaning)

Tham (2013, 664), ex.(30)

Instead, degree modification for COS verbs in Chinese can be realized by the -DE_3 complement structure plus the modifier *hen lihai* 'seriously', as in sentence (149).

(149) 三毛 醉- 得/病- 得 很 厉害。
Sanmao zui-DE_3/bing-DE_3 hen lihai.
Sanmao intoxicated-DE_3/sick-DE_3 very serious
'Sanmao is intoxicated/sick to a serious extend.'

Tham (2013, 664), ex.(31)

The second standard to differentiate adjectives and COS verbs is negation marking. Tham (pp.665-666) refers to Lin (2003) that the negation marker *bu* 'is associated with negating the presence of some state', while the negation marker *mei* 'is associated with negating the occurrence of an event'. This statement is supported also by Lin's example sentences labelled as (150) here, where the lexical form *lao* 'old' respectively shows a stative meaning and COS meaning when combined with *bu* and *mei*.

(150) a. 他 看- 上去 一 点 都 不 老。
Ta kan-shangqu yi dian dou bu lao.
3SG look-appear one little all NEG old
'He is not old at all in appearance.'

Lin (2003, 437), ex.(23)

b. 他 看- 上去 一 点 都 没 老。
Ta kan-shangqu yi dian dou mei lao.
3SG look-appear one little all NEG old
'He hasn't become old at all in appearance.'

Lin (2003, 437), ex.(24)

Applying this standard of negation marking, Tham finds that COS verbs like *zui* 'intoxicated' can only be negated by *mei*, while pure adjectives like *cong'ming* 'intelligent' can only be negated by *bu*. This is supported by the contrasting sentences (151) and (152), where the latter pair of sentences come from Lin's work.

(151) a. * 三毛 不 醉
* Sanmao bu zui
Sanmao NEG intoxicated
#'Sanmao isn't/didn't get drunk' (intended meaning)

b. 三毛 没 醉。
Sanmao mei zui.
Sanmao NEG intoxicated
'Sanmao isn't/didn't get drunk.'

Tham (2013, 666), ex.(34)

(152) a. 他 不 聪明。
Ta bu congming.
3SG NEG intelligent
'He is not clever.'

b. * 他 没 聪明
* Ta mei congming
3SG NEG intelligent
#'He has not turned clever' (intended meaning)

Lin (2003, 437), ex.(25)

However, certain predicates do show an adjective property as well as a COS property at the same time according to the above-mentioned standards, such as the fact that *lao*

'old' can be negated both by *bu* and *mei* in sentences (150), while Comrie's observation of ingressive meaning for state within perfective also holds water. For this Tham (2013, 667) states that predicates such as *lao* 'old' and *gao* 'high/tall' when modified by *hen* 'very' and *feichang* 'extremely', and negated by *bu*, show a stative interpretation, and in such cases 'they may be assumed as adjectives'. These predicates when negated by *mei* and modified by *-de hen lihai* 'to a serious extent', show a COS interpretation, and in such cases they can be considered as deadjective COS verbs.[4] In contrast, predicates like *zui* 'intoxicated' and *bing* 'sick' are 'basically verbs' as they 'cannot be modified with *hen* 'very' and *feichang* 'extremely', but only with *-DE*$_3$ *hen lihai* 'to a serious extent'. In addition, the basic verb property of such predicates is further supported by the fact that they can be negated by *mei*, but not by *bu*.

Moreover, Tham (2013, pp.668-669) claims that the COS meaning encoded by the structure of deadjective verb plus aspectual marker such as *ta gao le* 'he became tall, he has become tall' in Comrie's observation, does not come from the aspectual marker *le*, but is structurally expressed by the deadjective COS verb itself. On this point Tham refers to Sybesma (1997, 230) and suggests that 'the COS interpretation of such predicates is still available even in the absence of *-le*', as long as a modal is present. This idea is also supported by example sentences from Sybesma's paper, listed as (153) here.

(153) a. 他 能 高。
Ta neng gao.
3SG can tall
'He can become tall.'

b. 他 会 胖。
Ta hui pang.
3SG can fat
'He may become fat.'

c. 他 要 好。
Ta yao hao.
3SG will good
'He will get better.'

Sybesma (1997, 230), ex.(21)

Now we have analyzed the two possibilities that slot 2 within cause-effect SVC might be result verb or adjective. For the case of result verb it is further divided into two

[4]Predicates like *lao* 'old' and *gao* 'high/tall' essentially show the adjective property according to the two differences between adjectives and stative verbs as suggested by sentences (145) and (146), and this is why they are termed as deadjective COS verbs when showing the COS interpretation, but not vice versa.

sub-cases: dynamic result verb like 'cry' in sentence (141) as well as stative result verb. The latter sub-case of stative result verb is often confused with adjective, especially in the isolating language of Mandarin Chinese where there is no morphological marking to tell these two apart. For this problem we have resorted to differentiating standards from Tham (2013). First, adjective within Mandarin Chinese is identified by comparing with stative verb, where adjective differs from the latter by showing a comparative interpretation in the absence of degree modification, as well as by its optionality upon DE_1 when modifying nominals. Secondly, when adjective is identified, it is compared with basic COS verbs such as *zui* 'intoxicated'. These two kinds of lexical categories differ from each other in that the former can be modified by intensifier *lihai* 'extremely' and post-predicate *ji-le* 'to the utmost', while these degree modification markers cannot be applied to basic COS verbs. But instead basic COS verbs can be modified by the degree structure *-DE_3 hen lihai* 'seriously'. In addition, adjective can be differentiated from basic COS verb by negation marking, that is, (pure) adjective can only be negated by *bu* while basic COS verb can only be negated by *mei*, as suggested by sentences (152) and (151). However, certain adjectives do demonstrate a COS meaning as in sentence (150), and we follow Tham to call such lexical forms as deadjective COS verbs in that case. Moreover, for the reason that the change of state meaning of those deadjective COS verbs is structurally encoded in those verbs but not comes from the usually following aspectual marker *le*, we have good reason to label them as a sub-case of resultative stative verb when they are used as V_2 within cause-effect SVC. One relevant example here is *po* 'break/broken' mentioned in subsection 5.2.1, where Talmy seems to suggest *po* as a non-verbal element as in sentence (154).

(154) 我 踢 破 了 窗户。
Wo ti po le chuanghu.
I kick break/broken ASP window
'I kicked the window broken.'

Talmy (2000b, 241)

However, this is not the case. Applying the criteria to *po* we find that it behaves both as a non-verbal adjective property and a verbal property, where the adjective claim can be supported by the negation *bu* in sentence (155a) while the verbal claim can be supported by the negation *mei* in sentence (155b). Moreover, discussion about this adjective/verb property of *po* from Tham (2013, pp.676-677) is also conducive, where

the adjective meaning is considered to be 'shabby, or in poor condition', while the COS verb meaning to be 'break'. Further, through a corpus search Tham claims that the adjective property of *po* within an intensifier modification structure like *hen po* 'very shabby' can hardly be applied to 'brittle objects such as cups and vases that typically break or shatter' (ibid.), which again proves that *po* in sentence (154) should not be an adjective interpretation but should be labelled as a verb. For these reasons we think it not proper to equate *po* in Mandarin Chinese with *broken* in English, and classify *po* as a non-verbal element. But rather, *po* is better to be considered as a result verb that together with a manner verb makes cause-effect SVC, like the situation in the above sentence (154).

(155) a. 这 只 船 又 不 破 又 不 坏，
Zhe zhi chuan you bu *po* you bu huai,
this CLF boat again NEG shabby again NEG break.down,
依旧 完整 如故。
yijiu wanzheng rugu.
still complete as uaual
'This boat is neither shabby nor destroyed, and is still in the complete condition as usual.'
(《佛法概要》*Fo fa gai yao* 'A profile of Buddhism doctrine')
cited from PKU corpus: http://ccl.pku.edu.cn:8080/ccl_corpus/

b. 问 货 主： "这 药 还 能 用 吗?"
Wen huo zhu: 'Zhe yao hai neng yong ma?'
ask cargo owner: 'this medicine still can use MOD?'
答： "怎么 不 能！ 包装 没 破、
Da: 'Zenme bu neng! Baozhuang mei *po*,
answer: 'how not can! package NEG break,
日期 没 过 嘛。"
riqi mei guo ma.'
date NEG cross MOD'
'(Someone) asks the cargo owner: 'Can this medicine still be used?' (The owner) answers: 'Of course! The package does not break, and the date is still undue.'
(1996 年《人民日报》)
(*Renmin Ri Bao* 'People's Daily', in the year of 1996.)
cited from PKU corpus: http://ccl.pku.edu.cn:8080/ccl_corpus/

Now we have done the lexical category analysis for cause-effect SVC, which covers the two cases of manner verb and causation verb appearing as V_1, as well as the two possibilities of result verb and adjective appearing as V_2. But rather, for cause-effect SVC studies as we have demonstrated, adjectives should be treated as deadjective COS verbs when they express the meaning of change of state. In addition, result verbs

can also be dynamic ones such as *cry* in sentence (141), or basic COS verbs like *zui* 'intoxicated' in sentence (149). All those cases and possibilities of lexical categories for internal elements within cause-effect SVC can be summarized in Table 5.1 for now, and we will make a supplement to it later in subsection 5.3.1.[5]

Table 5.1: Internal elements of cause-effect SVC

	Slot 1		
Semantics	Cause		
Lexical category	Manner verb	Causation verb	
		Light verb	Imperative
Example	吹 *chui* 'blow	让 *rang* 'let'	命令 *ming'ling* 'order'
	Slot 2		
Semantics	Result		
Lexical category	Result verb		~~Adjective~~
	Dynamic	Stative	
		Basic COS verb	Deadjective COS verb
Example	哭 *ku* 'cry'	醉 *zui* 'intoxicated'	高 *gao* 'tall/high'

5.3 Cause-effect lexicalization patterns in modern Chinese and ancient Chinese

This section provides a statistical analysis of cause-effect lexicalization patterns in modern Chinese and ancient Chinese. The structure of this section is basically the same as its counterpart in Chapter 4, that is, a synchronic typological feature discussion for modern Chinese on the basis of lexicalization pattern demonstration supported by example sentences in subsection 5.3.1, and a diachronic typological feature analysis for ancient Chinese according to the same 'three periods and seven phases' subdivision in subsection 5.3.2. Again, results of this section will be presented in visualized tables and figures as in Chapter 4.

5.3.1 Typology of cause-effect in modern Chinese

Our corpus provides a much larger number for the cause-effect lexicalization patterns, 1101 entries in comparison to 506 entries of the motion-path counterpart. Those 1101 entries cover 7 kinds of lexicalization patterns, and these are serial verb construction (SVC), aspectual compound (CPasp), causative, double framing (DF), converb construction, coordinate, and alternative expression of manner (AEM). Among these 7

[5]Here for convenience we have listed causation verb in Table 5.1 and treated causative SVC as a subclass of cause-effect SVC, but later we will make a differentiation between causative SVC and cause-effect SVC when we come to the more detailed analysis.

kinds causative is the unique pattern for cause-effect typology, and aspectual compound can be equated with satellite framing in the motion-path case, for the reason that both of them contain an independent main verb as well as a grammaticalized dependent element. This subsection will discuss those 7 types in turn with example sentences for the typological feature of modern Chinese from the cause-effect perspective.

Cause-effect lexicalization patterns in modern Chinese

Among the 1101 cause-effect entries there are 774 **SVC**s, upon which we give a more detailed analysis on the basis of their internal elements according to a finer sub-classified version of Table 5.1. Causative SVC will not be included for now.

We found three subtypes of ***manner verb*** from our corpus according to their dynamicity degree and lexical category property. In most cases V_1 within cause-effect SVC is a typical process/activity encoding verb whose dynamicity guarantees a causing effect, such as *chui* 'blow' in sentence (156a). However, occasionally V_1 can be a less dynamic verb with the meaning of 'change/become', like *bian* in sentence (156b). Moreover, very rarely slot 1 within cause-effect SVC can be fulfilled by a linguistic form with less a canonical verbal property and sometimes an adjective property that depicts psychological state, such as *chou* 'worried/anxious' in (156c).

(156) a. 风 飒飒 而 起，吹 动 床帐 帷巾。
Feng sasa er qi, chui dong chuangzhang weijin.
wind MIME ATTR rise, blow move sparver curtain
'The wind rises with a loud sound, blowing the sparver and curtain into motion.'
(《长门赋 (并序)》译文，引自 http://so.gushiwen.org/fanyi_37447.aspx)
(Translation of *Chang men fu (bing xu)* 'Ode to Chang men (With a prologue), cited from http://so.gushiwen.org/fanyi_37447.aspx)

b. 醋 变 酸 了 就 会 惹 来 蚊 虫。
Cu bian suan le jiu hui re lai wen chong.
vinegar become acid ASP then can invite come mosquito insect
'Once the vinegar becomes acid it will invite mosquitos and insects.'
(《劝学》译文，引自 http://so.gushiwen.org/fanyi_1653.aspx)
(Translation of *Quan xue* 'To encourage learning', cited from http://so.gushiwen.org/fanyi_1653.aspx)

c. 愁 坏 了 我 这 葬 花 的 人。
Chou huai le wo zhe zang hua DE_1 ren.
worried/anxious ruin ASP I this bury flower DE_1 person
'As a girl burying flowers I was so worried that I almost collapsed.'
(《葬花吟》译文，引自 http://so.gushiwen.org/fanyi_17897.aspx)
(Translation of *Zang hua yin* 'Burying flowers', cited from http://so.gushiwen.org/fanyi_17897.aspx)

The adjective property of *chou* in (156c) can be illustrated by intensifier *hen* 'very' as introduced in subsection 5.2.2. This intensifier can be used to modify *chou* as in sentence (157), but can not be applied to canonical verbs such as *chui* 'blow'.

(157) 刘 庆棠 很 内疚，也 很 愁， 心 如 秋 蝉。
Liu Qingtang hen neijiu, ye hen chou, xin ru qiu chan.
Liu Qingtang very guilty, also very worried, heart like autumn cicada
'Liu Qingtang feels very guilty and worried, full of anxiety in his heart like a cicada in autumn.'

(1997 年《作家文摘》)
(*Zuojia Wenzhai* 'Writers Digest', in the year of 1997.)
(cited from PKU corpus: http://ccl.pku.edu.cn:8080/ccl_corpus/)

As for ***result verb***, it can be classified into a similar three subtypes as the above-mentioned manner verb, yet with a more complex case. V_2 within cause-effect SVC is usually of dynamicity, and it might encode a process/activity as in sentence (158a), an achievement deriving afterward state in (158b), or an achievement with no afterward state that gets extinguished once at realization as suggested in (158c).

(158) a. 楚 王 ...射 落 了 白 天鹅，击中 了 野 鹅。
Chu wang...she luo le bai tian'e, jizhong le ye e.
Chu King...shoot fall ASP white swan, hit ASP wild goose
'King of Chu shot down the white swan, and hit the wild goose.'
(《子虚赋》译文，引自 http://so.gushiwen.org/fanyi_27662.aspx)
(Translation of *Zixu fu* 'Ode to Zixu', cited from http://so.gushiwen.org/fanyi_27662.aspx)

b. i. 我 现在 就 打 死 你！
Wo xianzai jiu da si ni!
I now at once beat die you
'I will now beat you to death!'
(《书左忠毅公逸事》译文，引自 http://ewenyan.com/articles/wy/6/17.html)
(Translation of *Shu Zuo Zhong Yi Gong yishi* 'Anecdote of Lord Zuo Zhong Yi', cited from http://ewenyan.com/articles/wy/6/17.html)

ii. 年青　　人... 常常　　敢于　打 破　　常　　规。
Nianqing ren...changchang ganyu da po　　chang gui.
young　people...often　dare　hit break usual　regulation
'Young people...often dare to break the usual regulations.'
(《少年中国说》译文，引自
http://www.fainfo.com/puton/lang/lang14/lang1431.htm)
(Translation of *Shaonian Zhong Guo shuo*
'Youth China', cited from
http://www.fainfo.com/puton/lang/lang14/lang1431.htm)

c. i. 密　网　不　进　池塘　　捕　　鱼，
Mi　wang bu　jin　chitang bu　　yu,
fine net　not enter pool　catch fish,
鱼　鳖　　就　　不　会　吃 完。
yu　bie　　jiu　　bu　hui chi wan.
fish turtle then not can eat finish
'If the fine and closely woven net does not enter pool for catching, then fish and turtle cannot be eaten up.'
(《寡人之于国也》译文，引自 http://wyw.5156yuwen.com/135.html)
(Translation of *Guaren zhiyu guo ye*
'How should the king manage his kingdom', cited from
http://wyw.5156yuwen.com/135.html)

ii. 你　用　木瓜　　送　　给　我，我　用　美玉　回报　你。
Ni　yong mugua　song gei　wo, wo yong meiyu huibao ni.
you with pawpaw send give me, I　with jade　return　you
'You sent a pawpaw to me, and I return a jade to you as a payback.'
(《诗经 • 木瓜》译文，引自 http://ewenyan.com/articles/sj/44.html)
(Translation of *Shi Jing* • *Mugua*
'Book of Songs • Pawpaw', cited from
http://ewenyan.com/articles/sj/44.html)

Sentence (158b) differs from sentence (158c) in that in the former case the achievement encoded by V_2 once gets realized will result in an afterward state, like '(you) being dead' in sentence (158b-i) and '(regulations) being violated' in (158b-ii). By contrast, achievement in the latter case upon realization will lead to no further state, or will lead to a state of nihility, such as once fish and turtle get eaten up in a pool there would be no such kinds of creature within that area, and once pawpaw gets delivered, it will transfer the state of its possession from benefactor to recipient. Irrespective of the state-deriving achievement or the nihility achievement, they are true types of achievement that involve certain dynamicity and a definite telicity. Moreover, V_2 within cause-effect SVC can be a less dynamic or more static verb that can show both telic and atelic properties, and a typical example of such a case is basic COS verb like *zui* 'intoxicated' introduced in subsection 5.2.2. Rappaport Hovav and Levin (2010, pp.27-30) have considered these kind of verbs as encoding 'degree achievements', upon which we shall give a brief illustration.

Rappaport Hovav and Levin (2010, pp.27-30) have used In-PP and For-PP method to illustrate the duality of degree achievement verbs for telicity and atelicity, with the verb *cool* as an example. It is generally acknowledged that atelic event can be modified by For-PP but not In-PP, and telic event vice versa. Yet it turns out that *cool* can be modified by both of these two phrases as suggested in sentence (159).

(159) a. The chemist cooled the solution for three minutes.
b. The chemist cooled the solution in three minutes; it was now at the desired temperature.

Rappaport Hovav and Levin (2010, 27), ex.(14)

Rappaport Hovav and Levin (ibid.) have then offered an account of the telic/atelic duality for *cool*, claiming that it contains a multiple-point scale of change that can have many values, therefore earning these kinds of verbs the name of 'degree achievements'.[6] Judged by this multiple-point scale criterion *zui* 'intoxicated' in Chinese is also a degree achievement verb, as it can have different values like 'slightly intoxicated' and 'extremely intoxicated'. Moreover, the degree achievement property of *zui* can be similarly exemplified by the corresponding In-PP and For-PP in Chinese.[7]

(160) a. 他 醉 了 持续 一 小时。
Ta zui le chixu yi xiaoshi.
he intoxicated LE continuous one hour
'He has been intoxicated for one hour.'
b. 他 一 小时 内 醉 了。
Ta yi xiaoshi nei zui le.
he one hour within intoxicated ASP
'He got intoxicated (with)in one hour.'

This kind of degree achievement encoding verbs can also appear as V_2 within a cause-effect SVC, as suggested by sentence (161) from our corpus.

[6] By contrast verbs involving a two-point scale like *die* are labelled as 'true achievements'.

[7] One of the reviewers comments that in sentence (160a) what continues is the *state* of being drunk, therefore it is not the same as (159a). While we agree with the *state* encoding sense of 'being drunk' in sentence (160a), we do not think it is of the same kind of *state* depiction like in 'the light has been on for one hour'. In the latter case there is no such a multiple-point scale of change for the light, but for the case of 'being drunk' it has different values such as from 'being extremely intoxicated' to 'being slightly intoxicated'. And it is this multiple-point scale of change that invests 'being drunk' with the nature of 'degree achievement' in sentence (160a), which is paralleled to the case in (159a) here.

(161) 太守　　喝　醉　　了。
Taishou　　he　zui　　le.
prefecture chief drink intoxicated ASP
'The prefecture chief has drunk himself intoxicated.'

(《宋散文选 • 醉翁亭记》译文，引自
http://www.fainfo.com/puton/lang/lang13/lang1320.htm)
(Translation of *Prose collection • Zui Weng Ting ji*
'Notes of the Old Tippler's pavilion', cited from
http://www.fainfo.com/puton/lang/lang13/lang1320.htm)

Along with basic COS verbs such as *zui* 'intoxicated' functioning as V_2 within cause-effect SVC, the same slot can be taken by a deadjective COS verb according to Tham's classification illustrated in subsection 5.2.2. Moreover, considering the fact that 'degree achievement' verbs are 'often derived from gradable adjectives' (Rappaport Hovav and Levin, 2010, 30), this kind of deadjective COS verb can also be regarded as expressing the event of degree achievement given its many values within the multiple-point scale of change. A typical example is change of colour resulting from a causing activity. Sentence (162) offers such an example.

(162) 宰杀　禽　兽　的　鲜血　　染　红　车　　轮。
Zaisha　qin　shou　DE_1　xianxue　ran hong　che　lun.
kill　bird　beast　DE_1　blood　tint red　carriage　wheel
'Blood from the killed birds and beasts has tinted the carriage wheels.'

(《子虚赋》译文，引自 http://so.gushiwen.org/fanyi_27662.aspx)
(Translation of *Zixu fu* 'Ode to Zixu', cited from
http://so.gushiwen.org/fanyi_27662.aspx)

Those above-mentioned subtypes of cause-effect SVC, according to their internal components, can be summarized in Table 5.2.

Table 5.2: Subtypes of cause-effect SVC

<table>
<tr><td></td><td colspan="5">Slot 1</td></tr>
<tr><td>Semantics</td><td colspan="5">Cause</td></tr>
<tr><td>Lexical category</td><td>Manner verb</td><td colspan="2">Become verb</td><td colspan="2">Adjective /verb</td></tr>
<tr><td>Event</td><td>Process /activity</td><td colspan="2">Become</td><td colspan="2">Psychological state</td></tr>
<tr><td>Example</td><td>吹 chui 'blow'</td><td colspan="2">变 bian 'become'</td><td colspan="2">愁 chou 'worried/anxious'</td></tr>
<tr><td></td><td colspan="5">Slot 2</td></tr>
<tr><td>Semantics</td><td colspan="5">Result</td></tr>
<tr><td>Lexical category</td><td>Process verb</td><td colspan="2">Achievement verb</td><td>Basic COS verb</td><td>Deadjective COS verb</td></tr>
<tr><td>Event</td><td>Process /activity</td><td>State-deriving achievement</td><td>Nihility achievement</td><td>Degree achievement</td><td>Degree achievement</td></tr>
<tr><td>Example</td><td>落 luo 'fall'</td><td>死 si 'die/dead'</td><td>完 wan 'over'</td><td>醉 zui 'intoxicated'</td><td>红 hong 'red'</td></tr>
</table>

Finally, there are two special kinds of cause-effect SVC worth mentioning, which are perceptual cause-effect SVC and cause-effect SVC with a reversed order. We treat

the former as cause-effect because it is likely to project the process/activity of *look* but without any following result of *see*, yet when these two verbs are juxtaposed they will form a complete cause-effect SVC as shown in sentence (163). Besides, sentence (164) is distinct for the reason that given the usual iconicity within cause-effect SVC (cf. sentences (156), (158), (161), (162), (163) discussed so far), the relevant cause-effect structure in that sentence is of reversed order. That is, the verb encoding result is placed before the verb encoding cause.[8]

(163) 走 路 的 人 看 见 罗敷，
Zou lu DE_1 ren kan jian Luo Fu,
walk road DE_1 people look see Luo Fu,
放 下 担子 捋着 胡子 （注视 她）。
fang xia danzi lvzhe huzi (zhushi ta).
put descend load smooth mustache (watch she)
'Once pedestrians saw Luo Fu, they would put down their loads and watch at her while smoothing mustaches.'

（《陌上桑》译文，引自
http://www.fainfo.com/puton/lang/lang12/lang1227.htm)
(Translation of *Mo shang sang* 'Mulberry tree on the path', cited from
http://www.fainfo.com/puton/lang/lang12/lang1227.htm)

(164) 遍 观 群 兽 各种 不同 的 姿态。
Bian guan qun shou gezhong butong DE_1 zitai.
finish see variety beast various different posture
'I've seen different postures from various kinds of beast.'

（《子虚赋》译文，引自 http://so.gushiwen.org/fanyi_27662.aspx)
(Translation of *Zixu fu* 'Ode to Zixu', cited from
http://so.gushiwen.org/fanyi_27662.aspx)

The term **Aspectual Compound** (CPasp) is used to describe the phenomenon that result is implied by the perfective aspect prefix within non-motional case of cause-effect situation (Croft et al., 2010, pp.215-216). Croft et al. further claim that CPasp within cause-effect situation is analogical to Satellite-framing within motion-path situation in that the aspectual markers 'cannot be main predicates on their own' (ibid.). A typical CPasp example has been quoted from Croft et al. (2010, 216) in Chapter 2 as sentence (79), and here we repeat it as (165).

[8]Yet it should be noted that *bian* in sentence (164) is not a canonical verb feature. Actually *Modern Chinese Dictionary* (6^{th} edition) (p.82) lists it both as a verb (being overall) and an adverb (all over). As introduced in Chapter 4, within motion-path SVC there is also a reversed order subtype where the preposed path is lexicalized by the noncanonical verb of converb (cf. Table 4.2 in Chapter 4). The noncanonical verbal property of result element might be the reason for this reversed order both in motion-path case and cause-effect case. However, this question is left open for further research.

(165) Te go *za-* **streljaxa**.
they him *ASP-* **shoot:AOR**
'They shot him [dead].'

Croft et al. (2010, 216), ex.(66)

In Chapter 3 we discovered two types of aspectual markers that perform certain affiliating nature (recall the two example sentences in (88) from Chapter 3). One type is the pure aspectual marker *le* with no substantial meaning that has to go after a verb to show completion. The other type is the grammaticalized verb used as an aspectual marker, which functions to indicate the result of its preceding activity and cannot be used independently due to its bleached content verbal meaning. In this subsection we demonstrate more about these two cases of CPasp with example sentences from our corpus, listed as (166).

(166) a. 喝 了 贪 泉 的 水，
He *le* tan quan DE_1 shui,
drink ASP greed spring DE_1 water,
仍然 觉得 心 清 气 爽。
rengran jue De_3 xin qing qi shuang.
still feel heart clean mentality clear
'After drinking the water from Greed Spring, one can still maintain a clean heart and clear mentality.'
(《滕王阁序》译文，引自 http://wyw.5156yuwen.com/155.html)
(Translation of *Teng Wang Ge xu* 'Prologue of poet about Teng Wang Cockloft', cited from http://wyw.5156yuwen.com/155.html)

b. 难 找 到 像 孙 权 那样 的 英雄。
Nan **zhao** *dao* xiang Sun Quan nayang DE_1 yingxiong.
hard search ASP like Sun Quan that DE_1 hero
'One cannot find that kind of hero like Sun Quan.'
(《辛弃疾词 • 永遇乐 • 京口北固亭怀古》译文，引自 http://so.gushiwen.org/fanyi_1426.aspx)
(Translation of *Xin Qiji's Ci* • *Always be joyful* • *Discussion on ancient times at Bei Gu Pavilion*, cited from http://so.gushiwen.org/fanyi_1426.aspx)

The meaning of *dao* in the cause-effect sentence (166b) clearly differs from that in the motion sentence, either in ancient Chinese like (167a) where the single verb is used as the sole predicate, or in modern Chinese like (167b) where *dao* appears as V_2 within a motion-path SVC as discussed in Chapter 4. *Dao* in the two motion cases maintains the verbal meaning of 'arrive' that can date back to more than 2000 years ago (Shi, 2014, 230), while *dao* in the cause-effect case has totally lost 'arrive' meaning but turns to be an aspectual marker that indicates the result of its preceding activity. Clear evidence

for this difference is that we can adapt the SVC in (167b) into a verb-framed structure like (168a) to show the independent usage of *dao* in the motion modern Chinese case; however, a similar endeavour in the cause-effect case is not workable as suggested by (168b).

(167) a. 长　驱　到　齐，晨　而　求　见。
Chang qu **dao** Qi, chen er qiu jian.
long drive arrive Qi, morning and require meet
'(Feng Yuan) has made a long drive to arrive at Qi Kingdom, and in the morning he required a meeting.'
(《战国策》77-6 B.C.)
(*Zhan Guo Ce* 'Strategies of the Warring States' 77-6 B.C.)

b. 匆匆地，　我 游　到　了
Congcong DE_2, wo you dao le
abruptly, I travel arrive ASP
东方　的　春　宫。
dongfang DE_1 chun gong.
east DE_1 spring palace
'Abruptly I traveled to the Spring Palace at east.'
(《离骚》译文, 引自 http://www.fainfo.com/puton/lang/lang11/lang113.htm)
(Translation of *Li Sao*, cited from http://www.fainfo.com/puton/lang/lang11/lang113.htm)

(168) a. 匆匆地，　我 用 游　的 方式
Congcong DE_2, wo *yong you* *DE_1 fangshi*
abruptly, I with travel DE_1 method
到　了　东方　的　春　宫。
dao le dongfang DE_1 chun gong.
arrive ASP east DE_1 spring palace
'Abruptly I arrived at the Spring Palace at east with the method of traveling.'

b. * 难 用　找　的 方式
* Nan yong zhao DE_1 fangshi
hard with search DE_1 method
到　像　孙 权　那样　的 英雄
dao xiang Sun Quan nayang DE_1 yingxiong
arrive/ASP like Sun Quan that DE_1 hero
#'One cannot arrive at that kind of hero like Sun Quan with the method of searching' (intended meaning)

Occasionally grammaticalized verb can be combined with *le* to function together as the aspectual marker, such as *xun dao le* 'found' in sentence (169).

(169) 果然 在几 里 外 寻 到 了。
Guoran zai ji li wai **xun** *dao* *le*.
really at several 500 meters outside search ASP ASP
'Really they found (the stone beast) at the place several kilometers away.'
(《河中石兽》译文, 引自 http://yw.eywedu.com/rj71/HTML/7161.html)
(Translation of *He zhong shi shou* 'Stone animals in the river',
cited from http://yw.eywedu.com/rj71/HTML/7161.html)

Within our corpus we have discovered 188 entries of CPasp, among which there are 21 tokens of *le* as aspectual marker, 162 tokens of grammaticalized verbs as aspectual markers, and 5 tokens of aspectual markers from a combination of these two. Types of those aspectual markers can be summarized in Table 5.3.

Table 5.3: Types of aspectual marker

	Le		**Grammaticalized verb**		**Le and Grammaticalized verb**	
	Type	Example	Type	Example	Type	Example
1	了 *le*	喝了 *he le* 'drink ASP'	到 *dao* 'arrive'	找到 *zhao dao* 'search ASP'	到了 *dao le* 'arrive le'	寻到了 *xun dao le* 'find ASP'
2			过 *guo* 'cross'	镀过 *du guo* 'plate ASP'	了起来 *le qi lai* 'le rise come'	躲了起来 *duo le qi lai* 'hide ASP'
3			见 *jian* 'see'	碰见 *peng jian* 'meet ASP'	了下来 *le xia lai* 'le descend come'	暗了下来 *an le xia lai* 'darken ASP'
4			来 *lai* 'come'	学来 *xue lai* 'learn ASP'	去了 *qu le* 'go le'	摘去了 *zhai qu le* 'pick ASP'
5			起 *qi* 'rise'	想起 *xiang qi* 'remember ASP'	住了 *zhu le* 'cease le'	遮住了 *zhe zhu le* 'cover ASP'
6			取 *qu* 'fetch'	射取 *she qu* 'shoot ASP'		
7			上 *shang* 'ascend'	献上 *xian shang* 'consecrate ASP'		
8			说 *shuo* 'say'	听说 *ting shuo* 'hear ASP'		
9			下 *xia* 'descend'	抢下 *qiang xia* 'rob ASP'		
10			着 *zhao* 'cease'	找着 *zhao zhao* 'find ASP'		
11			住 *zhu* 'cease'	围住 *wei zhu* 'encircle ASP'		

We shall reemphasize that the criterion to judge whether a verb has grammaticalized into an aspectual marker or not is its ability to be used independently while maintaining the original verbal meaning. If yes, like the case of *dao* 'arrive' as suggested by the comparing sentences (167b) and (168a), then it remains a content verb; if not, like the case of *dao* '*arrive' suggested by sentences (166b) and (168b), then it has lost its content verbal meaning and turned into an aspectual marker. Moreover, within Table 5.3 most of those grammaticalized verbs functioning as aspectual markers belong to the category of path verb that has been introduced in Chapter 4. This phenomenon, as well as further tests for some other grammaticalized markers within the list of ASP constituents, will be discussed more in details later in this subsection and in Chapter 6. Now we shall move on to the other types of cause-effect lexicalization pattern.

As mentioned earlier in Table 5.1 there are two kinds of causation verbs that can form causative SVC, one being light verbs like *rang* 'let' and one being imperative like *mingling* 'order'. From our corpus we have discovered 56 entries of **causative SVC**, which include 51 tokens for the former and 5 for the latter. Sentence (170) provides typical examples for these two cases.

(170) a. 让 白 龙 马 在 咸 池 饮 水 啊。
Rang bai long ma zai Xian Chi **yin** shui a.
let white dragon horse at salty pool drink water MOD
'Let my white horse drink water at the Salty Pool.'
(《离骚》译文, 引自 http://wyw.5156yuwen.com/124.html)
(Translation of *Li Sao*, cited from http://wyw.5156yuwen.com/124.html)

b. 我 命令 凤凰 展 翅 飞腾 啊。
Wo **mingling** fenghuang zhan chi **feiteng** a.
I order phoenix stretch wing fly MOD
'I order the phoenix to stretch its wings to fly.'
(《离骚》译文, 引自 http://wyw.5156yuwen.com/124.html)
(Translation of *Li Sao*, cited from http://wyw.5156yuwen.com/124.html)

Double framing in Croft et al. (2010, 208) is mainly applied to the motion situation where 'the path or framing expression is expressed twice', and we have already had the relevant discussion on Chinese in Chapter 4. Moreover, if the framing expression is extended from path to result, then we will find the corresponding cause-effect double framing structure in modern Chinese as well. This part illustrates double framing with a focus on the synthetic verb *zhe* 'break with hand', another potential counterexample to manner/result complementarity proposed by Levin and Rappaport Hovav (2013, pp.50-57).

Manner/result complementarity reads that 'manner and result meaning components are in complementary distribution: a verb lexicalizes only one' (Levin and Rappaport Hovav, 2013, 50). In Chapter 4 within motion domain we have briefly demonstrated Levin and Rappaport Hovav's argument how *climb* should not be a counterexample against their manner/result complementarity hypothesis and further shown that *deng* 'ascend with feet' in Chinese might raise a new challenge. Yet Levin and Rappaport Hovav (2013, pp.54-57) also defend their hypothesis from the change of state domain with a focus on *cut*, and they claim that despite the traditional idea that *cut* encodes the manner meaning of 'using an appropriate instrument' and the result meaning of 'break' (Guerssel et al., 1985), when the meaning of manner is encoded, the result meaning 'is

no longer entailed'. Levin and Rappaport Hovav provide sentence (171) for this point, suggesting that (171a) expresses only result but no manner and (171b) expresses only manner but no result.

(171) a. ...the rope **cut** on the rock releasing Rod on down the mountain.
(http://www.avalanche-center.org/Incidents/1997-98/19980103a- Montana.php)
Levin and Rappaport Hovav (2013, 55), ex.(12a)

b. Flint virtually forgot the two whales as he **cut** at the net with increasing fury.
(M. Harris, "Gray Whale Cove", Orange Coast Magazine, March, 1990, p. 148; http://books.google.com/)
Levin and Rappaport Hovav (2013, 56), ex.(14)

Zhe in Chinese might be a further counterexample against the *cut* case in English, for that *zhe* encodes both the manner information of 'with hand' and the result information of 'break' at the same time.[9] The manner information within *zhe* can be indicated from its preceding verbal phrase *shen shou* 'stretch hand' in sentence (172a), for which one has good reason to doubt that the result meaning of 'break' is realized by the afterward aspectual marker *le* but not expressed by the verb itself. This doubt can be eliminated by sentence (172b), where *zhe* shows up by itself without any result-indicating aspectual markers, but the 'breaking' meaning from *zhe* is quite obvious given the context. Moreover, without any other instrument presented in (172b), the canonical manner meaning in this sentence is still 'with hand', therefore maintaining the synthetic nature of *zhe* that expresses manner information 'with hand' and result information 'break' at the same time. Actually in Chinese there does exist a homonym *she* that only encodes the result meaning of 'broken' as suggested in sentence (139) and (172c), but due to the distinct phonological behaviour it is listed as a different lexical entry from *zhe* by the dictionary, so that it cannot be paralleled with the *cut* example in English mentioned above.

[9] Actually the manner information encoded by *zhe* is not necessarily 'with hand', but is 'in a holding manner' or 'to squeeze circumpivotally in on [a linear object]' as in Talmy's words mentioned above. Therefore though a monkey might squeeze circumpivotally with its feet and perform the action of *zhe*, the canonical situation for a human being is to 'hold within hand and squeeze', and this is the reason that we have treated canonically the manner information of *zhe* as 'with hand'. What is more, the result information of 'break' encoded by *zhe* is also noted by Talmy, as in his description, 'with the implicature that [the linear object] gets broken' (Talmy, 2000b, 275).

(172) a. 他 伸 手 折 了 短短 的 一 小 枝，
Ta shen shou **zhe** le duanduan DE$_1$ yi xiao zhi,
he stretch hand break ASP short DE$_1$ one small twig,
拿 在 手 里 用 力 折 成 了 几 段。
na zai shou li yong li zhe cheng le ji duan.
hold at hand inside with force break become ASP several segment
'Stretching hand out he broke one small twig, and further broke it into several segments at his hand.'

(《家》*Jia* 'Family')
cited from PKU corpus: http://ccl.pku.edu.cn:8080/ccl_corpus/

b. 一天早晨，爸爸站在花园中，孩子们正向学校走。有一个小男孩走近他，问道："我能折枝花吗?"
"你想要哪枝?" 爸爸问道。小男孩选了一枝很低的郁金香。然后爸爸说："这花归你了。如果你把花留在这儿，它还能开好几天。要是你现在折它，那就只能玩一会儿了。你想怎么办呢?"
One morning, my father was standing in the garden while those children were walking towards the campus. There was a little boy approaching him and asked, 'May I **break** one flower?'
'Which one do you want?' Father asked. The boy chose one tulip at a very low bough. Then my father replied, 'Now this flower belongs to you. If you keep it still on the bough, it can blossom for several more days. But if you **break** it now, then that would be a very short time span. What is your preference?'

(《读者》*Du Zhe* 'Readers')
cited from PKU corpus: http://ccl.pku.edu.cn:8080/ccl_corpus/

c. 树枝 折 了。
Shuzhi she le.
bough broken LE
'The bough is broken.'

(《现代汉语词典》(第六版)，p.1424)
(*Xiandai Hanyu Cidian* 'Modern Chinese Dictionary' (6 ed.), p.1424)

Having identified *zhe* in Chinese as a synthetic verb that encodes both manner information and result information, we can further proceed to judge SVC constituted by this synthetic verb and another result verb as double framing. One typical example is *zhe duan* '(with hand) break (something), (something) break/broken' in sentence (173). Altogether 33 entries of double framing have been discovered in our corpus.

(173) 出于 嫉妒 而 将 玉 佩 折 断。
Chuyu jidu er jiang yu pei zhe duan.
because of jealousness and will jade pendant break break/broken
'(They) will break the jade pendant because of jealousness.'

(《离骚》译文, 引自
http://www.fainfo.com/puton/lang/lang11/lang113_4.htm)
(Translation of *Li Sao*, cited from
http://www.fainfo.com/puton/lang/lang11/lang113_4.htm)

Similar to the case in motion situation, **converb construction** in cause-effect situation comes from a derived form of manner verb affiliated to a result verb. There are mainly two kinds of derived manner verb forms, *M-DE*$_3$ as in sentence (174a) and *M-ge* in (174b)[10]. In total we have got 26 entries of converb construction from our corpus.

(174) a. 无 人 弄 清 其 真相 的 事，
Wu ren nong qing qi zhenxiang DE$_1$ shi,
no people make clear its truth DE$_1$ matter,
哪 能 说-得 完 呢？
na neng *shuo-DE*$_3$ **wan** ne?
where can tell-DE$_3$ finish MOOD
'For the matters that nobody knows their truth, how can you tell them all?'
(《宋散文选 • 游褒禅山记》译文, 引自 http://www.fainfo.com/puton/lang/lang14/lang146.htm)
(Translation of *Prose collection • You Bao Chan Shan ji* 'A visit to Bao Chan Mountain', cited from http://www.fainfo.com/puton/lang/lang14/lang146.htm)

b. 今天 把 这 事 问-个 明白。
Jintian ba zhe shi *wen-ge* **mingbai**.
today BA this matter ask-ge clear
'Today let's ask this matter clear.'
(《桃花扇 • 却奁》译文, 引自 http://zhidao.baidu.com/link?url=c-Bh-vx3BErvNVXijU5BREhUz71Si6CBui29MwhgKOQoqwqAborIFwW2OfNYG22NEyyghXYN9nuOl6WbkNBnp)
(Translation of *Taohua Shan • Que lian* 'The Peach Blossom Fan • Decline gift', cited from http://zhidao.baidu.com/link?url=c-Bh-vx3BErvNVXijU5BREhUz71Si6CBui29MwhgKOQoqwqAborIFwW2OfNYG22NEyyghXYN9nuOl6WbkNBnp)

Coordination in the cause-effect situation is also the same as that in the motion situation in that it can contain an overt coordinate marker such as *er* in sentence (175a), or contain no such markers but just juxtapose two verbal phrases in (175b). Our corpus provides 22 entries of coordination in all.

(175) a. 最终 却 身 受 五 刑 而 死。
Zuizhong que shen shou wu xing **er** si.
final but body endure five punishment CD die
'But finally (Li Si) died from five punishments.'
(《鹏鸟赋》译文, 引自 http://ewenyan.com/articles/sc/cfjx/12.html)
(Translation of *Funiao fu* 'Ode to an owl', cited from http://ewenyan.com/articles/sc/cfjx/12.html)

[10]Paul (2010, pp.138-139) has discussed the kind of derived adjectives that covers two sub-types: modifier-head adjectival compounds like *xue-bai* 'snow white: as white as snow' and reduplicated adjectives like *zhengzhengqiqi* 'neat'. Furthermore, Paul refers to Lv (2000, 719) that once the reduplicated adjective appears at the result slot, it must be preceded by *DE*$_3$, such as *shoushi DE*$_3$ *zhengzhengqiqi* 'tidy up neatly'. And we deem that this is the same of the situation as the converb construction in sentence (174a).

b. 屠夫 于是 背 了 狼 回 家 了。
Tufu yushi bei le lang hui jia le.
butcher then carry ASP wolf return home LE
'The the butcher carried the wolf back home.'

(《狼 • 之三》译文, 引自
http://www.fainfo.com/puton/lang/lang11/2008/
lang11051223294831.htm)
(Translation of *Lang • No.3* 'Wolf • No.3', cited from
http://www.fainfo.com/puton/lang/lang11/2008/
lang11051223294831.htm)

Last but not least, there are two entries of **alternative expression of manner (AEM)**, where manner information is encoded by the non-verbal PP phrases, to be specific, with-phrase in sentence (176a) and by-phrase in sentence (176b). Nevertheless, there still exists the cause-effect relationship within those sentences, that is, flag floating due to the wind in the former, and acquiring territories through war in the latter.

(176) a. 轻轻地 随 风 飘荡。
QingqingDE$_2$ *sui* *feng* **piaodang**.
slightly with wind float
'(The flag) slightly floats with wind.'

(《孔雀东南飞》译文, 引自
http://www.fainfo.com/puton/lang/lang14/lang1411.htm)
(Translation of *Kongque dong nan fei*
'The peacock flies to the southeast', cited from
http://www.fainfo.com/puton/lang/lang14/lang1411.htm)

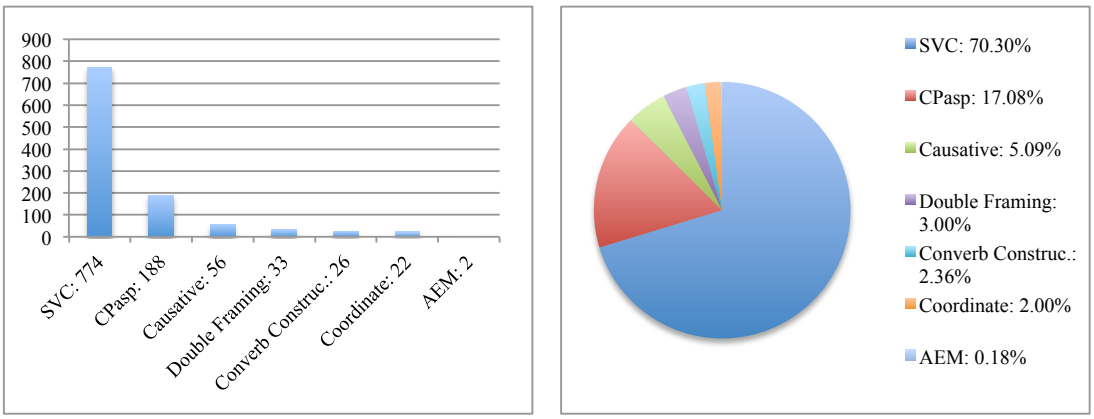
b. 秦 国 在 用 战争 夺取 土地 以外
Qin Guo zai *yong zhanzheng* **duoqu** tudi yiwai
Qin Kingdom at use war acquire territory beyond
(还 受到 诸侯 的 贿赂)。
(hai shoudao zhuhou DE$_1$ huilu).
(also receive dukes DE$_1$ bribery)
'Except for acquiring territories by war, the Qin Kingdom also receives briberies from other dukes.'

(《宋散文选 • 六国论》译文, 引自
http://www.fainfo.com/puton/lang/lang12/lang1211.htm)
(Translation of *Prose collection • Liu guo lun*
'Discussion on the six states', cited from
http://www.fainfo.com/puton/lang/lang12/lang1211.htm)

A brief summary and discussion

Now that all the seven kinds of lexicalization pattern for cause-effect expression in modern Chinese have been demonstrated, we can give a brief summary and discussion. All together we have got 1101 entries for the **typological profile** of modern Chinese

on the part of cause-effect expressions. The same as the conclusion from the previous motion-path discussion, modern Chinese shows a versatile feature for the cause-effect situation with seven kinds of lexicalization pattern discovered, among which SVC again proves to be the most prototypical feature as the 774 entries take up 70.30% among all the cause-effect expressions. Figure 5.1 provides a detailed number and percentage comparison among those seven patterns.



a. Number of each kind

b. Percentage of each kind

Figure 5.1: 7 kinds of cause-effect lexicalization patterns

Moreover, those 1101 entries also tell us about numbers of **M type, R type and synthetic verb type** within cause-effect lexicalization in modern Chinese. From our corpus we have extracted 403 types of manner verb, 186 types of result verb, as well as 11 types of synthetic verb. The huge amount of manner category largely comes from the potentiality that any verb of dynamicity might function as a causing element, and such kind of dynamic verbs would constitute an open class given their unlimited numbers. For this reason we will not list types of manner verb here. But rather, result verb types according to the subtypes introduced in Table 5.2, along with synthetic verb types, are summarized in Table 5.4 and Table 5.5.

Also, the large number of result lexical elements including aspectual markers in Table 5.3 and result verbs in Table 5.4 form an open class, which would again refute the S-claim for modern Chinese concluded by previous motion-path researches from the point of verb set. Moreover, those 11 types of grammaticalized verbs functioning as aspectual markers listed in Table 5.3 would introduce some further questions. When did they get grammaticalized and how? Why do most of them belong to the category

of path verbs? Partially in responding to these questions we shall move now to the next subsection of ancient Chinese investigation.

Table 5.4: Types of result verb in cause-effect domain

Process verb		**State-deriving achievement verb**		**Nihility achievement verb**	**Basic COS verb**	**Deadjective COS verb**	
沉 *chen* 'sink'	兴 *xing* 'prosper'	败 *bai* 'lose'	立 *li* 'erect'	爆 *bao* 'explode'	光大 *guangda* 'brighten'	饱 *bao* 'full'	破 *po* 'shabby'
倒 *dao* 'fall'	旋举 *xuanju* 'hover'	蔽 *bi* 'shield'	裂 *lie* 'crack'	毕 *bi* 'finish'	花 *hua* 'blur'	长 *chang* 'long'	青 *qing* 'green'
掉 *diao* 'drop'	摇晃 *yaohuang* 'wobble'	匾 *bian* 'flatten'	露 *lou* 'expose'	除 *chu* 'eliminate'	化 *hua* 'persuade(d)'	臭 *chou* 'stinky'	清 *qing* 'limpid'
动 *dong* 'motion'	饮 *yin* 'drink'	遍 *bian* 'pervade'	罗 *luo* 'trap'	给 *gei* 'give'	毁 *hui* 'damage'	大 *da* 'big'	全 *quan* 'whole'
渡 *du* 'cross'	映 *ying* 'reflect'	别 *bie* 'differ'	满 *man* 'expire'	还 *huan* 'give'	扩 *kuo* 'expand(ed)'	低 *di* 'low'	润泽 *runze* 'moist'
夺 *duo* 'rob'	杂 *za* 'mix'	并 *bing* 'merge'	明 *ming* 'expose'	尽 *jin* 'end'	漫 *man* 'suffuse'	对 *dui* 'correct'	少 *shao* 'less'
飞腾 *feiteng* 'fly'	葬 *zang* 'bury'	跛 *bo* 'cripple'	命 *ming* 'appoint'	净 *jing* 'complete'	普 *pu* 'pervade(d)'	多 *duo* 'many'	深 *shen* 'deep'
行 *xing* 'move'	占 *zhan* 'occupy'	残 *can* 'disable'	破产 *pochan* 'impoverish'	绝 *jue* 'over'	损 *sun* 'damage(d)'	锋利 *fengli* 'sharp'	湿 *shi* 'wet'
回 *hui* 'return'	战栗 *zhanli* 'tremble'	彻 *che* 'penetrate'	齐 *qi* 'align'	零 *ling* 'nullify'	张 *zhang* 'expand(ed)'	感动 *gandong* 'moved'	熟 *shu* 'ripe'
击 *ji* 'hit'	致 *zhi* 'incur'	成 *cheng* 'succeed'	弃 *qi* 'discard'	没 *mo* 'disappear'	醉 *zui* 'intoxicate(d)'	干 *gan* 'dry'	酸 *suan* 'sour'
集 *ji* 'assemble'	逐 *zhu* 'pursue'	迟 *chi* 'delay'	入 *ru* 'enter'	失 *shi* 'disappear'		干净 *ganjing* 'clean'	停当 *tingdang* 'ready'
加 *jia* 'increase'	转 *zhuan* 'turn'	出 *chu* 'exit'	杀 *sha* 'die'	完 *wan* 'terminate'		高 *gao* 'high'	歪 *wai* 'awry'
嫁 *jia* 'marry'	纵 *zong* 'indulge'	穿 *chuan* 'penetrate'	煞 *sha* 'die'	与 *yu* 'grant'		够 *gou* 'enough'	弯 *wan* 'curve'
减 *jian* 'decrease'	走 *zou* 'go'	辞 *ci* 'leave'	胜 *sheng* 'triumph'			广阔 *guangkuo* 'vast'	响 *xiang* 'loud'
瞰 *kan* 'overlook'	作 *zuo* 'compose'	从 *cong* 'submit'	饰 *shi* 'conceal'			好 *hao* 'good'	厌足 *yanzu* 'bored'
来 *lai* 'come'		达 *da* 'realize'	死 *si* 'die'			红 *hong* 'red'	扬 *yang* 'famous'
留 *liu* 'stay'		得 *de* 'acquire'	碎 *sui* 'crack'			洪亮 *hongliang* 'loud'	阴 *yin* 'cloudy'
落 *luo* 'fall'		定 *ding* 'determine'	通 *tong* 'link'			坏 *huai* 'bad'	震惊 *zhenjing* 'astonished'
飘荡 *piaodang* 'drift'		断 *duan* 'break'	透 *tou* 'penetrate'			欢 *huan* 'happy'	正 *zheng* 'straight'
起 *qi* 'rise'		发 *fa* 'arouse'	脱 *tuo* 'rid'			昏暗 *hun'an* 'dark'	直 *zhi* 'upright'
遣 *qian* 'send'		服 *fu* 'subdue'	为 *wei* 'realize'			娇媚 *jiaomei* 'pretty'	足 *zu* 'sufficient'
倾倒 *qingdao* 'admire'		通 *tong* 'connect'	瞎 *xia* 'blind'			紧 *jin* 'tight'	
取 *qu* 'fetch'		害 *hai* 'slay'	信 *xin* 'believe'			近 *jin* 'close'	
去 *qu* 'go'		合 *he* 'combine'	醒 *xing* 'wake'			快 *kuai* 'fast'	
却 *que* 'decline'		会 *hui* 'understand'	越 *yue* 'cross'			烂 *lan* 'shabby'	
让 *rang* 'cede'		获 *huo* 'acquire'	在 *zai* 'locate'			老 *lao* 'old'	
认 *ren* 'recognize'		见 *jian* 'see'	折 *she* 'break'			亮 *liang* 'light'	
散 *san* 'scatter'		接 *jie* 'connect'	知 *zhi* 'understand'			乱 *luan* 'messy'	
捎 *shao* 'take'		结 *jie* 'congeal'	止 *zhi* 'stop'			恼 *nao* 'angry'	
识 *shi* 'identify'		就 *jiu* 'achieve'	中 *zhong* 'hit'			怒 *nu* 'furious'	
退 *tui* 'retreat'		开 *kai* 'open'	做 *zuo* 'realize'			暖 *nuan* 'warm'	
形成 *xingcheng* 'form'		离 *li* 'depart'				平 *ping* 'flat'	
Subtotal: 47		Subtotal: 63		Subtotal: 13	Subtotal: 10	Subtotal: 53	
Total: 186							

Table 5.5: Types of synthetic verb in cause-effect domain

No.	Verb	Meaning	Example
1	保 bao	protect (safe)	保全 *bao-quan* 'protect-sound, protect safe'
2	拆 chai	tear (open)	拆开 *chai-kai*, 'tear-open, tear open'
3	跌 die	tumble (down)	跌倒 *die-dao*, 'tumble-fall, tumble down'
4	夺 duo	rob (away)	夺走 *duo-zou* 'rob-go, rob away'
5	隔 ge	separate (off)	隔断 *ge-duan*, 'separate-block, cut off'
6	降 jiang	descend (low)	降低 *jiang-di*, 'descend-lower, lower down'
7	杀 sha	kill (to be dead)	杀死 *sha-si*, 'kill-die, kill'
8	树 shu	establish (up)	树起 *shu-qi*, 'establish-rise, set up'
9	竖 shu	erect (up)	竖立 *shu-li*, 'erect-stand, set upright'
10	削 xiao	cut (down)	削减 *xiao-jian*, 'cut-subtract, cut down'
11	折 zhe	break (off)	折断 *zhe-duan*, 'break-break, break off'

5.3.2 Typology of cause-effect in ancient Chinese

Our corpus provides 1275 cause-effect entries in total for ancient Chinese, and these include 1101 ancient entries corresponding to their modern translations mentioned above as well as 174 ancient entries from 3 highly colloquial ancient Chinese passages without modern translation. Those 1275 entries are expressed by 11 kinds of cause-effect lexicalization patterns in ancient Chinese. In this part we follow a parallel structure with that of Chapter 4, that is, an introduction to those 11 kinds of lexicalization patterns, a discussion on the diachronic changes of cause-effect typological features, as well as the relationship between SVC and Verb-complement construction through grammaticalization, which would answer the question of difference between these two structures left in Chapter 4.

Cause-effect lexicalization patterns in ancient Chinese

Those 11 kinds of cause-effect lexicalization patterns discovered in ancient Chinese are: single verbs of Result, Manner and Synthetic, Causative, Aspectual Compound (CPasp), Alternative Expression of Manner (AEM), SVC, Coordinate, Disyllabic Verb, Converb Construction, and Noun. In this part we will demonstrate how these 11 ancient lexicalization patterns correspond to one of the 7 modern lexicalization patterns introduced in the last subsection.

Similar to its counterpart of motion-path situation, cause-effect information in ancient Chinese is also mainly expressed by **single verbs** of result verb, manner verb and synthetic verb, and each of them can correspond to various kinds of lexicalization patterns in modern Chinese. For example, the ancient ***R entry*** can be translated into

an SVC expression as suggested in sentence (177a), a CPasp in (177b), a causative expression in (177c), a double framing expression in (177d), a coordinate in (177e), and a converb construction in (177f).

(177) a. i. 卵 破 子 死。
Luan po zi **si**.
egg break poult die
'The eggs get broken and poult die.'
(《劝学》)
(*Quan xue* 'To encourage learning')

ii. 鸟 蛋 全部 摔 烂。
Niao dan quanbu shuai lan.
bird egg all fall break
'All the bird eggs fall and become broken.'
(《劝学》译文, 引自 http://wyw.5156yuwen.com/139.html)
(Translation of *Quan xue* 'To encourage learning', cited from http://wyw.5156yuwen.com/139.html)

b. i. 优 劣 得 所。
You lie **de** suo.
talent mediocrity locate place
'Both talents and mediocrities locate their places.'
(《前出师表》)
(*Qian chu shi biao* 'Northern expedition memorial • Volume 1')

ii. 好的 差的 各自 找 到 他们 的 位置。
HaoDE$_1$ chaDE$_1$ gezi **zhao** *dao* tamen DE$_1$ weizhi.
talent mediocrity each search ASP they DE$_1$ place
'Both talents and mediocrities locate their places.'
(《前出师表》译文, 引自 http://wyw.5156yuwen.com/321.html)
(Translation of *Qian chu shi biao* 'Northern expedition memorial • Volume 1', cited from http://wyw.5156yuwen.com/321.html)

c. i. 绝 乎 心 系。
Jue hu xin xi.
break at heart blood vessel
'The blood vessel at heart break.'
(《子虚赋》)
(*Zixu fu* 'Ode to Zixu')

ii. 使 连着 心脏 的 血 管 断裂。
Shi lianzhe xinzang DE$_1$ xue guan **duanlie**.
make linking heart DE$_1$ blood vessel break
'Make the blood vessel that links heart break.'
(《子虚赋》译文, 引自 http://so.gushiwen.org/fanyi_27662.aspx)
(Translation of *Zixu fu* 'Ode to Zixu', cited from http://so.gushiwen.org/fanyi_27662.aspx)

d. i. 屠　自　后　断　其 股，亦　毙 之。
Tu　zi　hou duan qi gu, yi　**bi** zhi.
butcher from back break its leg, also die PRO
'The butcher breaks its leg from back and also kills it.'
(《狼 • 之二》)
(*Lang* • *No. 2* 'Wolf • No.2')

ii. 屠户　从　后面　砍　断　它的　大 腿，
Tuhu　cong houmian kan duan ta DE_1 da tui,
butcher from back　cut break it DE_1 big leg,
也　杀 死 了　它。
ye　sha si le　ta.
also kill die ASP it
'The butcher cuts its thigh broken from back and also kills it.'
(《狼 • 之二》译文, 引自 http://wyw.5156yuwen.com/52.html)
(Translation of *Lang* • *No.2* 'Wolf • No.2', cited from http://wyw.5156yuwen.com/52.html)

e. i. 冰，水　为　之。
Bing, shui　**wei**　zhi.
ice,　water realize PRO
'The ice is realized from the water.'
(《劝学》)
(*Quan xue* 'To encourage learning')

ii. 冰，是 水　凝固　而　成　的。
Bing, shi shui　ninggu **er**　cheng　DE_1.
ice,　be water solidify CD realize DE_1
'The ice is realized by solidification of water.'
(《劝学》译文, 引自 http://www.fainfo.com/puton/lang/lang11/lang112.htm)
(Translation of *Quan xue* 'To encourage learning', cited from http://www.fainfo.com/puton/lang/lang11/lang112.htm)

f. i. 高　余 冠　之　岌岌 兮。
Gao　yu guan zhi　jiji xi.
heighten my hat　ATTR high MOD
'Make my hat high and high.'
(《离骚》)
(*Li Sao*)

ii. 我 把 头　上　的　帽子 加 得　高　又　高。
Wo ba　tou　shang DE_1 maozi *jia* DE_3　**gao you gao**.
I　BA head on　DE_1 hat　add DE_3 high and high
'I make the hat on my head high and high.'
(《离骚》译文, 引自 http://www.fainfo.com/puton/lang/lang11/lang113.htm)
(Translation of *Li Sao*, cited from http://www.fainfo.com/puton/lang/lang11/lang113.htm)

The ancient ***M entry*** also corresponds to a variety of modern lexicalization patterns, such as SVC in sentence (178a), CPasp in (178b), causative in (178c), coordinate in

(178d), and converb construction in (178e).

(178) a. i. 割 鲜 染 轮。
Ge xian **ran** lun.
cut beast paint wheel
'Kill the beasts and the blood paints the wheel red.'
(《子虚赋》)
(*Zixu fu* 'Ode to Zixu')

ii. 宰杀 禽 兽 的 鲜血 染 红 车 轮。
Zaisha qin shou DE_1 xianxue ran hong che lun.
kill bird beast DE_1 blood tint red chariot wheel
'Blood from the killed birds and beasts has tinted the carriage wheels.'
(《子虚赋》译文, 引自 http://so.gushiwen.org/fanyi_27662.aspx)
(Translation of *Zixu fu* 'Ode to Zixu', cited from http://so.gushiwen.org/fanyi_27662.aspx)

b. i. 听 妇 前 致 词。
Ting fu qian zhi ci.
listen woman forward talk word
'(I) heard the woman went forward and talked.'
(《杜甫诗 • 石壕吏》)
(*Du fu's Poems* • *Shi Hao li* 'Officials at Shi Hao')

ii. 我 听 到 妇人 走 上前 对 差役 说话。
Wo **ting** *dao* furen zou shangqian dui chaiyi shuohua.
I listen ASP woman walk forward with official talk
'I heard the woman went forward and talked with the officials.'
(《杜甫诗 • 石壕吏》译文, 引自 http://www.fainfo.com/puton/lang/lang12/lang1220.htm)
(Translation of *Du Fu's Poems* • *Shi Hao li* 'Officials at Shi Hao', cited from http://www.fainfo.com/puton/lang/lang12/lang1220.htm)

c. i. 饮 余 马 于 咸 池 兮。
Yin yu ma yu Xian Chi xi.
drink my horse at salty pool MOD
'I let my horse drink water at the Salty Pool.'
(《离骚》)
(*Li Sao*)

ii. 让 白 龙 马 在 咸 池 饮 水 啊。
Rang bai long ma zai Xian Chi **yin** shui a.
let white dragon horse at salty pool drink water MOD
'Let my white horse drink water at the Salty Pool.'
(《离骚》译文, 引自 http://wyw.5156yuwen.com/124.html)
(Translation of *Li Sao*, cited from http://wyw.5156yuwen.com/124.html)

d. i. 屈 原 终 投 湘 水 滨。
Qu Yuan zhong **tou** Xiang Shui bin.
Qu Yuan finally throw Xiang Shui River
'Finally Qu Yuan threw himself into the Xiang River.'
(《李白诗 • 行路难》)
(*Li Bai's Poems* • *Xing lu nan* 'Hard to travel')

ii. 屈 原 最终 抱 石 自 沉 汨 罗 江 中。
Qu Yuan zuizhong bao shi zi chen Min Luo Jiang zhong.
Qu Yuan finally hold stone self sink Min Luo River inside
'Finally Qu Yuan held a stone and sank into the Min Luo River.'
(《李白诗 • 行路难》译文, 引自 http://so.gushiwen.org/fanyi_4106.aspx)
(Translation of *Li Bai's Poems* • *Xing lu nan* 'Hard to travel', cited from http://so.gushiwen.org/fanyi_4106.aspx)

e. i. 扬 枹 兮 拊 鼓。
Yang bao xi **fu** gu.
raise stick MOD hit drum
'Raise the stick and hit the drum.'
(《九歌》)
(*Jiu Ge* 'Nine Songs')

ii. 举 鼓 槌 敲 得 鼓 声 咚咚 响。
Ju gu chui *qiao DE*$_3$ gu sheng **dongdong xiang**.
raise drum stick hit DE$_3$ drum sound MIME loud
'Raise the drum stick and hit the drum loudly.'
(《九歌》译文, 引自 http://ewenyan.com/articles/cc/2.html)
(Translation of *Jiu Ge* 'Nine Songs', cited from http://ewenyan.com/articles/cc/2.html)

As for ancient entry of ***synthetic verb***, it can correspond to much fewer types of lexicalization patterns in modern Chinese, namely, SVC as suggested in sentence (179a), CPasp in (179b), and double framing in (179c).

(179) a. i. 吾 为 其 无 用 而 掊 之。
Wu wei qi wu yong er **pou** PRO.
I since it no use and hit break it
'I hit it broken since it is useless.'
(《逍遥游》)
(*Xiaoyao you* 'Enjoyment in untroubled ease')

ii. 我 因为 它 大 而 无 用，就 砸 烂 了 它。
Wo yinwei ta da er wu yong, jiu za lan le ta.
I since it big but no use, then hit break ASP it
'I hit it broken since it is useless despite its big size.'
(《逍遥游》译文, 引自 http://www.fainfo.com/puton/lang/lang12/2008/lang12120613095075.htm)
(Translation of *Xiaoyao you* 'Enjoyment in untroubled ease', cited from http://www.fainfo.com/puton/lang/lang12/2008/lang12120613095075.htm)

b. i. 霾 两 轮 兮 縶 四 马。
Mai liang lun xi **zhi** si ma.
trap two wheel MOD tie horse's foot with rope four horse
'The two wheels of chariot get trapped while four horses' feet get tied.'
(《九歌》)
(*Jiu Ge* 'Nine songs')

ii. 车 轮 深 陷 四 匹 马 被 拴 住。
Che lun shen xian si pi ma bei **shuan** *zhu*.
chariot wheel deep trap four CLF horse PASS tie ASP
'Wheels of the chariot are deeply trapped while the four horses are tied.'
(《九歌》译文, 引自 http://so.gushiwen.org/fanyi_8345.aspx)
(Translation of *Jiu Ge* 'Nine songs', cited from http://so.gushiwen.org/fanyi_8345.aspx)

c. i. 恐 嫉妒 而 折 之。
Kong jidu er zhe zhi.
worried jealousness and break PRO
'(I'm) worried that they will break it due to jealousness.'
(《离骚》)
(*Li Sao*)

ii. 担心 他们 会 出于 嫉妒
Danxin tamen hui chuyu jidu
worry they will because of jealousness
而 将 玉 佩 折 断。
er jiang yu pei zhe duan.
and will jade pendant break break/broken
'I am worried that they will break the jade pendant because of jealousness.'
(《离骚》译文, 引自 http://www.fainfo.com/puton/lang/lang11/lang113.htm)
(Translation of *Li Sao*, cited from http://www.fainfo.com/puton/lang/lang11/lang113.htm)

Given the highly synthetic feature of ancient Chinese, causation in this language not only covers the same two subtypes of light verb and imperative as modern Chinese, but also includes a special single synthetic verb that encodes the causing information of 'let' and the (intended) caused effect. Moreover, **causative** in ancient Chinese can be translated into SVC as suggested in sentence (180a) and causative in (180b), where *qian* 'let go' in sentence (180a-i) is an example of single synthetic causation verb mentioned above.

(180) a. i. 便 可 速 遣 之。
Bian ke su qian zhi.
then can quick let go PRO
'Then you can quickly let her go.'
(《孔雀东南飞》)
(*Kongque dong nan fei* 'The peacock flies to the southeast')

ii. 你 就 应该 把 兰芝 快 赶 走。
Ni jiu yinggai ba Lanzhi kuai gan zou.
you then should BA Lanzhi quick drive go
'Then you should quickly drive away Lanzhi.'
(《孔雀东南飞》译文, 引自 http://so.gushiwen.org/fanyi_1639.aspx)
(Translation of *Kongque dong nan fei* 'The peacock flies to the southeast', cited from http://so.gushiwen.org/fanyi_1639.aspx)

b. i. 吾 令 凤 鸟 飞腾 兮。
Wu **ling** feng niao **feiteng** xi.
I command phoenix bird fly MOD
'I command the phoenix to fly.'
(《离骚》)
(*Li Sao*)

ii. 我 命令 凤凰 展 翅 飞腾 啊。
Wo **mingling** fenghuang zhan chi **feiteng** a.
I order phoenix stretch wing fly MOD
'I order the phoenix to stretch its wings to fly.'
(《离骚》译文, 引自 http://www.fainfo.com/puton/lang/lang11/lang113.htm)
(Translation of *Li Sao*, cited from http://www.fainfo.com/puton/lang/lang11/lang113.htm)

Aspectual compound (CPasp) in ancient Chinese can correspond to a much narrower scope of lexicalization patterns in modern Chinese, occasionally SVC as in sentence (181a) and most of the time CPasp as in sentence (181b).

(181) a. i. 松 了 金 钏。
Song *le* jin chuan.
loosen ASP golden bracelet
'The golden bracelet has become loose.'
(《西厢记》)
(*Xi Xiang Ji* 'Romance of the Western Chamber')

ii. 镯子 松 落。
Zhuozi song luo.
bracelet loosen fall
'The bracelet loosened and fell.'
(《西厢记》译文, 引自 http://ewenyan.com/articles/wy/4/184.html)
(Translation of *Xi Xiang Ji* 'Romance of the Western Chamber', cited from http://ewenyan.com/articles/wy/4/184.html)

b. i. 红 漆 了 叉。
Hong **qi** *le* cha.
redness brush ASP fork
'The fork has been brushed red.'
(《高祖还乡》)
(*Gao Zu huan xiang* 'The emperor returns to his hometown')

ii. 还 有 用 红 漆 刷 过 的 叉。
Hai you yong hong qi **shua** *guo* DE_1 cha.
also there be use red paint brush ASP DE_1 fork
'Also there is the fork that has been brushed red.'
(《高祖还乡》译文, 引自
http://yw.eywedu.com/rb3/HTML/1287.html)
(Translation of *Gao Zu huan xiang*
'The emperor returns to his hometown', cited from
http://yw.eywedu.com/rb3/HTML/1287.html)

There is only one case of **alternative expression of manner (AEM)** in ancient Chinese as shown in sentence (182a), where the motion of the embroidered flag results from the cause of wind encoded by a PP expression. Correspondingly its modern translation is also the same PP phrase AEM as in sentence (182b).

(182) a. 婀娜 随 风 转。
E'nuo *sui* *feng* **zhuan**.
graceful with wind wave
'(The flag with embroidered dragon on) slightly floats with wind.'
(《孔雀东南飞》)
(*Kongque dong nan fei* 'The peacock flies to the southeast')

b. 轻轻地 随 风 飘荡。
QingqingDE$_2$ *sui* *feng* **piaodang**.
slightly with wind float
'(The flag with embroidered dragon on) slightly floats with wind.'
(《孔雀东南飞》译文, 引自
http://www.fainfo.com/puton/lang/lang14/lang1411.htm)
(Translation of *Kongque dong nan fei*
'The peacock flies to the southeast', cited from
http://www.fainfo.com/puton/lang/lang14/lang1411.htm)

Types of modern translation for ancient **SVC** include SVC, CPasp, causative, double framing, coordinate, AEM and converb construction. These cases are demonstrated by sentence (183) in turn.

(183) a. i. 鱼 鳖 不 可 胜 食 也。
Yu bie bu ke sheng shi ye.
fish turtle NEG can end eat MOD
'Then fish and turtles cannot be eaten up.'
(《寡人之于国也》 *Guaren zhiyu guo ye*
'How should the king manage his kingdom')

ii. 鱼 鳖 就 不 会 吃 完。
Yu bie jiu bu hui chi wan.
fish turtle then NEG can eat end
'Then fish and turtles cannot be eaten up.'
(《寡人之于国也》译文, 引自 http://wyw.5156yuwen.com/135.html)
(Translation of *Guaren zhiyu guo ye* 'How should the king manage his kingdom', cited from http://wyw.5156yuwen.com/135.html)

b. i. 御 宇 多 年 求 不 得。
Yu yu duo nian qiu bu DE_3.
rule universe many year search NEG acquire
'(Despite that the king) has ruled the country for many years, he cannot find a satisfactory beauty.'
(《长恨歌》)
(*Chang hen ge* 'Everlasting regret')

ii. 统治 全 国 多 年，
Tongzhi quan guo duo nian,
rule overall country many year,
竟 找 不 到 一 个 称 心。
jing **zhao** bu *dao* yi ge chen xin.
unexpectedly search NEG ASP one CLF satisfy heart
'(The king) has ruled the country for many years, but cannot find a beauty that can satisfy his heart.'
(《长恨歌》译文, 引自 http://ewenyan.com/articles/sc/aqgs/1.html)
(Translation of *Chang hen ge* 'Everlasting regret', cited from http://ewenyan.com/articles/sc/aqgs/1.html)

c. i. 瞎 王 留 引 定 火 乔 男 妇。
Xia Wang Liu yin ding huo qiao nan fu.
blind Wang Liu lead come a band of weird male female
'The blind Wang Liu leads a band of weird people to come.'
(《高祖还乡》)
(*Gao Zu huan xiang* 'The emperor returns to his hometown')

ii. 瞎 王 留 叫 来 一伙 古怪 男 女。
Xia Wang Liu *jiao* **lai** yihuo guguai nan nv.
blind Wang Liu cause come a band of weird male female
'The blind Wang Liu causes a band of weird people to come.'
(《高祖还乡》译文, 引自 http://so.gushiwen.org/fanyi_4689.aspx)
(Translation of *Gao Zu huan xiang* 'The emperor returns to his hometown', cited from http://so.gushiwen.org/fanyi_4689.aspx)

d. i. 所 击 杀 者 无虑 百 十 人。
Suo ji sha zhe wulv bai shi ren.
there be hit kill MOD around hundred ten people
'There are around one hundred enemies get killed.'
(《冯婉贞胜英人于谢庄》)
(*Feng Wanzhen sheng Ying ren yu Xie Zhuang* 'Feng Wanzhen defeats the British invaders at Xie's Village')

ii. 杀 死 的 敌人 大约 有 一 百 多 人。
Sha si DE_1 diren dayue you yi bai duo ren.
kill die DE_1 enemy around there be one hundred more people
'There are more than one hundred enemies get killed.'
(《冯婉贞胜英人于谢庄》译文, 引自 http://wyw.5156yuwen.com/260.html)
(Translation of *Feng Wanzhen sheng Ying ren yu Xie Zhuang* 'Feng Wanzhen defeats the British invaders at Xie's Village', cited from http://wyw.5156yuwen.com/260.html)

e. i. 千 金 散 尽 还 复 来。
Qian jin san jin huan fu lai.
thousand gold let out end also again come
'Even if a huge amount of gold is spent all it can be regained later.'
(《李白诗 • 将进酒》)
(*Li Bai's Poems* • *Qiang jin jiu* 'To drink')

ii. 黄金 千 两 一 挥 而 尽
Huangjin qian liang yi hui **er** jin
gold thousand 50g once wipe CD end
还 能够 再 来。
hai nenggou zai lai.
also can again come
'Even if you spend a huge amount of gold, you can earn it back later.'
(《李白诗 • 将进酒》译文, 引自 http://ewenyan.com/articles/sc/rsbbgs/43.html)
(Translation of *Li Bai's Poems* • *Qiang jin jiu* 'To drink', cited from http://ewenyan.com/articles/sc/rsbbgs/43.html)

f. i. 秦 以 攻 取 之外
Qin yi gong qu zhiwai
Qin with attack acquire beyond
'except for acquiring territories through attacking by the Qin Kingdom'
(《宋散文选 • 六国论》)
(*Prose collection* • *Liu guo lun* 'Discussion on the six states')

ii. 秦 国 在 用 战争 夺取 土地 以外
Qin Guo zai *yong zhanzheng* **duoqu** tudi yiwai
Qin Kingdom at use war acquire territory beyond
'except for acquiring territories through war by the Qin Kingdom'
(《宋散文选 • 六国论》译文, 引自 http://www.fainfo.com/puton/lang/lang12/lang1211.htm)
(Translation of *Prose collection* • *Liu guo lun* 'Discussion on the six states', cited from http://www.fainfo.com/puton/lang/lang12/lang1211.htm)

g. i. 何 可 胜 道 也 哉!
He ke sheng dao ye zai!
how can end talk MOD MOD
'How can you talk all of it!'
(《宋散文选 • 游褒禅山记》)
(*Prose collection* • *You Bao Chan Shan ji* 'A visit to Bao Chan Mountain')

ii. 哪　能　说- 得　完　呢?
Na　neng *shuo-DE*$_3$ **wan** ne?
where can　tell-DE$_3$　over MOOD
'How can you tell them all?'
(《宋散文选 • 游褒禅山记》译文, 引自
http://www.fainfo.com/puton/lang/lang14/lang146.htm)
(Translation of *Prose collection • You Bao Chan Shan ji*
'A visit to Bao Chan Mountain', cited from
http://www.fainfo.com/puton/lang/lang14/lang146.htm)

Coordinate in ancient Chinese can be translated into SVC as in sentence (184a), coordinate in (184b), and converb construction in (184c).

(184) a. i. 风　至　　苕　折。
Feng zhi　shao zhe.
wind arrive reed break
'The wind came and the reed broke.'
(《劝学》)
(*Quan xue* 'To encourage learning')

ii. 风　吹　苇　穗　折断。
Feng chui　wei　sui sheduan.
wind blow reed ear break
'The wind blew the reed ear to break'
(《劝学》译文, 引自 http://wyw.5156yuwen.com/139.html)
(Translation of *Quan xue* 'To encourage learning', cited from
http://wyw.5156yuwen.com/139.html)

b. i. 刺　人　　而　杀　之。
Ci　ren　**er**　sha zhi.
stab people CD kill PRO
'Stab someone and kill him.'
(《寡人之于国也》)
(*Guaren zhiyu guo ye* 'How should the king manage his kingdom')

ii. 拿着　刀子　刺　　人　　把　人　　杀　死。
Nazhe　daozi ci　　ren　　ba　ren　　sha si.
holding knife　stable people BA people kill die
'Stab someone with a knife and kill him.'
(《寡人之于国也》译文, 引自 http://wyw.5156yuwen.com/135.html)
(Translation of *Guaren zhiyu guo ye*
'How should the king manage his kingdom', cited from
http://wyw.5156yuwen.com/135.html)

c. i. 击　鼓　其　　镗。
Ji　gu　qi　　tang.
hit drum PRO loud
'Hit the drum and the sound is loud.'
(《诗经 • 击鼓》)
(*Shi Jing • Ji gu* 'Book of Songs • Hit the drum')

ii. 战　鼓　敲　得　咚咚　　响。
Zhan gu　*qiao* DE_3 **dongdong xiang**.
war　drum hit　DE_3 MIME　　loud
'Hit the war drum and make a loud sound.'
(《诗经 • 击鼓》译文, 引自 http://ewenyan.com/articles/sj/23.html)
(Translation of *Shi Jing* • *Ji gu* 'Book of Songs • Hit the drum', cited from http://ewenyan.com/articles/sj/23.html)

There is not a wide correspondence scope for **disyllabic verb**, **converb construction** or **noun** in ancient Chinese with regard to their modern translations. For example disyllabic verb can be translated into SVC, CPasp, and causative. Ancient converb construction can only correspond to modern converb construction. And noun in ancient Chinese can be translated into SVC, or CPasp. These cases are collectively demonstrated in turns below.

(185) a. i. 将　犹　陶铸　　尧　舜　者　也。
Jiang you **taozhu**　　Yao Shun zhe　ye.
will　like mould and educate Yao Shun MOD MOD
'Will cultivate (wise rulers) like Yao and Shun.'
(《逍遥游》)
(*Xiaoyao you* 'Enjoyment in untroubled ease')

ii. 能　造就 出　尧、
Neng zaojiu chu　Yao、
can　form　appear Yao、
舜　那样　的　圣贤　人君　来。
Shun nayang　DE_1 shengxian renjun lai.
Shun like that DE_1 sage　ruler　come
'Can cultivate wise rulers like Yao and Shun.'
(《逍遥游》译文, 引自 http://www.fainfo.com/puton/lang/lang12/2008/lang12120612525464.htm)
(Translation of *Xiaoyao you* 'Enjoyment in untroubled ease', cited from http://www.fainfo.com/puton/lang/lang12/2008/lang12120612525464.htm)

b. i. 有　　梦　也　难　寻觅。
You　　meng ye　nan　**xunmi**.
there be dream also hard search
'It's quite hard to find (him) even in the dream.'
(《西厢记》)
(*Xi Xiang Ji* 'Romance of the Western Chamber')

ii. 即使 作　梦　也　难以　找　　到。
Jishi zuo　meng ye　nanyi **zhao**　*dao*.
even make dream also hard　search ASP
'It's quite hard to find (him) even in the dream.'
(《西厢记》译文, 引自 http://www.fainfo.com/puton/lang/lang13/2008/lang13052820091642.htm)
(Translation of *Xi Xiang Ji* 'Romance of the Western Chamber', cited from http://www.fainfo.com/puton/lang/lang13/2008/lang13052820091642.htm)

c. i. 世　　幽昧　以　　眩曜　　兮。
Shi　youmei yi　**xuanyao** xi.
society dark　CONSEC dizzy　MOD
'The darkness of society makes people confused.'
(《离骚》)
(*Li Sao*)

ii. 世道　黑暗 使　人　惑乱　　眼 花　啊。
Shidao heian *shi*　ren　**huoluan yan hua**　a.
society dark　cause people confused　eye blurred MOD
'The darkness of society makes people confused with blurred eyes.'
(《离骚》译文, 引自 http://wyw.5156yuwen.com/124.html)
(Translation of *Li Sao*, cited from http://wyw.5156yuwen.com/124.html)

(186) a. 人　　拥　的 我 前　　合　　后　　偃。
Ren　*yong DE*$_1$ wo **qian　he　hou　yan**.
people push DE$_1$ I　forward tumble backward topple
'People push me to topple back and forth.'
(《窦娥冤》)
(*Dou'e Yuan* 'Snow in Midsummer')

b. 人们　挤　得 我 前　　仆　　后　　倒。
Renmen *ji*　*de*　wo **qian　pu　hou　dao**.
people　push DE$_3$ I　forward tumble backward topple
'People push me to topple back and forth.'
(《窦娥冤》译文, 引自 http://www.docin.com/p388312023.html)
(Translation of *Dou'e Yuan* 'Snow in Midsummer', cited from http://www.docin.com/p388312023.html)

(187) a. i. 忧　　心　孔　　疚。
You　xin　kong　**jiu**.
sorrow heart lead to illness
'Sorrow accumulates in my heart and makes me sick.'
(《诗经 • 采薇》)
(*Shi Jing* • *Cai wei* 'Book of Songs • Pick the wild vegetable')

ii. 心　中　忧愁　积　　成　　病。
Xin　zhong youchou ji　cheng　bing.
heart inside sorrow　accumulate become illness
'Sorrow accumulates in my heart and makes me sick.'
(《诗经 • 采薇》译文, 引自 http://ewenyan.com/articles/sj/88.html)
(Translation of *Shi Jing* • *Cai wei* 'Book of Songs • Pick the wild vegetable', cited from http://ewenyan.com/articles/sj/88.html)

b. i. 射　麋 脚　麟。
She　mi **jiao** lin.
shoot elk foot deer
'Shot the elk and held deer's feet.'
(《子虚赋》)
(*Zixu fu* 'Ode to Zixu')

ii. 射中　　麋鹿，抓　住　麟　的　小　腿。
Shezhong milu, **zhua** *zhu* lin DE$_1$ xiao tui.
hit elk, hold ASP deer DE$_1$ small leg
'Hit the elk and held the deer's shank.'
(《子虚赋》译文, 引自 http://so.gushiwen.org/fanyi_27662.aspx)
(Translation of *Zixu fu* 'Ode to Zixu', cited from http://so.gushiwen.org/fanyi_27662.aspx)

All the 11 types of cause-effect lexicalization patterns, along with their modern translation choices are summarized in Appendix (5).

Now we have demonstrated all the 11 cause-effect lexicalization patterns in ancient Chinese, among which single verbs (including R and M) as well as SVC correspond to most kinds of modern Chinese translation types. The next part will give a practical usage analysis of those 11 ancient patterns at different times to see how the cause-effect typological feature of ancient Chinese changes diachronically.

Diachronic changes of cause-effect typology in ancient Chinese

In this subsection we follow a similar structure to that of Chapter 4 to investigate the diachronic changes of cause-effect typology by calculating the usage percentages of the typology-related lexicalization patterns at different historical periods. Those typology-related patterns include single verbs of result verb, manner verb, and synthetic verb, as well as verb-based structures such as CPasp, coordinate, SVC, and causative. As for the historical periods, these refer to the same subdivisions of three times covering seven phases introduced in Chapter 3 and Chapter 4.

Primary Ancient Time largely uses single verbs to encode cause-effect information among all the 11 types of lexicalization pattern, in both its two internal phases.

We have extracted 238 lexical entries for those 11 patterns in *phase 1*, and percentages of our typology-related patterns are as follows. For the single verbs there are 95 tokens of result verb that take up 39.92%, 72 tokens of manner verb that take up 30.25%, and 25 tokens of synthetic verb that take up 10.50%. As for the verb-based structures there are 0 entries of CPasp (0%), 16 entries of coordinate (6.72%), 12 entries of SVC (5.04%), as well as 8 entries of causative (3.36%).

There are 252 entries of lexical entries for *phase 2*. Among all the entries result verb takes 45.24% with 114 tokens, manner verb takes 37.30% with 94 tokens, and synthetic verb 5.56% with 14 tokens. As for the verb-based structures, CPasp still occupies 0%

with 0 tokens, coordinate 0.79% with 2 tokens, SVC 1.59% with 4 tokens, and causative 5.95% with 15 tokens.

In total there are 490 entries in Primary Ancient Time of ancient Chinese. Among these entries there are 209 tokens of result verb, 166 tokens of manner verb, and 39 tokens of synthetic verb. In addition, there are 0 CPasp, 18 coordinate expressions, 16 SVCs and 23 causative expressions. Percentages of these patterns are as follows. For the single verbs, it is 42.65% for result verb, 33.88% for manner verb, and 8.00% for synthetic verb. For the verb-based structures, it is 0% for CPasp, 3.67% for coordinate, 3.27% for SVC, as well as 4.69% for causative. From these figures it can be seen that single verbs are the main method in Primary Ancient Time for Chinese to encode manner-result information, as altogether they (result verb, manner verb and synthetic verb) occupy 84.53% among all the entries. Despite the fact that result verb still takes the highest percentage (42.65%), manner verb takes a fairly close percentage (33.88%), which is much higher compared with that in the motion-path situation (recall the corresponding figure is 14.35% from Chapter 4). This higher percentage of manner verb in the case of cause-effect is because of, as we have suggested in subsection 5.3.1, the potentiality that any verb of certain dynamicity (including the three possibilities of high dynamic verb encoding process/activity, less dynamic verb encoding become, along with the least dynamic adjective/verb encoding psychological state summarized in Table 5.2) might function as a causing element. And this almost equal status of result verb and manner verb would decrease the V-framing feature but might indicate a non-canonical E-framing feature for ancient Chinese with regard to cause-effect situation in the period of Primary Ancient Time.

For the three phases within **Mediaeval Ancient Time**, an obvious feature is the proportional decrease of single verbs and proportional increase of verb-based structures.

In *phase 3* there are 175 lexical entries. Result verb still has the highest proportion of 50.29% with 88 tokens. Manner verb takes the second place with 35.43% from 62 tokens. Synthetic verb holds a quite low percentage of 2.29% with 4 entries. As for the verb-based structures, there is still no CPasp, and coordinate takes only 1.71% with 3 tokens. However, the percentage of SVC increases to 9.14% with 16 entries. Causative holds 1.14% as there are only 2 entries of this kind of expression.

In *phase 4*, 162 entries have been collected. Result verb again takes the highest percentage of 55.56% with 90 entries. Proportion of manner verb decreases to 25.31% with 41 tokens. Synthetic verb takes 3.09% with 4 entries. Turning to the verb-based structures, CPasp still does not show up, and coordinate occupies only 0.62% with 1 entry discovered. Percentage of SVC continues to increase and with 23 tokens it has 14.20%. Situation of causative is the same as that of coordinate, 0.62% from only 1 entry.

As introduced in Chapter 4, for the three kinds of selected passage genres in *phase 5*, poetic drama and folk songs are collected together with their modern translations, while vernacular novel corresponds to no modern translation due to its highly colloquial feature. We have extracted 91 entries for the first two genres and 71 entries for the third one, so in total there are 162 entries in phase 5. The colloquial style of selected passages in phase 5 brings a quite different typological feature for this period compared with those preceding ones, that is, a sharp proportional decrease of single verbs and a sharp increase of verb-based structures. Specifically, the percentage of result verb falls greatly to 12.96% with only 21 tokens, manner verb even lower to 5.56% with 9 tokens, and synthetic verb 1.85% with 3 tokens. In contrast, we have discovered 39 entries of CPasp (15 from poetic drama and folk songs, and 24 from vernacular novel), which leads to a quite high percentage of 24.07% for this kind of pattern. Coordinate maintains the same low percentage of 0.62% with only 1 entry. In phase 5 SVC takes the highest percentage of 47.53% with 77 tokens in total (33 from poetic drama and folk songs, and 44 from vernacular novel), while causative holds a low percentage of 1.23% with only 2 tokens.

Therefore for the overall period of Mediaeval Ancient Time there are 499 lexical entries in all. In detail there are 199 tokens of result verb taking 39.88%, 112 tokens of manner verb taking 22.44%, 12 tokens of synthetic verb taking 2.40%, 39 CPasp taking 7.82%, 5 coordinate taking 1.00%, 116 SVC taking 23.25%, and 5 causative taking 1.00%. The most outstanding feature for Mediaeval Ancient Time is the emergence of CPasp, which together with the rapidly increasing percentage of SVC, would account for the comparatively high proportion of verb-based structures within this period. In correspondence to this rising proportion of verb-based structures there is the declining proportion of single verbs. However, since result verb still has the highest percentage at

Mediaeval Ancient Time, ancient Chinese within this period remains a V-framing typological feature, though the percentage of result verb is being caught up by verb-based structures such as SVC and CPasp.

In the final stage of **Late Ancient Time**, the proportion of single verbs is surpassed by that of verb-based structures, a change that has reversed the typological feature of ancient Chinese.

In *phase 6* there are 125 lexical entries in all, and token numbers and percentages for each of the lexicalization patterns are as follows. For the single verbs there are 46 entries of result verb (36.80%), 42 manner verb (33.60%), and 3 synthetic verb (2.40%). For the verb-based structures there are 3 entries of CPasp (2.40%), 2 coordinate (1.60%), 26 SVC (20.80%), and 0 causative (0.00%). The proportion of single verbs increases and that of verb-based structures decreases in phase 6 due to the classical writing style within this period. However, this situation will completely be overturned by the forthcoming colloquial style of next phase.

In the last period of *phase 7* there are 58 entries from classical passages and 103 entries from colloquial ones, so that we have 161 entries in all in this phase. Among those entries there are 26 tokens of result verb, which is 16.15% of the total, 19 manner verb (11.80%), as well as 1 synthetic verb (0.62%). In addition, there are 29 tokens of CPasp (18.01%), 3 coordinate (1.86%), 66 SVC (41.00%), and 5 causative (3.11%).

Late Ancient Time covers 283 entries in total. Percentages and tokens for our target patterns are: 25.17% for result verb from 72 tokens, 21.33% for manner verb from 61 tokens, 1.40% for synthetic verb from 4 tokens, 11.19% from 32 tokens of CPasp, 1.75% from 5 tokens of coordinate, 32.17% from 92 tokens of SVC, along with 1.75% from 5 tokens of causative. In the period of Late Ancient Time the proportion of verb-based structures, including both SVC and CPasp, continues to increase, while the proportion of single verbs, including result verb, manner verb and synthetic verb, continues to decrease. The final evolution result of ancient Chinese typological feature with regard to cause-effect situation is that it turns prototypically to be Serial, as SVC has the highest percentage among all the lexicalization patterns in this final period.

The above descriptions of token numbers and usage percentages for our target pat-

terns can be summarized in Table 5.6.[11]

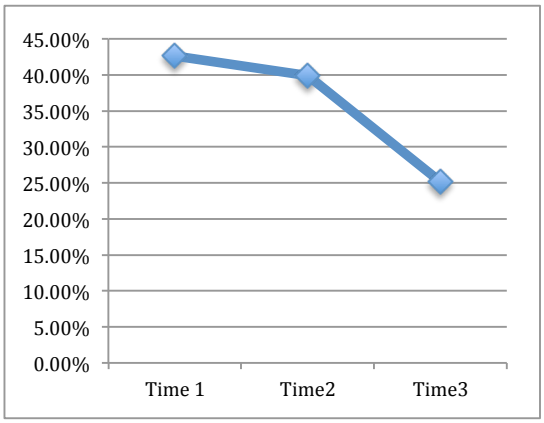
Table 5.6: Token and percentage of ancient cause-effect lexicalization patterns in each period

	No.	**PcT.**	**No.**	**PcT.**	**No.**	**PcT.**	**No.**	**PcT.**	**No.**	**PcT.**
Pattern	R	R	M	M	Syn.	Syn.	CPasp	CPasp	CD	CD
Phase 1	95	39.92%	72	30.25%	25	10.50%	0	0.00%	16	6.72%
Phase 2	114	45.24%	94	37.30%	14	5.56%	0	0.00%	2	0.79%
Phase 3	88	50.29%	62	35.43%	4	2.29%	0	0.00%	3	1.71%
Phase 4	90	55.56%	41	25.31%	5	3.09%	0	0.00%	1	0.62%
Phase 5	21	12.96%	9	5.56%	3	1.85%	39	24.07%	1	0.62%
Phase 6	46	36.80%	42	33.60%	3	2.40%	3	2.40%	2	1.60%
Phase 7	26	16.15%	19	11.80%	1	0.62%	29	18.01%	3	1.86%
Pattern	R	R	M	M	Syn.	Syn.	CPasp	CPasp	CD	CD
Time 1	209	42.65%	166	33.88%	39	8.00%	0	0.00%	18	3.67%
Time 2	199	39.88%	112	22.44%	12	2.40%	39	7.82%	5	1.00%
Time 3	72	25.17%	61	21.33%	4	1.40%	32	11.19%	5	1.75%
	No.	**PcT.**	**No.**	**PcT.**	**No.**	**PcT.**	**No.**	**PcT.**		
Pattern	SVC	SVC	Caus.	Caus.	Others	Others	Total	Total		
Phase 1	12	5.04%	8	3.36%	10	4.20%	238	100%		
Phase 2	4	1.59%	15	5.95%	9	3.57%	252	100%		
Phase 3	16	9.14%	2	1.14%	0	0.00%	175	100%		
Phase 4	23	14.20%	1	0.62%	1	0.62%	162	100%		
Phase 5	77	47.53%	2	1.23%	10	6.17%	162	100%		
Phase 6	26	20.80%	0	0%	3	2.40%	125	100%		
Phase 7	66	41.00%	5	3.11%	12	7.45%	161	100%		
Pattern	SVC	SVC	Caus.	Caus.	Others	Others	Total	Total		
Time 1	16	3.27%	23	4.69%	19	3.88%	490	100%		
Time 2	116	23.25%	5	1.00%	11	2.20%	499	100%		
Time 3	92	32.17%	5	1.75%	15	5.24%	286	100%		

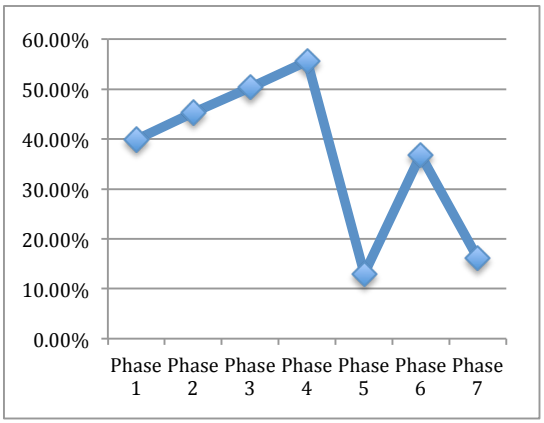
Based on the above analysis we shall produce **a brief summary and discussion** on the diachronic change of cause-effect typology in ancient Chinese. From Table 5.6 we can see that a general evolution tendency for ancient Chinese is the proportional decrease of single verbs and the proportional increase of verb-based structures. This tendency can be better illustrated by Figures (5.2), (5.3), and (5.4) that respectively represent the diachronic changes of result verb, manner verb, and SVC.

Moreover, in comparison with the evolution tendency of motion-path lexicalization patterns, diachronic changes of cause-effect show certain differences and similarities. The most remarkable *difference* is the relatively higher percentage of manner verb throughout the whole ancient diachronic periods, which is due to, as we have suggested, the much wider scope of manner verb for the situation of cause-effect. This can be partially accounted for by the many more subtypes of manner verb according to dynamicity degree and lexical category property summarized in Table 5.2, and partially accounted for by the much higher potentiality that any kinds of dynamic verb can function as the causing element. An example of the latter reason can be seen in sentence (178a-ii),

[11]The column 'Others' in Table 5.6 includes lexicalization patterns of AEM, converb construction, disyllabic verb, and noun.

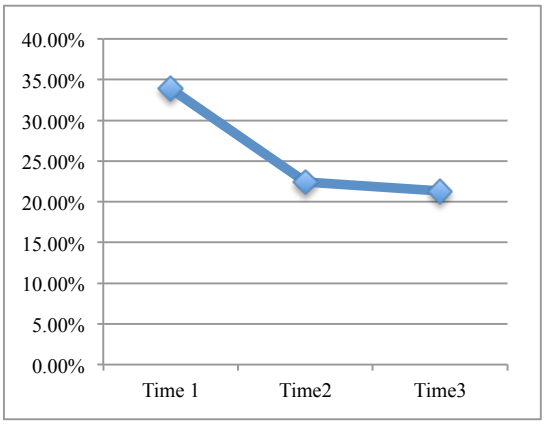


a. Token percentage of Result Verb within each Time: Cause-effect

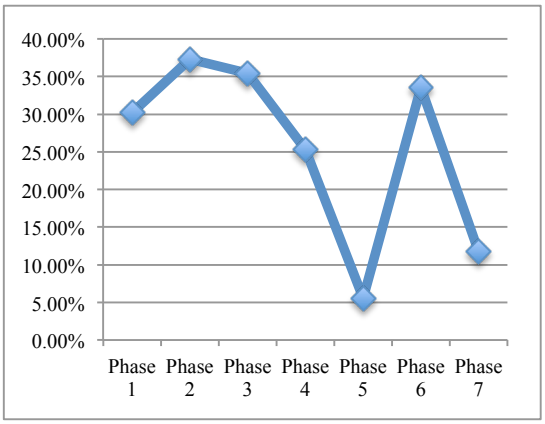


b. Token percentage of Result Verb within each Phase: Cause-effect

Figure 5.2: Token percentages of result verb in cause-effect domain



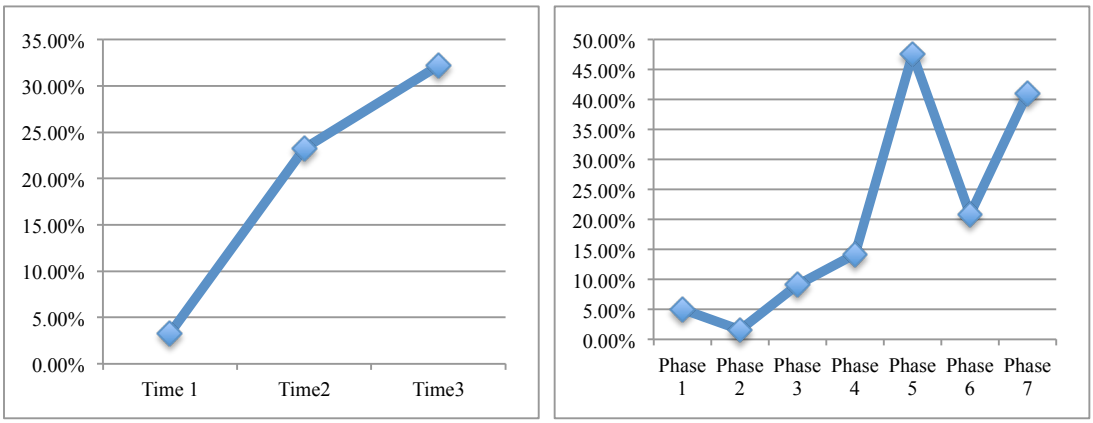
a. Token percentage of Manner Verb within each Time: Cause-effect



b. Token percentage of Manner Verb within each Phase: Cause-effect

Figure 5.3: Token percentages of manner verb in cause-effect domain

where verbs like *ran* 'tint' can function as the causing manner with a subsequent effect such as *hong* 'red' but not a path. The relatively higher percentage of manner verb makes typology of ancient Chinese within Time 1 less a feature of V-framing but more that of E-framing, though in this period result verb still has the highest percentage among all the lexicalization patterns. As for the *similarity* of evolution tendency between cause-effect and motion-path, both of them have phase 5 as the turning point of typological features, a period when the proportion of single verbs (including manner verb and result/path verb) sharply decreases and proportion of SVC sharply increases, therefore changing typology of ancient Chinese from V-framing at Time 2 to Serial at Time 3.

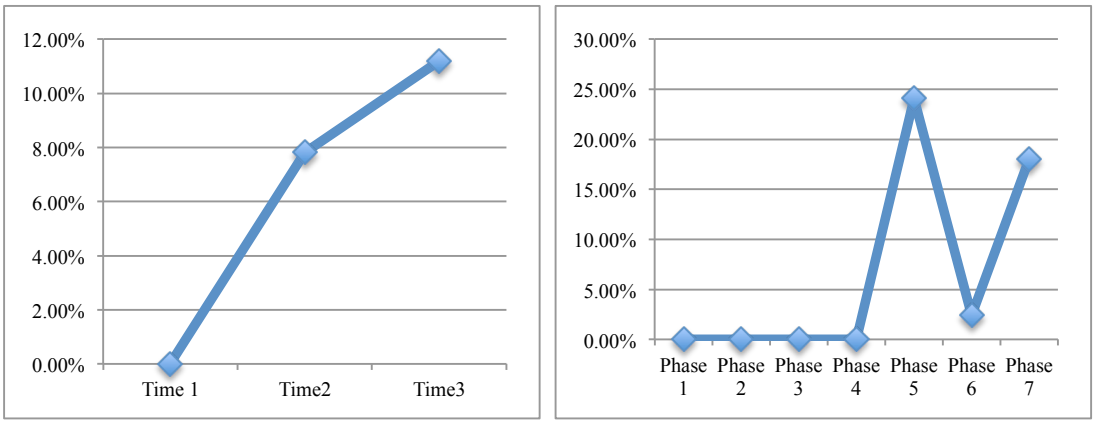


a. Token percentage of SVC within each Time: Cause-effect

b. Token percentage of SVC within each Phase: Cause-effect

Figure 5.4: Token percentages of SVC in cause-effect domain

Actually for the case of cause-effect, phase 5 is not only the period for the sharp increase of SVC, but also witnesses the sudden emergence of CPasp with a quite high percentage. For this kind of lexicalization pattern, CPasp does not show up within the first four ancient phases, but comes into being abruptly at phase 5, and maintains the increasing tendency until the end of Time 3. Thus we come to the answer to one of the questions raised in subsection 5.3.1, that is, the time of occurrence for grammaticalized verbs functioning as aspectual markers should be phase 5. This emergence period of CPasp, together with the whole diachronic change of this structure, can be demonstrated by Figure 5.5.



a. Token percentage of CPasp within each Time: Cause-effect

b. Token percentage of CPasp within each Phase: Cause-effect

Figure 5.5: Token percentages of CPasp in cause-effect domain

Now we shall make an interim summary for the cause-effect diachronic change in comparison with that of motion-path. Despite the same evolution tendency of decrease for result verb and increase for SVC, we are hesitant to conclude a typological shift from V-type to Serial-type due to the relatively high percentage of manner verb in Time 1 for the cause-effect case. But rather, we suggest that for this situation ancient Chinese might go from a non-canonical E-type at Time 1, to V-type at Time 2, and end as Serial-type at Time 3. That non-canonical E-type comes from the relatively high percentage of manner verb in very ancient Chinese, a phenomenon resulting from the much wider scope of manner verb in the case of cause-effect compared with that of motion-path. In addition, the typological change towards Serial both for motion-path and cause-effect occurs at phase 5, which is a period with the characteristic of high colloquialism. Also, phase 5 is the period for the emergence of CPasp, a structure that would be helpful on the question of relationship between SVC and Verb-complement construction. We shall briefly discuss this now and will offer a more detailed illustration in Chapter 6.

SVC, grammaticalization, and Verb-complement construction

In Chapter 4 we raised a small question of difference between SVC and Verb-complement construction. Verb-complement construction is similar to SVC as both of them are complex verbal structures. However, V_2 within the former structure is often supposed to have grammaticalized into the complement of V_1, and this feature can be applied as the morpho-syntactic criterion to tell these two similar structures apart. That is, if V_2 has grammaticalized into the complement of V_1, then it will be affiliated with V_1 and lose its status as an independent verb.

Actually we have encountered such a case in the above-mentioned lexicalization pattern of CPasp, to be specific the subtype of grammaticalized verb functioning as aspectual marker. Sentences (166), (167), (168) illustrate the phenomenon of V_2 losing the status of an independent verb, and here we repeat them again as sentence (188).

(188) a. i. 匆匆地, 我 游 到 了
Congcong DE_2, wo you dao le
abruptly, I travel arrive ASP
东方 的 春 宫。
dongfang DE_1 chun gong.
east DE_1 spring palace
'Abruptly I traveled to the Spring Palace at east.'
(《离骚》译文, 引自 http://www.fainfo.com/puton/lang/lang11/lang113.htm)
(Translation of *Li Sao*, cited from http://www.fainfo.com/puton/lang/lang11/lang113.htm)

ii. 匆匆地, 我 用 游 的 方式
Congcong DE_2, wo *yong you* *DE_1 fangshi*
abruptly, I with travel DE_1 method
到 了 东方 的 春 宫。
dao le dongfang DE_1 chun gong.
arrive ASP east DE_1 spring palace
'Abruptly I arrived at the Spring Palace at east with the method of traveling.'

b. i. 难 找 到 像 孙 权 那样 的 英雄。
Nan **zhao** *dao* xiang Sun Quan nayang DE_1 yingxiong.
hard search ASP like Sun Quan that DE_1 hero
'One cannot find that kind of hero like Sun Quan.'
(《辛弃疾词 • 永遇乐 • 京口北固亭怀古》译文，引自 http://so.gushiwen.org/fanyi_1426.aspx)
(Translation of *Xin Qiji's Ci • Always be joyful • Discussion on ancient times at Bei Gu Pavilion*, cited from http://so.gushiwen.org/fanyi_1426.aspx)

ii. * 难 用 找 的 方式
* Nan yong zhao DE_1 fangshi
hard with search DE_1 method
到 像 孙 权 那样 的 英雄
dao xiang Sun Quan nayang DE_1 yingxiong
arrive/ASP like Sun Quan that DE_1 hero
#'One cannot arrive at that kind of hero like Sun Quan with the method of searching.' (intended meaning)

We can see that *dao* in the motion-path case maintains its independence as it can be adapted from SVC in sentence (188a-i) to a verb-framed structure in sentence (188a-ii). However, the status of independent verb for *dao* in the cause-effect case does not exist since the same adaptation is not workable. In that case *dao* has lost its content meaning 'arrive' and has become a verb complement to indicate the aspect and caused result of its preceding verb. We can therefore confirm the case of grammaticalized verb functioning as aspectual marker in CPasp like *zhao dao* 'search ASP' to be one type of Verb-complement construction.

In Chapter 4 we have pointed that Shi (2014, pp.348-351) fails to differentiate Verb-complement construction from SVC in his motion research monograph. One important reason is that he only focuses on the domain of motion-path but does not go further to the domain of cause-effect. However, this does not mean that we cannot find Verb-complement construction in the motion-path situation. Based on the criterion that grammaticalized V_2 affiliates to and indicates the result of V_1, we can also judge satellites in the motion-path domain as verb complements and Satellite-framing structure as another type of Verb-complement construction. In Chapter 4 we have listed 3 prepositions used as satellites: *xiang*, *wang*, and *chao* (all meaning 'toward'). In this subsection we briefly take *xiang* as an example to show why satellite satisfies the criterion of verb complement. In ancient Chinese *xiang* used to be an independent verb, such as in sentence (189a) where it is used on its own with the meaning of 'moving toward'. Nevertheless, in modern Chinese it is usually considered as a preposition, especially when used together with the main verb. Sentence (189b) is quoted from *Modern Chinese Dictionary* (6 ed.), where *xiang* is labelled as a preposition that indicates the direction of motion but not the motion itself. By comparing these two example sentences we can see that grammaticalization of *xiang* from an independent verb in ancient Chinese to an affiliated preposition/satellite in modern Chinese brings it the status of verb complement, and correspondingly the Satellite-framing structure in modern Chinese should be considered another type of Verb-complement construction.

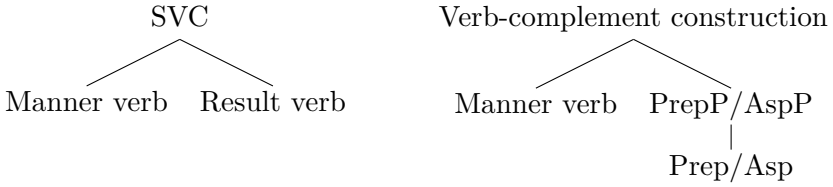
(189) a. 到 夏口，闻 操 已 向 荆州。
Dao Xia Kou, wen Cao yi **xiang** Jing Zhou.
arrive Xia Kou, hear Cao already move toward Jing Zhou
'(When Lu Su) arrived at Xia Kou, he heard that Cao had already moved towards Jin Zhou.'
(《赤壁之战》1019-1086，引自 http://wyw.hwxnet.com/view/hwxE5hwx90hwx91.html)
(*Chi Bi zhi zhan* 'War at Chi Bi' 1019-1086, cited from http://wyw.hwxnet.com/view/hwxE5hwx90hwx91.html)

b. 从 胜利 走 向 胜利。
Cong shengli **zou** *xiang* shengli.
from victory go towards victory
'Go from victory to victory.'
(《现代汉语词典》(第六版)，p.1424)
(*Xiandai Hanyu Cidian* 'Modern Chinese Dictionary' (6 ed.), p.1424)

Thus the difference between SVC and Verb-complement construction is quite clear from the morpho-syntactic criterion. Despite the formal similarity of being complex-

verbal for these two structures, V_2 within Verb-complement construction has grammaticalized into a verb complement (either preposition or aspectual marker) and has therefore lost its independence. This means that when both the internal verbs within SVC can be used by themselves while maintaining the content verbal meanings, the complement within Verb-complement construction cannot be used on its own but is affiliated with the preceding verb. This difference between SVC and Verb-complement construction in Chinese can be sketchily illustrated by the comparing trees in (190).

(190)



Following this criterion we have identified two types of Verb-complement construction: Satellite-framing structure in the domain of motion-path and CPasp (where it is the grammaticalized verb that functions as aspectual marker) in the domain of cause-effect. Actually for the language of Chinese, Satellite-framing structure, CPasp, and Verb-complement construction are only different terms in different contexts. Satellite-framing structure and the kind of CPasp where grammaticalized verbs function as aspectual markers in our study should respectively correspond to the two subtypes of Verb-complement construction (Verb-directional construction and Verb-resultative construction) in traditional Chinese linguistic studies, as long as Verb-complement construction is differentiated from SVC according to our proposed morpho-syntactic criterion.

5.4 Fictive change

Parallel to the structure of the previous motion discussion, we shall analyze fictive change in the final part of this cause-effect chapter. Subsection 5.4.1 will give a theoretical description of this phenomenon according to the two subtypes of fictive change from Langacker (2008, pp.530-531), and subsection 5.4.2 will briefly demonstrate how fictive change is expressed in modern Chinese and ancient Chinese based on the data discovered from our corpus.

5.4.1 A description of fictive change

Langacker (2008, pp.530-531) has identified two basic kinds of fictive change in English. One kind is change invoked by subjective construal in the form of past participles used as adjectives. Usually past participles used as adjectives would imply an actual change, such as the state of *broken vase* results from the verbal process of *break*, a physical progression that is objectively construed. However, sometimes the past participle does not come from a verbal change but designates a virtual change, and a typical example is *broken line* that Langacker claims 'has never undergone the process of breaking', but the 'in piece' state of the line is only a mental progression that conceptualizes its departure from the canonical state of being whole. Similar examples of this kind of fictive change include *detached garage* that 'has never been attached' and *scattered villages* that have never been 'clustered together'. All of them are virtual changes generated by subjective construal.

Another kind of fictive change is exemplified by sentence (191).

(191) Our Christmas tree gets smaller every year.

Langacker (2008, 530), ex.(26)

Langacker claims that the most likely interpretation of sentence (191) is a fictive change that involves the Christmas trees we have each year imagined as a single entity.[12] In this case the Christmas tree we buy each year is smaller than the one of last year, so that it is not the factive change of an actual tree getting smaller but a fictive change of a virtual identification of a series of trees getting smaller year by year.

After the brief description of the two kinds of fictive change, we shall search for the relevant expressions both in modern Chinese and ancient Chinese in next subsection.

5.4.2 Fictive change in modern Chinese and ancient Chinese

Recall that fictive motion is defined as 'linguistic instances that depict motion with no physical occurrence' (Talmy, 2000a, 99), and we can expect the same for fictive change, i.e. the corresponding linguistic instances for fictive change also depict change but there is no physical occurrence at all. From our corpus we have found only one case of likely

[12] Langacker also acknowledges that sentence (191) might refer to an actual change, that is, we use the same Christmas tree every year so that gradually it loses needles and branches and becomes smaller. But this interpretation is less likely to occur.

fictive change, where the linguistic instance of the modern Chinese translation is in the form of SVC as in (192a).

(192) a. 洞 壁 像 天空 那 样
Dong bi xiang tiankong na yang
cave wall like sky that way
中间 隆 起 斜着 向 上。
zhongjian long qi xiezhe xiang shang.
middle upheave rise oblique towards up
'The wall of cave upheaves like the sky and obliques upward.'
(《游栖霞紫云洞记》译文，引自
http://gz.eywedu.com/Article_37/2008526195205001.html)
(Translation of *You Qixia Zi yun dong ji*
'A visit to Zi yun Cave at Qixia Mountain', cited from
http://gz.eywedu.com/Article_37/2008526195205001.html)

b. 洞 壁 穹窿 斜 上。
Dong bi **qionglong** xie shang.
cave wall sky oblique upward
'The wall of cave obliques upward like the sky.'
(《游栖霞紫云洞记》)
(*You Qixia Zi yun dong ji*
'A visit to Zi yun Cave at Qixia Mountain')

The wall of a cave, as suggested in sentence (192a), cannot upheave itself. But in that sentence it is conceptualized as in the shape of upheaval like the sky to describe its stretching upward, and it is the conceptualization that satisfies the standard of subjective construal of the first kind, therefore making sentence (192a) the type of fictive change. However, turning to the corresponding original ancient sentence (192b), there is no such of subjective construal of upheaval but only the simile of 'like the sky', which together with the only modern Chinese sentence of fictive change discovered from our corpus, might indicate the rareness of fictive change expression in the language of Chinese.

5.5 Summary and conclusion

This chapter has discussed the non-motional situation of cause-effect, with a focus on SVC. We have started from a theoretical description of cause-effect SVC, extended to more types of cause-effect lexicalization patterns both synchronically and diachronically for the relevant typology research, and ended with a brief introduction to fictive change.

We have made the theoretical description from semantics and lexical categories. For semantics we have reviewed the five types of event integration from Talmy (2000b), and

roughly corresponded them to Croft's et al. (2010) revised Manner-Result typology, with the four non-motional types from Talmy corresponded to Change of State from Croft et al. For lexical categories we have followed Tham (2013) to tell the difference between verb and adjective in Chinese and to treat lexical items of both verb property and adjective property as deadjective COS verbs. Further, we have summarized three possibilities of cause verbs and five possibilities of result verbs. All these theoretical descriptions are helpful for the following typology analysis.

For the typology analysis we have calculated the practical usage percentages of different lexicalization patterns both in modern Chinese and ancient Chinese. For the synchronic part we have discovered that among the seven kinds of lexicalization patterns, SVC takes the highest percentage among the data from our corpus. This would approve the Serial claim for modern Chinese from Croft et al. Also, the quite open class of result verb would refute Talmy's S-claim for Chinese from the domain of cause-effect. For the diachronic part we have also discovered a general decrease of single verb proportion and a general increase of SVC proportion under the broader diachronic subdivision of three times. However, under the finer subdivision of seven phases we have found that very ancient Chinese does not show a typical V-framing feature due to the relatively high percentage of manner verb, which as we have suggested, can be attributed to the potentiality that any verb of certain dynamicity (including those three possibilities mentioned above) might function as a causing element. Therefore, we conclude that for the typology of cause-effect, ancient Chinese might start from non-canonical E-type at Time 1, to V-type at Time 2, and end as Serial-type at Time 3.

In this chapter we have also briefly introduced the two types of fictive change, but found few such expressions from our corpus. Moreover, as for the difference between SVC and Verb-complement construction we have concluded that while both the internal verbs within SVC maintain their independent status, V_2 within Verb-complement construction has grammaticalized into an affiliated verb complement that normally encodes direction of motion or aspectual result of cause. In parallel we have confirmed satellite structure in the domain of motion-path and CPasp with grammaticalized verb functioning as aspectual marker in the domain of cause-effect to be two subtypes of Verb-complement construction.

Moreover, for CPasp we have found that it emerges at phase 5, and this tells the

time for result verbs to grammaticalize into verb complements. But there remain the questions of how they get grammaticalized and why most of them belong to the category of path verbs. These questions, together with some more discussions on the evolution of SVC, will be part of the content in Chapter 6.

Chapter 6

Summary and Discussion

6.1 Introduction

This chapter mainly summarizes Chinese typology on the basis of Chapter 4 and Chapter 5, and discusses evolutionary questions on SVC under certain theoretical frameworks. To be specific, section 6.2 summarizes both synchronic features and diachronic change of Chinese typology respectively from the domains of motion-path and cause-effect, section 6.3 discusses how SVC comes into being under different syntactic environments, and section 6.4 moves to grammaticalization and discusses why and how SVC further evolves. In those two SVC-evolution-relevant sections we will refer to various theories for the possible explanations. Moreover, in section 6.5 we will summarize some related issues discovered in previous chapters. Section 6.6 concludes the whole chapter.

6.2 A summary of Chinese typology from SVC: motion-path and cause-effect

Given our statistical analysis in Chapter 4 and Chapter 5, we hereby conclude Chinese typology as below.

On the **Synchronic** level as claimed by Croft et al. (2010), Chinese does show a Serial feature. And this is supported by the dominating percentages of SVC both in motion-path domain (71.94%) and cause-effect domain (70.30%). However, considering the fact that modern Chinese uses more than one kind of lexicalization pattern to encode manner-result information, we would revise the typological feature of modern Chinese

to be versatile, with SVC as the most prototypical pattern under the cognitive typology framework.

On the **Diachronic** level our findings reveal certain similarities and differences between domains of motion-path and cause-effect. Ancient Chinese with regard to these two domains shows a similar evolution tendency since proportions of single verbs among all the typology-related lexicalization patterns decrease, while proportions of verb-based structures, particularly SVC, increase under the broader subdivision of three times. However, at the same time there is certain difference between these two domains. For the domain of motion-path, ancient Chinese shows a typological shift from V-type to Serial-type as the highest usage percentage is taken by result verb at Primary Ancient Time and Mediaeval Ancient Time, but is replaced by SVC at Late Ancient Time. For the domain of cause-effect, ancient Chinese within Time 1 is of non-canonical E-type feature because of the relatively high percentage of manner verb, which is due to the fact that any verb of certain dynamicity might function as a causing element. What is more, under the finer subdivision of seven phases, we have arrived at some more detailed findings. Proportions of single verbs both within motion-path domain and cause-effect domain decrease sharply at phase 5, while corresponding proportions of SVC both within these domains show a rapid increase at the same time. This would indicate that phase 5, a stage with the characteristic of high colloquialism, is the key period for SVC to come into being in large numbers. The next section will address this more in detail.

6.3 Reanalysis, analogy, and directionality: How SVC comes into being

It is acknowledged that two types of change are usually involved in language evolution: reanalysis and analogy. Reanalysis is defined as 'change in the structure of an expression or class of expressions that does not involve any immediate or intrinsic modification of its surface manifestation' (Langacker, 1977, 58), and analogy is often regarded as the generalization of a structure (Kiparsky, 1992). Moreover, Brinton and Traugott (2005, 7) consider one perspective of reanalysis is boundary loss (e.g., *be going to* > *gonna*), and analogy will extend the result of reanalysis into wide usage (such as when the

motion verb construction *be going to* acquires the function of indicating future tense after reanalysis, it will expand its combination with a PP expressing a goal in the original motion meaning to combination with an infinitive of any kind, such as verbs of psychological experience like *like* or *know*). In this section we shall mainly refer to these two kinds of change to see how SVC comes into being. Subsection 6.3.1 discusses SVC under various syntactic environments, and subsection 6.3.2 turns to a phonological explanation for the likely trigger of SVC reanalysis.

6.3.1 SVC under different syntactic environments

Shi (2011, pp.17-22) points out that boundary loss for SVC in Chinese involves a change in word order. The word order changes from 'S+M+O+R' at Mediaeval Ancient Time to 'S+MR+O' at later period (ibid.), and this can be suggested by sentence (193), where manner verb *huan* 'wake' and result verb *jue* 'awaken' are separated by O *Jiang'lang* in (193a), but move together as MR in (193b).[1]

(193) a. 唤　江郎　觉。
Huan Jianglang jue.
wake Jianglang awaken
'Wake Jianglang up.'
(《世说新语 • 假谲》*Shi Shuo Xin Yu • Jia ju*, 420-479 A.D.)
('A New Account of the Tales of the World • Scheme and tricks', 420-479 A.D.) cited from Shi (2011, 18)

b. 三翁　唤　觉　知远。
Sanweng huan jue Zhiyuan.
Sanweng wake awaken Zhiyuan
'Sanweng wakes up Zhiyuan.'
(《刘知远诸宫调》*Liu Zhiyuan Zhu Gong Diao*, 1115-1279 A.D.)
('Palace Drama about Liu Zhiyuan', 1115-1279 A.D.)
cited from Shi (2011, 18)

How manner verbs like *huan* and result verbs like *jue* merge together through reanalysis is vital for the formation of SVC. However, before dealing with this question, we shall first introduce the issue of SVC under different syntactic environments, which might be helpful in our search for reanalysis reasons. The introduction in this subsection is mainly based on Shi (2011, pp.192-199).

[1] In Shi's monograph his original formula was 'S+V+O+R', and he has used 'Verb-complement construction' for the case in sentence (193b). However, since the terminology dispute has been made clear in Chapter 5, here we would adapt Shi's formula into 'S+M+O+R' to accord with the terms of manner verb and result verb as internal constitutes of SVC in our research.

As can be seen from sentence (193), the essence for the formation of SVC is M and R merging together with the in-between O moved to another place. According to how O is arranged, Shi (2011, 192) has listed five possible syntactic situations following (Zhu, 1990; Li and Shi, 1999), and these are:

(194) a. Disposition
b. New topic
c. Patient subject
d. Verb copy
e. MRO

Disposition refers to the preposing of O before the predicate under the governance of BA, a character that is considered to have completely become a grammatical marker around 12^{th} century A.D. (Shi, 2011, 193). New topic refers to the same preposing of O but without BA, and this phenomenon is regarded as having fully developed untill 14^{th} century A.D. (p.195). Patient subject refers to the preposed O functioning as (formal) sentence subject, which is also considered to have developed around 14^{th} century A.D. (p.196). Verb copy can be represented by the formula of 'S+M+O+M+R', and the reason for this verb copying is that the argument of R is S but not O (p.198). The phenomenon of verb copy is believed to come into being around 16^{th} century A.D (p.199). As for the structure of MRO it can be exemplified by sentence (193b). The remaining four syntactic situations can be represented by sentence (195) in turns.

(195) a. 把 小 事 弄 大 了。
Ba xiao shi nong da le.
BA tiny thing make big ASP
'The trifle thing has been made into big trouble.'
(《红楼梦》三十三回)
(*Hong Lou Meng* 'A Dream in Red Mansions', Chapter 33)
cited from Shi (2011, 193)

b. 我 昨日 冷 酒 吃 多 了。
Wo zuori leng jiu chi duo le.
I yesterday cold wine eat much ASP
'I over-drank the cold wine yesterday.'
(《老乞大》)
(*Lao Qi Da* 'Nogeoldae')
cited from Shi (2011, 195)

c. 我 昨儿 晚上 的 话 竟 说 错 了。
Wo zuoer wanshang DE_1 hua jing shuo cuo le.
I yesterday evening DE_1 word unexpected say wrong ASP
'Unexpectedly my word yesterday was wrong.'

(《红楼梦》三十六回)
(*Hong Lou Meng* 'A Dream in Red Mansions', Chapter 36)
cited from Shi (2011, 196)

d. 他 看 书 看 累 了。
Ta kan shu kan lei le.
he see book see tired ASP
'He got tired by reading books.'

cited from Shi (2011, 198)

Those five syntactic-based situations of SVC can be roughly divided into two categories according to the argument of R, S for the situation of verb copy and O for the other four. Actually for the latter four situations, O is not only the argument of R but also the argument of M, which can be accounted for by the lexical approach of 'theta identification' from Li (1990). In this lexical approach the theta role from one verb is proposed to be identified with the theta role from the second verb, and this identification is reflected in the shared O both as argument of M and R. Moreover, Li suggests that this 'theta identification' can also be applied to the situation where the argument of R is S. In this case S is treated as the sole theta role of R and is considered to be in identification with one of the theta roles of M, which according to Li would result in the ambiguity of sentence (196) with two possible interpretations: either the rider getting tired or the horse getting tired.

(196) 宝玉 骑 累 了 那 匹 马。
Baoyu qi lei le nei pi ma.
Baoyu ride tired ASP that CLF horse
'Baoyu rode that horse (and as a result it/Baoyu got) tired.'

Li (1990, pp.177-178), ex.(2)

However, as we have introduced above, if the argument of R is not O but S in Chinese, the syntactic structure of verb copy should be used like in (195d), therefore the interpretation of rider getting tired in sentence (196) is quite unnatural. The different syntactic structure of verb copy is also reflected in its much later development period (16^{th} century A.D.) compared with the other four (12^{th} century-14^{th} century A.D.), and this might indicate some disparate formation reasons for these two syntactic-based SVC categories. The next subsection will discuss this point further.

6.3.2 How M and R get combined: Phonological explanation and directionality

It is acknowledged that ancient Chinese has undergone a phonological simplification from (C)(C)V(C)(C) to (C)V(C) and this has led to an increase of ambiguity among mono-syllabic words (Norman, 1988).[2] Lv (1963, 21) goes further to suggest that bi-syllabicity is the consequence in order to compensate for this increased ambiguity, which can be supported by the phenomenon of a stronger bi-syllabic tendency in northern modern Chinese where there are more ambiguous homophones and a weaker bi-syllabic tendency in southern modern Chinese where there are less ambiguous homophones.[3]

As a bi-syllabic structure, the forming of SVC can also be accounted for by this phonological explanation. It is the phonological simplification in history that leads to bi-syllabicity, which motivates the two verbs with an identical O as in sentence (193a) merging into a unified phono-semantic structure that further moves the in-between O to some other places, therefore creating the multi-verbal construction of SVC. A supporting evidence in parallel with Lv's claim can be found in Cantonese. Compared with Mandarin Chinese, Cantonese maintains the much more complex phonological features from ancient time (Gao, 1980), so that bi-syllabicity is not a necessary strategy in this language. Without the phonological motivation, the ancient syntactic structure 'S+M+O+R' is still kept in Cantonese as suggested by (197a), whereas it should be an SVC embedded within 'S+M+R+O' structure in Mandarin Chinese like (197b).

(197) a. 你 打 佢 唔 过。
Lei daa keoi m gwo.
you beat he NEG pass
'You cannot win him at beating.'

cited from Huang (1996, 738)

[2]One example of this phonological simplification can be found at Wang (2004, pp.158-159), where it is claimed that in the northern part of ancient Chinese the final consonants -p, -t, -k disappeared around 14 A.D., therefore simplifying for example, *ku* 'cry' from its ancient pronunciation *k'uk* to its current status. Moreover, Wang (2004, 396) offers some examples of the ambiguity resulted from phonological simplification, such as with different pronunciations at primary ancient time, the two morphemes *jing*, respectively meaning 'metropolis' and 'scare', have turned to homophones at mediaeval ancient time. And this is why in modern Chinese we tend to put a locational modifier for the former such as *Bei Jing* 'the northern metropolis' and use the synonymous compound for the latter like *jing xia* 'scare-scare': both of them are instances of bi-syllabicity.

[3]The reason for there to be more ambiguous homophones from phonological simplification in north Chinese language is due to the influence from languages of nomadic people at/to the north of China throughout evolution, while the south Chinese language maintains the more complex phonological properties of ancient Chinese without the above-mentioned influence. One example can be found in Cantonese that contains 9 tones and 51 finals (Gao, 1980, 1), and this is much more than the 4 tones and 39 finals in Mandarin Chinese.

b. 你 打 不 过 他。
Ni da bu guo ta.
you beat NEG pass he
'You cannot win him at beating'

As for this phonological explanation, Zoe Wu (2004, pp.200-204) has proposed several arguments against it, and her 'most significant' reason comes from the 'telling and important time difference between the suggested rise of bi-syllabicity in Chinese and the formation of V_1-V_2 resultatives' (p.203). Zoe Wu refers to previous studies that the phonological change from mono-syllabic to bi-syllabic sharply increases during the Han Dynasty (206 B.C.-220 A.D.) (Packard, 1998; Feng, 1998), which is more than 700 years earlier than the full development of bi-syllabic SVC.[4]

This time lag, nevertheless, does not make a legitimate challenge against the phonological explanation for the formation of SVC. Actually the phonological bi-syllabicity during the Han Dynasty might function as the reanalysis trigger for the formation of SVC, while 700-1000 years later the colloquialism feature at phase 5 might function as the analogy trigger for the wide spread of SVC. This time lag can be reflected in the quite low percentage of SVC (both motion-path and cause-effect) among the first four phases but a sudden increase in phase 5, as we have discovered in Chapter 4 and Chapter 5. Sentence (198) is from our corpus where *ji-nu* 'arouse-angry, irritate' is an early typical SVC embedded within the 'S+M+R+O' syntactic structure that belongs to the Han Dynasty. This shows that the time for reanalysis of SVC is coincident with the time of bi-syllabicity, and reanalysis does not guarantee an immediate blossom of SVC but instead this kind of structure remains quite rare untill it gets fully expanded through analogy at a much later time.

(198) 忿恚 尉，令 辱 之，
Fenhui wei, ling ru zhi,
infuriate manager, make humiliate PRO,
以 激 怒 其 众。
yi ji nu qi zhong.
in order to arouse angry his mass
'(Guang) infuriates the manager for a humiliation, in order to irritate his peers.'

(《史记 • 陈涉世家》91 B.C. (Western Han Dynasty))
(*Shi Ji • Chen She shi jia*)
('Record of the Grand Historian • The aristocratic family of Chen She')

[4]This full development period of 'S+M+R+O' SVC is 12^{th} century A.D-14^{th} century A.D. from Shi (2011), around Song Dynasty (960-1279 A.D.) from Zoe Wu (2004), and phase 5 (Yuan Dynasty to Mid-Ming, 1271-1436 A.D.) from our study.

So far we have explained the formation of SVC within syntactic structures where the argument of R is O (193b, 195a, 195b, 195c). Moreover, there is also the category of SVC where the argument of R is S that is often in the syntactic form of verb copy (195d).[5] For the latter phenomenon we can refer to the idea of directionality from Zoe Wu (2004, pp.206-207) as an explanation. The basic idea of directionality is to assume 'there is constant pressure towards uniformity in the directionality of selection in a language', or in other words, 'if a language somehow exhibits a structure which goes against the basic directionality of selection in a language, there will be a general pressure for the language to re-align such a structure in harmony with the canonical direction of selection'. Furthermore, for the motivation of directionality, Zoe Wu turns to the terms of natural economy from Mallinson and Blake (1981, 417), claiming that such a mechanism would lead to a reduction in category/word-specific rules in case any disharmony makes a language too complex.

As for the category of SVC with S as the argument of R, we can resort to this directionality as the reason for its formation. According to Shi (2011, 199), the ancient counterpart of this SVC category has the same syntactic structure 'S+M+O+R' as the other category as in (193a), but it turns to SVC that is likely to be embedded within verb copy structure in modern Chinese, and this change can be found at sentence (199). Given the much later development time of this SVC category (16^{th} century A.D.) compared to others (12^{th}-14^{th} century A.D.), we can assume that the two verbs within (199a) gradually merge together after the formation of the other category of SVC under the effect of directionality, and at the same time the syntactic structure of verb copy is developed to avoid any possible ambiguous interpretations as in sentence (196).

(199) a. 周　仲智　饮　酒　醉。
Zhou Zhongzhi yin jiu zui.
Zhou Zhongzhi drink wine intoxicated
'Zhou Zhongzhi drinks wine and becomes intoxicated.'
(《世说新语 • 雅量》420-479 A.D.)
(*Shi Shuo Xin Yu • Ya liang*
'A New Account of the Tales of the World • Magnanimity', 420-479 A.D.)
cited from Shi (2011, 199)

[5]Shi (2011, pp.101-102) has also listed the exceptional cases where the argument of R is S but the syntactic structure is not necessarily verb copy, such as *chi bao fan* 'eat full meal' and *he zui jiu* 'drink intoxicated wine'. However, Shi considers those exceptional cases to be idiomatic phrases with the superordinate category O, and further points that the patient O cannot be some nominals of specific referent like **chi bao mianbao* 'eat full bread' or **chi bao kao ya* 'eat full roasted duck'.

b. 周　仲智　喝　酒　喝　醉　了。
Zhou Zhongzhi he jiu he zui le.
Zhou Zhongzhi drink wine drink intoxicated ASP
'Zhou Zhongzhi drinks wine and becomes intoxicated.'

cited from Shi (2011, 199)

So far we have analyzed various SVC categories under the syntactic environments according to the argument of R, and provided corresponding reasons for how they come into being. Reflecting on their different development times, it is suggested that for the SVC category with O as the argument of R, phonological bi-syllabicity functions as the trigger of reanalysis that results in the merging of M and R, and this newly developed SVC acquires wide usage through analogy at a much later colloquial period. Furthermore, for the SVC category with S as the argument of R, we suggest that it comes into being through directionality, and this also explains why its usual syntactic structure verb copy develops at an even later time compared with the other SVC-embedded syntactic structures. These discussions also provide a new perspective for the grammaticalization process under Croft's et al. revised typology, where serialization is assumed to have developed from coordination (recall Chapter 2). Is the syntactic structure 'S+M+O+R' in ancient Chinese a kind of coordinate? We will not give a definite answer to this question, as that requires further research on the (cross-linguistic) definition of coordinate that is beyond the scope of our current study. Or we may further ask, if the quite universal structure of coordinate is presumed as the source of SVC, then why has not SVC developed to be the same universal phenomenon? However, we can affirm that the canonically multi-verbal 'MR' structure of SVC evolves from the same multi-verbal structure 'S+M+O+R', at least in the language of Chinese.

Now that the reasons for SVC formation are clear, we ask how and why SVC would further evolve. Section 6.4 deals with these questions.

6.4 Grammaticalization: Where SVC further develops

In Chapter 4 and Chapter 5 we have revealed that some SVC will evolve into Verb-complement constructions through grammaticalization, by which we have noted that Satellite-framing structure corresponds with Verb-directional construction in the motion-path domain and CPasp with Verb-resultative construction in the cause-effect domain.

However, having noted in Chapter 2 that CPasp is also essentially of satellite-framing feature, we think it not proper to maintain the terms of Satellite-framing structure and CPasp in parallel with each other under those two domains. Therefore here we will replace these two terms with Verb-directional construction and Verb-resultative construction respectively for our Chinese typology research.

For grammaticalization Brinton and Traugott (2005, 99) have defined it as 'the change whereby in certain linguistic contexts speakers use parts of a construction with a grammatical function. Over time the resulting grammatical item may become more grammatical by acquiring more grammatical functions and expanding its host-classes.' As for those parts of construction that get grammaticalized within SVC, we have also discovered that most of them belong to the category of path verb. This section explains such a phenomenon with the theory of conceptual metaphor. Subsection 6.4.1 briefly introduces some basic ideas of metaphor, especially duality. Subsection 6.4.2 discusses situation in the motion-path domain, and subsection 6.4.3 discusses the cause-effect domain. Subsection 6.4.4 concludes the relationship between SVC and Verb-complement construction with the diachronic evidence.

6.4.1 Duality of metaphor

The very basic idea of metaphor in Cognitive Linguistics is that our daily life experience is conceptualized through metaphor. To be specific, metaphor can be understood as a mapping from source domain to target domain, usually represented in the linguistic form of TARGET-DOMAIN IS SOURCE-DOMAIN that involves a mnemonic covering a set of ontological correspondences (Lakoff, 1993, pp.206-207). For example, in the classical metaphor LOVE IS A JOURNEY, the source domain JOURNEY is mapped to the target domain LOVE, with entities in the latter such as lovers, love relationship, and lover's common goals corresponded to entities in the former such as travellers, vehicle, and common destinations on the journey. Thus we have many ordinary English expressions to describe a love relationship such as 'our relationship has hit a *dead-end street*', 'look *how far we've come*', 'it's been *a long, bumpy road*', 'we can't *turn back* now', 'we're at a *crossroad*', 'we may have to *go our separate ways*', 'the relationship isn't *going anywhere*', 'we're *spinning our wheels*', etc. (ibid.). Moreover, Lakoff (1993, pp.203, 212) claims that 'everyday abstract concepts like time, states, change, causation,

and purpose also turn out to be metaphorical'.

Those abstract concepts above often show the feature of 'duality'. That is, the metaphors behind them usually come in location/object pairs (Lakoff, 1993, 218), or in other words, those abstract concepts can be understood either in the location system or in the object system (p.225). Here as an example we see how change is often conceptualized as movement (p.220). In the location system, change is understood as 'the motion of the thing-changing to a new location or from an old one' (p.225), which is why we have expressions like 'I'm where I want to be in life', 'he's gone through a lot in life', etc. (p.223). In the object system, 'the thing-changing doesn't necessarily move. Change is instead the motion of an object to, or away from the thing-changing' (p.225). Therefore we can say 'the noise gave me a headache', 'my headache went away', etc. (ibid.). Because of this duality, we have two versions of 'changes are movement'. In the location system, changes are 'movement (to or from locations)', while in the object system, changes are 'movements (of possessions, namely, acquisitions or losses)' (p.226).

Following these basic ideas of conceptual metaphor and its duality, we shall continue with an analysis of SVC grammaticalization, and explain why it is most likely path verbs that get grammaticalized.

6.4.2 Verb-directional construction: Grammaticalization of path verbs into prepositions in space

In Chapter 4 we discovered three cases of prepositions encoding path element for verb-directional construction, namely *xiang*, *wang*, and *chao* (all meaning 'toward').[6] Contrary to their satellite status in modern Chinese, in ancient Chinese all of those three elements are independent path verbs that can function solely as predicates to express motion in space. In Chapter 5 we listed the ancient usage of *xiang* (repeated here as (200a)), and in this subsection we will also consider the ancient usages of *wang* and *chao*.

[6] According to *Modern Chinese Dictionary* (6th edition), *xiang*, *wang*, and *chao* can also function as verbs in modern Chinese. However, in such a situation they would not encode the information of motion. For example, the verbal meaning of *xiang* is 'face' like *xiang yang* that means 'face the sun' (p.1424).

(200) a. 到 夏 口，闻 操 已 向 荆 州。

Dao Xia Kou, wen Cao yi **xiang** Jing Zhou.
arrive Xia Kou, hear Cao already move toward Jing Zhou

'(When Lu Su) arrived at Xia Kou, he heard that Cao had already moved towards Jin Zhou.'

(《赤壁之战》1019-1086，引自 http://wyw.hwxnet.com/view/hwxE5hwx90hwx91.html)
(*Chi Bi zhi zhan* 'War at Chi Bi' 1019-1086, cited from http://wyw.hwxnet.com/view/hwxE5hwx90hwx91.html)

b. 譬如 平 地， 虽 覆 一 篑，

Piru ping di, sui fu yi kui,
like fill ground, though dump one basket,

进， 吾 往 也。

jin, wu **wang** ye.
forward, I go forward MOD

'Like filling the (pit on the) ground. Though beginning with one dumping, keep going forward (and you will succeed).'

(《论语》540-400 B.C.)
(*Lun Yu* 'The Analects of Confucius' 540-400 B.C.)

c. 燕、赵、 韩、 魏 闻 之，皆 朝 于 齐。

Yan, Zhao, Han, Wei wen zhi, jie **chao** yu Qi.
Yan, Zhao, Han, Wei hear it, all submit/pay tribute to Qi

'When Kingdoms of Yan, Zhao, Han, Wei hear about it, they all submit to the Kingdom of Qi.'

(《邹忌讽齐王纳谏》77-6 B.C.)
(*Zou Ji feng Qi Wang na jian* 'Zou Ji persuades the King of Qi to adopt suggestions', 77-6 B.C.)

A close scrutiny shows that the path information encoded in *xiang*, *wang*, and *chao* is quite general and largely depends on the overt ground, which is different from the path verbs we have discovered in Chapter 4 (Table 4.5). Those path verbs usually encode the more detailed path information in relation to a connoted ground, in the way that *shang* 'ascend' would express the path information of 'up' normally along a vertical route with relation to an implied ground beneath. Due to the fact that *xiang*, *wang*, and *chao* have to rely on the overt ground, they might show a deficient autonomy when expressing path information in ancient Chinese, and this deficiency is likely to be the reason for them to grammaticalize into prepositions in modern Chinese.[7]

[7]A plausible counterexample is *wang* that means the non-general path information of 'forward' as in sentence (200b), and this may account for the phenomenon that *wang* is not completely grammaticalized since in modern Chinese it occasionally maintains the status of path verb and can be used on its own, like *yong wang zhi qian* 'march forward courageously'. However, such a case is more of idiomization and is quite rare in modern Chinese.

6.4.3 Verb-resultative construction: Grammaticalization of path verbs into aspectual markers in space and in time

In the above motion-path domain it is path verbs that get grammaticalized as prepositions in space, and in the cause-effect domain we can find the same situation where path verbs become aspectual markers in space through grammaticalization. Sentence (201) illustrates two possibilities, where *dao* in (201a) and *guo* in (201b) used to be path verbs (meaning 'arrive' and 'cross') but herein function as aspectual markers.

(201) a. 难 找 到 像 孙 权 那样 的 英雄。
Nan **zhao** *dao* xiang Sun Quan nayang DE_1 yingxiong.
hard search ASP like Sun Quan that DE_1 hero
'One cannot find that kind of hero like Sun Quan.'
(《辛弃疾词 • 永遇乐 • 京口北固亭怀古》译文，引自 http://so.gushiwen.org/fanyi_1426.aspx)
(Translation of *Xin Qiji's Ci* • *Always be joyful* • *Discussion on ancient times at Bei Gu Pavilion*, cited from http://so.gushiwen.org/fanyi_1426.aspx)

b. 还 有 用 红 漆 刷 过 的 叉。
Hai you yong hong qi **shua** *guo* DE_1 cha.
also there be use red paint brush ASP DE_1 fork
'Also there is the fork that has been brushed red.'
(《高祖还乡》译文, 引自 http://yw.eywedu.com/rb3/HTML/1287.html)
(Translation of *Gao Zu huan xiang* 'The emperor returns to his hometown', cited from http://yw.eywedu.com/rb3/HTML/1287.html)

Sentence (201) manifests the metaphor of CHANGE IS MOVEMENT, with the two examples demonstrating the duality of this metaphor. Sentence (201a) shows motion in the location system, as it is the thing-changing, in this case the searcher, that comes to the new location/position where the target is found. Sentence (201b) shows motion in the object system, as the thing-changing, now the fork, is not in motion, but it is the object of red paint that moves to the thing-changing and leads to the change.

The metaphor CHANGE IS MOVEMENT not only exists in the domain of space, but also exists in the domain of time. For example in sentence (202) the change result of something in the past from being forgotten to being remembered is expressed by the path verb *qi* (with the verbal meaning 'rise'), and this might suggest one's memory as the thing-changing moves backward to the location/time when that something occurs. Notice that in sentence (202) 'old capital' can be understood as a metonym for the historic events occurring at that place.

(202) 因 见 秋 风 起
Yin jian qiu feng qi
because see autumn wind rise
而 想 起 江 东 故 都。
er **xiang** *qi* jiang dong gu du.
and remember rise/ASP river east old capital
'As (Zhang Han) sees the autumn wind he remembers the old capital at the east of river.'

(《李白诗 • 行路难》译文，引自 http://so.gushiwen.org/fanyi_4106.aspx)
(Translation of *Li Bai's Poem • Xing lu nan*
'Hard to travel', cited from http://so.gushiwen.org/fanyi_4106.aspx)

Before we finish this subsection there is also one point worth mentioning, that is the relationship between space and time. Lakoff (1993, pp.216-218) claims that 'time in English is conceptualized in terms of space', with the conceptual metaphor TIME PASSING IS MOTION that also shows duality. That is, either the observer is fixed with times as entities moving to the observer, so that we can say 'Thanksgiving is coming up on us', or times are fixed locations while the observer is moving towards time, which is the reason that we can also say 'we are coming up on Christmas'. The above sentence (202) belongs to the latter case with a fixed time and a moving observer. Moreover, for the motivation why time is understood metaphorically in terms of space (motion, entities, and locations) Lakoff suggests it is because of our biological knowledge. In his words 'in our visual systems, we have detectors for motion and detectors for object/locations. We do not have detectors for time (whatever that could mean). Thus, it makes good biological sense that time should be understood in terms of things and motion' (p.218). This idea that time is understood metaphorically through motion in space also accounts for the phenomenon of motion-path SVC in time that we discovered in Chapter 4.

6.4.4 Relationship between SVC and Verb-complement construction: diachronic evidence

A possible optional explanation for the formation of Verb-complement construction is that result verb first gets grammaticalized at the final position within 'M+O+R' structure, and then moves to the right adjacency of M at a later time, as suggested by Zoe Wu (2004, pp.179-180). However, in this subsection we will show that it is not so by calling on diachronic evidence.

For the discussion here we take the grammaticalization of *qi* as an example. Ota (2003, pp.198-199) claims that the VV structure where *qi* with the verbal meaning of 'rise' appears as V_2 can be found as early as at the 3^{rd} phase of Mediaeval Ancient Time, as suggested by sentence (203a). On contrast, the grammaticalized *qi* indicating that it is inchoative of its affiliated verb comes into being at a much later time at the end of Song Dynasty, as shown in sentence (203b).

(203) a. 宿　醉　　扶 起，书　札　为　之。
Su zui　　fu qi, shu zha wei zhi.
deep intoxicated lift rise, write letter make PRO
'The deeply drunken (Ruan Ji) was lifted up to write the letter, and he immediately made it.'
(《世说新语 • 文学》420-479 A.D. 引自太田辰夫 (2003, 198))
(*Shi Shuo Xin Yu • Wen xue*
'A New Account of the Tales of the World • Rhetoric and erudition',
420-479 A.D. cited from Ota (2003, 198))

b. 且　自　那　动　处　说　起。
Qie zi na dong chu **shuo** *qi.*
MOD from that motion place discuss rise/ASP
'This is a discussion from the place of motion'
(《朱子语类》1263 A.D. 引自太田辰夫 (2003, 199))
(*Zhu'zi Yu Lei* 'Zhu'zi's Language Category', 1263 A.D.
cited from Ota (2003, 199))

According to our criteria, *fu qi* 'lift rise' in sentence (203a) is a typical cause-effect SVC as both of its internal verbs can be used on their own. Meanwhile, the time of (203a) also accords with the SVC formation period introduced in subsection 6.3.2, that is, after the bi-syllabicity (206 B.C.-220 A.D.) and before the full development of SVC (12^{th} century A.D.-14^{th} century A.D.). As for the case in sentence (203b), it is clear that *qi* there has lost its independency and become an aspectual marker.

Sentence (203) clearly refutes the optional explanation proposed at the beginning of this subsection, and reveals that the path verb first merges with the manner verb and then grammaticalizes into an aspectual marker. Moreover, this relationship between SVC and Verb-complement construction is also supported by the formation times of these two kinds of structure revealed in Chapter 4 and Chapter 5. SVC, both motion-path and cause-effect, goes through the process of reanalysis before phase 4 and increases greatly by analogy at phase 5. By contrast there is no Verb-complement construction at all among the first four phases but this also increases greatly at phase 5.[8] A com-

[8]Sentence (203b) appears at the transition period between Song Dynasty and Yuan Dynasty, and for this reason it can be classified into the subdivision of phase 5.

parison of the evolutionary tendencies between SVC and Verb-complement construction confirms that the latter is the grammaticalization result of the former.

In this section we have discussed grammaticalization in the domains of motion-path and cause-effect. In the motion-path subsection we have focused on *xiang*, *wang*, and *chao*, with the conclusion that deficiency in autonomy, i.e. their relying on the overt ground because of a quite general path information, is the reason for them to get grammaticalized. In the cause-effect domain we have offered an explanation from the theory of conceptual metaphor, and referred to Lakoff (1993) that beneath change there is the metaphor CHANGE IS MOVEMENT for the domains of both space and time. Moreover, duality of metaphor would account for the two kinds of change such as *zhao dao* 'search arrive/ASP' and *shua guo* 'paint cross/ASP'. In one the thing-changing moves in the location system and the other one the object moves in the object system. We suggest this conceptual metaphor is the motivation for so many (ex-)path verbs to appear after some manner verbs to indicate the result of change. And the reason for these (ex-)path verbs' grammaticalization might be attributed to the conflict between their individual content motion meanings and the cause-effect meanings of the whole structure, which would result in a bleach to their content verbal meanings and turn them into aspectual markers, in the name of grammaticalization.[9] Finally, the relationship between SVC and Verb-complement construction is confirmed by diachronic evidence.

6.5 Other related issues

In this section we summarize some findings of the related issues from previous chapters, and these include synthetic verbs in Chinese as well as their potential challenge to the manner/result complementarity hypothesis.

6.5.1 Synthetic Verb

In this research we have re-discovered the phenomenon of the synthetic verb in Chinese. Being synthetic means that multiple semantic elements are coalesced into the same and

[9]Du (2016) has also applied the metaphor explanation to the phenomenon in English where a preposition with the meaning of motion is used to indicate the result of change, like 'the ditch has been filled up' and 'I thought up a solution'. This might assist to suggest the universality of conceptual metaphor theory.

one surface form (recall Chapter 4), for which we have synthetic verb that simultaneously encodes manner information and result information as one subtype example. However, despite this feature, synthetic verbs used to be treated either as manner verbs (Shi and Wu, 2014; Shi, 2014) or path verbs (Yang, 2014) in previous studies, and we deem neither of these to be right. Identification of synthetic verbs on the one hand would reveal a different evolutionary tendency of motion expression in ancient Chinese as shown in Chapter 4, and on the other hand would account for the double framing typological feature in modern Chinese as shown in Chapter 4 and Chapter 5.

Furthermore, it is often claimed that ancient Chinese shows the evolutionary tendency from being synthetic to being analytic for the situation of verbal expressions (Shi, 2014, pp.306-313). However, this claim is more of a qualitative description without strong quantitative evidence. With statistical analysis we have discovered a diachronic decline of synthetic verb proportion in Chapter 4 (table 4.7) and Chapter 5 (table 5.6). This together with the diachronic increase of SVC proportion concluded before, would provide data support to the above claim of the move from synthetic to analytic.

6.5.2 Potential challenge to manner/result complementarity

The phenomenon of synthetic verbs in Chinese also raises a further potential challenge to Levin and Rappaport Hovav's manner/result complementarity hypothesis. This hypothesis reads that 'manner and result meaning components are in complementary distribution: a verb lexicalizes only one' (Levin and Rappaport Hovav, 2013, 50), and in that paper they have argued against the putative counterexamples 'climb' and 'cut' (pp.54-58). Their statement is that the former only encodes the manner information of 'force exertion against gravity', so that we have expressions 'John climbed down the mountain' and 'the train climbed up the mountain', while within a determined context the latter only encodes either manner or result at one time, such as 'Flint virtually forgot the two whales as he cut at the net with increasing fury' and 'the rope cut on the rock releasing Rod on down the mountain'.

We do not doubt Levin and Rappaport Hovav's defence with the example of English sentences. We do however, think that synthetic verbs in Chinese can offer some further counterexamples. In Chapter 4 we listed the synthetic verb *deng* that means 'to ascend with foot', where the result information of 'upward' will make any attempt to '*deng*

down a mountain' ungrammatical, and the manner information of 'with foot' will make it less likely for a train to '*deng* up the mountain'. In Chapter 5 we listed the synthetic verb *zhe* that encodes manner information of 'with hand' and result information of 'break' at the same time. Meanwhile we have pointed out that although its homonym *she* encodes only the result information of 'break', the distinct phonological behaviour would make it a different lexical entry from *zhe* in the dictionary, so that this cannot be paralleled with the *cut* example in English. All these might present new potential challenges to Levin and Rappaport Hovav's manner/result complementarity hypothesis.

6.6 Conclusion

Based on the summarization of Chinese typology from SVC, this chapter goes on to discuss the evolution of SVC, that is, how it comes into being and where it moves on to. For the former question we have first sub-classified SVC into two syntactic categories according to argument of result verb, and then concluded that different reasons would account for the formation of these two types of SVC. The type of SVC where the patient object is the argument of result verb takes shape through reanalysis that is evoked by phonological bi-syllabicity, and increases greatly by analogy at a much later colloquial period. The type of SVC where agent subject is the argument of result verb comes into being at an even later time under the effect of directionality, probably for the reason of natural economy. For the second question we have discussed grammaticalization in the domains of motion-path and cause-effect. In the motion-path situation we have suggested that deficiency in autonomy is the reason for *xiang*, *wang*, and *chao* to grammaticalize into prepositions. In the cause-effect situation we have referred to the theory of conceptual metaphor, with the discovery that the metaphor CHANGE IS MOVEMENT is the reason for so many path verbs to become aspectual markers. Moreover, we have provided diachronic evidence for the relationship between SVC and Verb-complement construction. This chapter has also summarized some related issues, such as synthetic verbs in Chinese and their potential challenge to manner/result complementarity hypothesis.

Chapter 7

Conclusion

7.1 Introduction

This chapter will point out the significance of this study, suggest its limitations, and indicate possible further research. Moreover, as the conclusion of this conclusion chapter, the epilogue section will again advocate the idea of preference for any language with a versatile feature, in line with what we have mentioned in the prologue, and with support from what we have revealed throughout the whole thesis.

7.2 Significance of this study

We conclude that there are three main points of significance for this study.

First we have proposed a definition of SVC from Canonical Typology, which is helpful to deal with the previous cross-linguistic inconsistent observations. As we reviewed in Chapter 1, early definitions of SVC either focus on the criterion of single event (Aikhenvald and Dixon, 2006; Bisang, 1995), or focus on the criterion of single clause (Foley and Olson, 1985; Foley, 2010; Haspelmath, 2016). Yet sometimes these two criteria would conflict with each other, which might generate a pessimistic opinion on the possibility of a universal definition of SVC (Foley, 2010). Additionally, those single-event-based definitions quite often fail to describe what is the single event encoded within SVC, while those single-clause-based definitions usually hold different standards on what is single clause (like argument sharing from Foley and Olson (1985), clausal markers from Foley (2010), or negation from Haspelmath (2016)). Due to these inconsistencies, de-

spite more than 100 years of studies on SVC (if we count from Westermann (1907)), the definition of this multi-verbal structure remains 'a tenacious myth and a Gordian knot'.[1]

The canonical definition, nevertheless, helps to resolve some conflicts among criteria on various dimensions. To be specific, even if a multi-verbal structure does not satisfy all the proposed criteria, we will not deny the possibility that it is a qualified SVC but instead will consider it to be less canonical. Meanwhile, a relevant inference is that the more criteria a multi-verbal structure meets, the more canonical it behaves as an SVC. Moreover, the criterion of single event has been judged to be an accomplishment that further covers two sub-events. With this canonical definition as well as a clear description of single event, we have identified motion-path and cause-effect to be the two prototypical usages of SVC. The canonical definition indicates that there is no absolute uniformity to define certain linguistic phenomena, but linguistic phenomena labelled by the same term shows heterogeneity among various languages. Or in other words, the concept of canonical typology highlights kinds of preference for making definition cross-linguistically.

Secondly we have reviewed the development of Cognitive Typology and made an overall application of the adapted framework onto Chinese. In Chapter 2 we have summarized how Cognitive Typology starts from Talmy's dichotomy, enriches via Slobin's trichotomy, and develops into Croft's et al. quartering classification. Moreover, though adopting Croft's et al. framework to list double framing as the fourth classification in our typology research, we have pointed out that the unique feature of double framing in Chinese is mainly caused by synthetic verbs and revealed it to be a kind of serial, for the reason that both the internal components within double framing structures are independent verbs. Furthermore, for Croft's et al. putative symmetrical strategy of compounding, we suggest a more careful scrutiny. Actually the term verbal compound from Croft et al. covers three sub-cases: the combination of a path component and a deictic component in Kiowa, the *-i* compound and *-te* compound in Japanese, and the aspectual compound in Bulgarian. At least the aspectual compound 'is technically satellite framed', since 'the perfective aspect prefixes cannot be main predicates on their own'

[1]Here we are borrowing the statement from Paul (2008).

(Croft et al., 2010, 216), and this clearly contradicts the symmetrical standard where both manner and result 'are expressed in forms that may occur as predicates on their own' (p.207). Consequently in our research we have adapted aspectual compound in Chinese as a type of satellite-framing structure.

This adapted cognitive typology framework is then applied to Chinese with an overall coverage. At the synchronic level we have investigated typological features of modern Chinese both within motion-path domain and cause-effect domain, which certifies that despite its versatile features modern Chinese is a type of Serial language as SVC forms the highest percentages among all the typological expressions within both these domains. At the diachronic level we have also surveyed typological features of ancient Chinese under motion-path domain and cause-effect domain, which on the one hand reveals a somewhat different evolutionary picture for the former compared with the previous study of Shi and Wu (2014),[2] while on the other hand it provides the evolutionary chain of cause-effect expressions in ancient Chinese for the latter. Comprehensively speaking, Serial, as the most prototypical feature under the versatile context for modern Chinese, along with the typological shift of ancient Chinese, shows the preference tendency of typology for the individual language of Chinese.

Thirdly, we have explored motivations for some evolutionary questions of SVC, i.e. how SVC comes into being and where it moves on to. We have explained the formation of SVC under different syntactic environments, and discovered that SVC of the basic MRO structure first comes into being for the reason of reanalysis that is caused by phonological bi-syllabicity, and then increases in size within other types of syntactic structures through analogy as well as directionality at a much later period. As for the question of how SVC further evloves, we have found that it would grammaticalize into Verb-complement construction in modern Chinese. Moreover, the two prototypical usages of SVC would grammaticalize into two subtypes of Verb-complement construction,

[2]In Chapter 4 we have summarized that there are two main reasons for this difference. First, synthetic verbs are separated from manner verbs and result verbs in our study, which explains why we did not find the incremental rise of manner verb percentage as in Shi and Wu's research. Secondly, historical corpus data from the end of the Yuan Dynasty to 4^{th} May 1919 are supplemented in our study. However, this period is not included in Shi and Wu's research due to 'affinity of time' between the omitted period and modern Chinese. That omission meant, as they realized that 'the corpus selected may not be typical enough' (Shi and Wu, 2014, 1250). This is indeed so according to our study, as the omitted period includes the late half part of phase 5, phase 6 and phase 7, and these phases are vital for analogy and directionality of SVC as discovered in our Chapter 6. Therefore Shi and Wu's omission of that period cannot reveal a complete evolution of motion expressions in ancient Chinese.

that is, motion-path SVC would further turn to Verb-directional construction while cause-effect SVC would further turn to Verb-resultative construction. Reasons for these two kinds of grammaticalization are also offered. For the former, deficiency of autonomy would account for the grammaticalization of *xiang*, *wang* and *chao* from independent verbs in ancient Chinese to prepositions in modern Chinese, and for the latter, duality of the metaphor CHANGE IS MOVEMENT would explain why so many path verbs have turned to aspectual markers through grammaticalization.

Meanwhile, our discussion on those evolutionary questions of SVC, especially the part of grammaticalization, can solve the terminology dispute between SVC and Verb-complement construction that has been long held in traditional Chinese linguistic studies.

7.3 Limitation

We recognize that corpus selection for the part of modern Chinese could be a limitation of this study, as it is mainly composed of anonymous online modern translations of ancient Chinese passages, and those online resources might not be precise enough. However, for this potential problem we have turned to five websites for cross checking, in case there exist inaccurate translations from a single website. Moreover, as a native speaker of Chinese, the author's introspective judgement, as well as dictionaries of modern Chinese and ancient Chinese, also helps to ensure the correctness of data collected in the corpus.

In addition, we deem that as an open source the anonymous online modern passages from more than one resource can guarantee a universality of translation and eliminate the influence of an individual translator who may have a certain personal preference on translation of typology-related expressions in modern Chinese.

7.4 Further Study

We consider verbal compound to be a possible further study on the basis of two observations. First, there should be a more careful cross-linguistic analysis of verbal compound in order to tell its difference from SVC. Croft et al. (2010, 207) propose that verbal compound is a structure 'in which the two (internal) forms are morphologically bound

or at least more tightly integrated than the serial strategy', which is a somewhat rough description that covers three sub-cases as introduced in section 7.2. This description on the one hand does not work so well for isolating languages that do not have much morphological bounding, and on the other hand is self-contradictory as (semantically speaking) the sub-cases in Kiowa and in Japanese do not necessarily perform 'more tightly integrated than the serial strategy' as we have shown in Chapter 2.

Secondly, the definition of verbal compound in Chinese proposed in this research might be too language-specific a description. In Chapter 3 we have narrowed down VV compound in Chinese as synonymous compound that could be MM or RR, which though largely exists in modern Mandarin Chinese, might not be so easily detected in other languages such as English. Therefore we suggest a cross-linguistic definition on verbal compound, probably also under the canonical typology framework, to be the further relevant study.

7.5 Epilogue

At the end of this thesis, we would like to highlight the preference nature of language researches both cross-linguistically and intra-linguistically. For the former we have taken defining SVC as an example, since multi-verbal structures considered as SVC might canonically satisfy more kind of set A features within one language but canonically satisfy more kind of set B features within another language, and this is the reason why the method of Canonical Typology is developed. For the latter we have taken the typological feature of Chinese as an example, since Chinese takes certain type of prototypicality to be the preference for Cognitive Typology,[3] and our research on Chinese also adapts and enriches the relevant theoretical framework. Therefore we conclude that to some extent language research is the nature of identifying preference tendency, and it is this preference that keeps linguistics vibrant, with on-going new phenomena defined, new methodologies developed, and new theories proposed.

[3]In modern Chinese this prototypicality is Serial, while in ancient Chinese we have discovered a shift of prototypicality within different historical periods.

Appendices

1 Path verbs from Yang (2014)

No.	Verb	Meaning	No.	Verb	Meaning
1	撵 nian	catch up	28	前进 qianjin	advance
2	追 zhui	chase (or run) after	29	进 jin	advance, move ahead
3	出发 chufa	set out	30	收 shou	gather in
4	去 qu	go to (a place)	31	装 zhuang	load, pack, hold
5	离 li	leave	32	进 jin	enter, come (or go) into
6	离开 likai	leave	33	钻 zuan	get into, go through
7	背 bei	leave, go	34	撒 sa	a lot of small things fall in multi-directions
8	走 zou	leave, go away	35	散 san	scatter
9	倒 dao	move backwards	36	洒 sa	sprinkle
10	倒退 daotui	go backwards	37	洒落 saluo	scattered fall
11	回 hui	return, go back	38	出 chu	go or come out
12	还 huan	go (or come) back	39	突出 tuchu	break out
13	退 tui	move back	40	经过 jingguo	pass, go through, undergo
14	掉 diao	turn	41	过 guo	cross, pass
15	移动 yidong	shift, move	42	通过 tongguo	pass through, traverse
16	转 zhuan	turn, shift, change	43	到 dao	arrive, reach
17	压 ya	approach, be getting near	44	到达 daoda	arrive, get to, reach
18	挨 ai	to get close to	45	来 lai	come (to)
19	靠 kao	get near, come up to	46	赶 gan	go to
20	靠近 kaojin	draw near, approach	47	上 shang	go to, leave for
21	下 xia	come or go down from, descend	48	下 xia	go to a place thought of as lower or below
22	下降 xiajiang	descend	49	造 zao	go to
23	掉 diao	fall, drop	50	上 shang	come or go up, ascend
24	沉 chen	sink	51	升 sheng	go up, ascend
25	落 luo	fall, drop	52	提 ti	lift, raise
26	跌 die	fall	53	起 qi	go upward, up
27	降 jiang	fall, drop	54	登 deng	ascend

adapted from Yang (2014, pp.221-223), Appendix 3.

2 Correspondence between ancient and modern motion-path lexicalization patterns

Ancient Lexicalization Patterns	Modern Lexicalization Patterns						
		SVC	Double Framing pima	Satellite Structure	Coordinate	AEM	Converb Construction
	R	i. 出 *chu* 'exit' ii. 浮出 *fu chu* 'float exit'	i. 下 *xia* 'descend' ii. 落下 *luo xia* 'fall descend'	i. 适 *shi* 'reach' ii. 飞往 *fei wang* 'fly toward'	i. 来 *lai* 'come' ii. 奔腾而来 *benteng er lai* 'gallop and come'	i. 去 *qu* 'go' ii. 缓缓地离去 *huanhuan DE2 liqu* 'slow DE2 leave'	
	M	i. 游 *you* 'travel' ii. 游到 *you dao* 'travel arrive'	i. 乘 *cheng* 'ride' ii. 登上 *deng shang* 'climb ascend'	i. 飞 *fei* 'fly' ii. 飞向 *fei xiang* 'fly toward'	i. 驰 *chi* 'gallop' ii. 驱车追去 *qu che zhui qu* 'gallop chariot and pursue'	i. 扑 *pu* drift ii. 随风扑来 *sui feng pu lai* 'with wind drift come'	
	Syn.	i. 遣 *ye* 'send to farmland' ii. 带到 *dai dao* 'bring arrive'	i. 登 *deng* 'climb' ii. 登上 *deng shang* 'climb ascend'		i. 腾 *teng* 'prance' ii. 腾跃而起 *tengyue er qi* 'prance and rise'		
	AEM	i. 匹马还 *pima huan* 'horse return' ii. 载归还 *zai...guihuan* 'load return'				i. 逡巡近 *qunxun jin* 'hesitant approach' ii. 犹犹豫豫靠近 *youyouyuyu kao jin* 'hesitant approach'	
	Neu.	i. 迁 *qian* 'move' ii. 迁到 *qian dao* 'move arrive'		i. 行 *xing* 'move' ii. 走向 *zou xiang* 'walk toward'			
	SVC	i. 渐之 *jian zhi* 'dip arrive' ii. 浸入 *jin ru* 'dip enter'		i. 奔流到 *benliu dao* 'rush arrive' ii. 奔向 *ben xiang* 'rush toward'	i. 驰往 *chi wang* 'gallop go' ii. 驾车赶去 *jia che ganqu* 'drive chariot pursue'		
	DF		i. 下咽 *xia yan* 'descend swallow' ii. 咽下 *yan xia* 'swallow descend'			i. 上溯 *shang su* 'ascend walk against' ii. 逆流而上 *ni liu er shang* 'against water ascend'	
	CD	i. 趋而出 *qu er chu* 'run and exit' ii. 跑出 *pao chu* 'run exit'		i. 转头向 *zhuan tou xiang* 'turn head orientate' ii. 转向 *zhuan xiang* 'turn to'	i. 盘散可下 *pansan ke xia* 'awhirl descend' ii. 旋转走可以下去 *xuanzhuan zou keyi xiaqu* 'awhirl can descend'	i. 驰而前 *chi er qian* 'gallop and move ahead' ii. 飞马冲在前面 *fei ma chong zai qianmian* 'rush ahead on a flying horse'	i. 御风而行 *yu feng er xing* 'drive wind and move' ii. 驾着风游行 *jia zhe feng youxing* 'move by driving wind'
	Sate.	i. 移于 *yi yu* 'move to' ii. 运到 *yun dao* 'move arrive'	i. 济于 *ji yu* 'cross across' ii. 渡过 *du guo* 'cross over'	i. 趋于 *qu yu* 'go toward' ii. 走向 *zou xiang* 'walk toward'			
	DV	i. 归还 *gui huan* 'return-return' ii. 回来 *hui lai* 'return back'	i. 陟升 *zhi sheng* 'climb ascend' ii. 升上 *sheng shang* 'rise ascend'	i. 推移 *tuiyi* 'push move' ii. 滚滚向前 *gungun xiang qian* 'roll forward'		i. 踟躇 *zhichu* 'loiter around' ii. 缓步前行 *huan bu qian xing* 'step slowly forward'	
	MM CP	i. 漂泊 *piaobo* 'drift-wander' ii. 吹去 *chui qu* 'blow away'					
	N.		i. 陵 *ling* 'hill' ii. 登上 *deng shang* 'climb ascend'	i. 南 *nan* 'south' ii. 向南飞 *xiang nan fei* 'towards south fly'		i. 雨 *yu* 'rain' ii. 雨点般纷纷而落 *yudian ban fenfen er luo* 'fall like raindrop'	
	N-V	i. 东行 *dong xing* 'east move' ii. 急奔东方 *ji ben dongfang* 'rush towards east'		i. 南征 *nan zheng* 'south conquer' ii. 奔向南方 *ben xiang nanfang* 'rush towards south'			

3 Type case of single motion verbs in each Time

	No.	Type	No.	Type	No.	Type	No.	Type	No.	Type
Primary Ancient Time	Path verb (41 types)									
	1	报 *bao* 'return'	10	及 *ji* 'touch'	19	靡 *mi* 'fall'	28	释 *shi* 'fall'	37	之 *zhi* 'arrive'
	2	出 *chu* 'exit'	11	加 *jia* 'impart'	20	纳 *na* 'take in'	29	袭 *xi* 'touch'	38	至 *zhi* 'arrive'
	3	从 *cong* 'follow'	12	降 *jiang* 'descend'	21	起 *qi* 'rise'	30	下 *xia* 'descend'	39	置 *zhi* 'put in'
	4	达 *da* 'arrive'	13	尽 *jin* 'sink'	22	弃 *qi* 'throw away'	31	向 *xiang* 'go to'	40	坠 *zhui* 'fall'
	5	导 *dao* 'bring to'	14	进 *jin* 'enter'	23	前 *qian* 'forward'	32	迎 *ying* 'approach'	41	卒 *zu* 'finish'
	6	低 *di* 'lower'	15	聚 *ju* 'gather'	24	入 *ru* 'enter'	33	逾 *yu* 'enter'		
	7	反 *fan* 'return'	16	绝 *jue* 'cross'	25	上 *shang* 'ascend'	34	离 *li* 'depart'		
	8	归 *gui* 'return'	17	来 *lai* 'come'	26	适 *shi* 'arrive'	35	陨 *yun* 'descend'		
	9	还 *huan* 'return'	18	落 *luo* 'fall'	27	逝 *shi* 'pass'	36	在 *zai* 'at'		
	Manner verb (25 types)									
	1	乘 *cheng* 'clamber'	6	赴 *fu* 'plunge'	11	流 *liu* 'flow'	16	吞 *tun* 'gulp'	21	游 *you* 'travel'
	2	驰 *chi* 'gallop'	7	顾 *gu* 'gaze'	12	取 *qu* 'fetch'	17	望 *wang* 'gaze'	22	援 *yuan* 'pick'
	3	吹 *chui* 'blow'	8	积 *ji* 'furl'	13	疏 *shu* 'display'	18	翔 *xiang* 'fly'	23	罾 *zeng* 'cast a net'
	4	奠 *dian* 'consecrate'	9	捐 *juan* 'cast'	14	送 *song* 'escort'	19	遗 *wei* 'cast'	24	照 *zhao* 'illuminate'
	5	飞 *fei* 'fly'	10	揽 *lan* 'seize'	15	索 *suo* 'fetch'	20	引 *yin* 'lift'	25	追 *zhui* 'pursue'
	Synthetic verb (15 types)									
	1	称 *chen* 'lift up'	4	渡 *du* 'cross'	7	覆 *fu* 'turn over'	10	矫 *jiao* 'lift up'	13	仰 *yang* 'raise up'
	2	充 *chong* 'squeeze into'	5	发 *fa* 'shoot out'	8	跻 *ji* 'ascend up'	11	举 *ju* 'lift up'	14	馆 *ye* 'bring to'
	3	登 *deng* 'climb'	6	敷 *fu* 'spread over'	9	济 *ji* 'cross'	12	挈 *qie* 'raise up'	15	邅 *zhan* 'turn over'
Mediaeval Ancient Time	Path verb (31 types)									
	1	背 *bei* 'leave'	8	度 *du* 'cross'	15	来 *lai* 'come'	22	穷 *qiong* 'reach'	29	委 *wei* 'drop'
	2	沉 *chen* 'sink'	9	高 *gao* 'heighten'	16	落 *luo* 'fall'	23	去 *qu* 'leave'	30	下 *xia* 'descend'
	3	出 *chu* 'exit'	10	归 *gui* 'return'	17	栖 *qi* 'enter'	24	入 *ru* 'enter'	31	至 *zhi* 'arrive'
	4	垂 *chui* 'drop'	11	过 *guo* 'cross'	18	起 *qi* 'rise'	25	上 *shang* 'ascend'		
	5	倒 *dao* 'fall'	12	还 *huan* 'return'	19	弃 *qi* 'throw away'	26	收 *shou* 'take into'		
	6	到 *dao* 'arrive'	13	回 *hui* 'return'	20	前 *qian* 'forword'	27	随 *sui* 'follow'		
	7	低 *di* 'lower'	14	进 *jin* 'enter'	21	倾 *qing* 'fall'	28	退 *tui* 'backword'		
	Manner verb (27 types)									
	1	奔 *ben* 'rush'	7	寄 *ji* 'send'	13	排 *pai* 'arrange'	19	跳 *tiao* 'jump'	25	扬 *yang* 'raise'
	2	传 *chuan* 'summon'	8	举 *ju* 'lift'	14	仆 *pu* 'dive'	20	投 *tou* 'throw'	26	谪 *zhe* 'relegate'
	3	促 *cu* 'urge'	9	卷 *juan* 'pile'	15	取 *qu* 'fetch'	21	推 *tui* 'push'	27	走 *zou* 'walk'
	4	放 *fang* 'release'	10	抗 *kang* 'resist'	16	洒 *sa* 'spray'	22	托 *tuo* 'lift'		
	5	飞 *fei* 'fly'	11	流 *liu* 'flow'	17	射 *she* 'shoot'	23	悬 *xuan* 'hover'		
	6	荷 *he* 'load'	12	梦 *meng* 'dream'	18	生 *sheng* 'bear'	24	延 *yan* 'treat'		
	Synthetic verb (10 types)									
	1	登 *deng* 'climb'	3	跪 *gui* 'kneel'	5	竦 *song* 'rise up'	7	腾 *teng* 'prance'	9	由 *you* 'endure to'
	2	渡 *du* 'cross'	4	济 *ji* 'cross'	6	抬 *tai* 'lift up'	8	仰 *yang* 'raise up'	10	坐 *zuo* 'sit'
Late Ancient Time	Path verb (25 types)									
	1	沉 *chen* 'sink'	6	渡 *du* 'cross'	11	来 *lai* 'come'	16	去 *qu* 'leave'	21	沿 *yan* 'along'
	2	弛 *chi* 'downward'	7	归 *gui* 'return'	12	落 *luo* 'fall'	17	入 *ru* 'enter'	22	映 *ying* 'enter'
	3	出 *chu* 'exit'	8	过 *guo* 'cross'	13	纳 *na* 'take in'	18	退 *tui* 'backward'	23	之 *zhi* 'arrive'
	4	垂 *chui* 'drop'	9	及 *ji* 'reach'	14	起 *qi* 'rise'	19	发 *fa* 'from'	24	至 *zhi* 'arrive'
	5	倒 *dao* 'fall'	10	近 *jin* 'approach'	15	弃 *qi* 'throw away'	20	下 *xia* 'descend'	25	坠 *zhui* 'fall'
	Manner verb (16 types)									
	1	奔 *ben* 'rush'	5	发 *fa* 'occur'	9	摸 *mo* 'fumble'	13	缘 *yuan* 'clamber'		
	2	呈 *cheng* 'render'	6	冯 *ping* 'wade'	10	扑 *pu* 'dive'	14	转 *zhuan* 'turn'		
	3	穿 *chuan* 'traverse'	7	覆 *fu* 'cover'	11	投 *tou* 'throw'	15	追 *zhui* 'pursue'		
	4	吹 *chui* 'blow'	8	掘 *jue* 'dig'	12	吐 *tu* 'stretch'	16	走 *zou* 'walk'		
	Synthetic verb (6 types)									
	1	奋 *fen* 'lift up'	3	拾 *shi* 'pick up'	5	仰 *yang* 'raise up'				
	2	跪 *gui* 'kneel'	4	腾 *teng* 'prance'	6	坐 *zuo* 'sit'				

4 Types of fictive motion

No.	Type	Definition or Feature	Example
1	Coextension paths	Depiction of the form, orientation, or location of a spatially extended object in terms of a path over the object's extent (Talmy, 2000, 138).	The journey of Black River starts from Qilian Mountains and ends at Juyan Lake in Inner Mongolia. It **winds forward into the desert**. (p.58)
2	Emanation paths	The depiction of something intangible emerging from a source. For most of its subtypes, the intangible entity continues along its emanation path and terminates by impinging on some distal object (Talmy, 2000, pp.105-106).	The image of the green hills **sinks into** the water coldly. (p.89)
3	Advent paths	Advent paths describe 'a stationary object's location in terms of its arrival or manifestation at the site it occupies' (Talmy, 2000, 134).	Several volcanic cones **rise (up) slowly on the grassland** from the near to the distant. (p.150)
4	Frame-relative motion	A concrete entity in motion, but what is linguistically conceptualized as moving is the stationary surrounding with respect to which the concrete entity is moving (Talmy, 2000, 130).	When the ship was approaching Jiaozhou Bay, (I) saw a little cyan (small Qing Island), which was **floating and sinking** in the vast waves. (p.160)
5	Pattern paths	The fictive movement of a configuration, which is caused by the movement of another related entity (Talmy, 2000, 129).	The erosion effect of the river makes the waterfall **draw back** around 3 centimeters every year. (p.172)
6	Access paths	Access path expressions depict 'a stationary object's location in terms of a path that some other entity might follow to the point of encounter with the object' (Talmy, 2000, 136).	Xiaqiluo is very close to Tengchong. (If you) exit the town, (go) southwards for one kilometre, and **turn left** for another three or four hundred metres, then (you will) **arrive** there. (pp.182-183)
7	Implied advent paths	The main difference between this new type of fictive motion and advent paths lies in the fact that the motion sense is explicitly encoded in advent paths whereas it is only implicit in implied advent paths (Ma, 2016, 187).	Why is it arranged in such a way that the ancient bell is **squeezed among** the rails and arched girders, and (the space) is narrow and cramped. (p.191)
8	Leading fictive motion	The fictive motion expressions pertain to the description that an entity, (usually related with route, such as roads and bridges) leads to a location (Ma, 2016, 192).	There is a circling and zigzagging stone staircase hung from above, and it **leads all the way to** the bottom of the cave. (p.194)
9	Threading fictive motion	The fictive motion expressions describing the scene that there are several locations or entities along a linear entity as that the linear entity threads the locations situated along it (Ma, 2016, 197).	A narrow highway surrounds the south, west, and north sides of the lake, and it also, **threads** seven or eight small villages together as if they were pearls. (p.198)
10	Fictive manner motion	Fictive manner paths pertain to the description of a factive movement of one entity in terms of a fictive movement performed by another entity with a different manner than the factive movement, in which the factive movement is the cause of the fictive movement (Ma, 2016, 198).	The twilight **rose up**, and the night market also became more and more lively. (p.200)
11	Macro frame-relative motion	A non-prototypical type of frame-relative motion, and it is listed here as one new type of fictive motion due to the absence of attention paid to it in the literature (Ma, 2016, 201).	The warm sun **climbed upward and onto** the white pagoda, and it shone into our house. (p.202)

Summarized from Ma (2016)

Each of these types listed in Appendix (4) covers various subtypes, and for details please refer to Ma's thesis. In addition, those example sentences are quoted from Ma's work, with a page number suggesting the original source. The initial example sentences are in Chinese, together with English translations. Here for convenience I just quote the English translations. The linguistic forms of fictive motion are displayed in bold.

5 Correspondence between ancient and modern cause-effect lexicalization patterns

Ancient Lexicalization Patterns	Modern Lexicalization Patterns							
		SVC	Cpasp	Causa.	DF	CD	AEM	Conv.
	R	i. 破 *po* 'break' ii. 摔烂 *shuai lan* 'fall break'	i. 得 *de* 'locate' ii. 找到 *zhao dao* 'search ASP'	i. 绝 *jue* 'break' ii. 使… 断裂 *shi…duan lie* 'make break'	i. 毙 *bi* 'die' ii. 杀死 *sha si* 'kill die'	i. 为 *wei* 'realize' ii. 凝固而成 *ninggu er cheng* 'solidify and realize'	i. 高 *gao* 'heighten' ii. 加得高 *jia DE3 gao* 'become high'	
	M	i. 染 *ran* 'paint' ii. 染红 *ran hong* 'tint red'	i. 听 *ting* 'listen' ii. 听到 *ting dao* 'listen ASP'	i. 饮 *yin* 'drink' ii. 让… 饮水 *rang…yin shui* 'let…drink'		i. 投 *tou* 'throw' ii. 抱石自沉 *bao shi zi chen* 'hold stone self sink'	i. 招 *fu* 'hit' ii. 敲得… 响 *qiao DE3…xiang* 'hit loud'	
	Syn.	i. 掊 *pou* 'hit break' ii. 砸烂 *za lan* 'hit break'	i. 紧 *zhi* 'tie with rope' ii. 拴住 *shuan zhu* 'tie ASP'		i. 折 *zhe* 'break' ii. 折断 *zhe duan* 'break broken'			
	Causa.	i. 遣 *qian* 'let go' ii. 赶走 *gan zou* 'drive away'		i. 令… 飞腾 *ling…feiteng* 'command fly' ii. 命令… 飞腾 *mingling…feiteng* 'command fly'				
	CPasp	i. 松了 *song le* 'loosen ASP' ii. 松落 *song luo* 'loosen fall'	i. 漆了 *qi le* 'paint ASP' ii. 刷过 *shua guo* 'paint ASP'					
	AEM						i. 随风转 *sui feng zhuan* 'with wind wave' ii. 随风飘荡 *sui feng piaodang* 'with wind wave'	
	SVC	i. 胜食 *sheng shi* 'end eat' ii. 吃完 *chi wan* 'eat up'	i. 求得 *qiu DE3* 'search acquire' ii. 找到 *zhao dao* 'search ASP'	i. 引定 *yin ding* 'lead come' ii. 叫来 *jiao lai* 'cause come'	i. 击杀 *ji sha* 'hit kill' ii. 杀死 *sha si* 'kill die'	i. 散尽 *san jin* 'let out end' ii. 一挥而尽 *yi hui er jin* 'spend all'	i. 攻取 *gong qu* 'attack acquire' ii. 用战争夺取 *yong zhanzheng duoqu* 'by war acquire'	i. 胜道 *sheng dao* 'end talk' ii. 说得完 *shuo DE3 wan* 'talk all'
	CD	i. 至…折 *zhi…zhe* 'arrive…break' ii. 吹… 折断 *chui…sheduan* 'blow…break'				i. 刺人而杀之 *ci ren er sha zhi* 'stab and kill' ii. 刺人… 杀死 *ci ren…sha si* 'stab kill'		i. 击… 镗 *ji…tang* 'hit…loud' ii. 敲得响 *qiao DE3 xiang* 'hit…loud'
	DV	i. 陶铸 *taozhu* 'cultivate' ii. 造就出 *zaojiu chu* 'cultivate'	i. 寻觅 *xunmi* 'search' ii. 找到 *zhao dao* 'search ASP'	i. 眩曜 *xuanyao* 'dizzy' ii. 使… 惑乱 *shi…huoluan* 'cause…confused'				
	Conv.							i. 拥的合 *yong DE1 he* 'push to topple' ii. 挤得倒 *ji DE3 dao* 'push to topple'
	N.	i. 疚 *jiu* 'illness' ii. 积成病 *ji cheng bing* 'accumulate realize illness'	i. 脚 *jiao* 'foot' ii. 抓住 *zhua zhu* 'hold ASP'					

Bibliography

Aikhenvald, A. (2006a). Serial verbs constructions in a typological perspective. In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 1–68. Oxford University Press, Oxford.

Aikhenvald, A. Y. (1999). Serial verb construction and verb compounding: evidence from Tariana (North Arawak). *Studies in Language*, 23:469–508.

Aikhenvald, A. Y. (2006b). Serial verb constructions in Tariana. In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 178–201. Oxford University Press, Oxford.

Aikhenvald, A. Y. and Dixon, R. M. W., editors (2006). *Serial Verb Constructions: A Cross-linguistic Typology*. Oxford University Press, Oxford.

Ameka, F. K. (2006). Ewe serial verb construction in their grammatical context. In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 124–143. Oxford University Press, Oxford.

Amha, A. and Dimmendaal, G. J. (2006). Verbal compounding in Wolaitta. In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 319–337. Oxford University Press, Oxford.

Arcodia, G. F. (2014). The Chinese adjective as a word class. In Simone, R. and Masini, F., editors, *Word Classes: Nature, Typology and Representations*, pages 95–117. John Benjamins, Amsterdam/Philadelphia.

Aske, J. (1989). Path predicates in English and Spanish: a closer look. In Hall, K., Meacham, M., and Shapiro, R., editors, *Proceedings of the Fifteenth Annual Meeting of the Berkeley Lingusitics Society*, pages 1–14. Berkeley Linguistics Society, Berkeley.

Balmer, W. T. and Grant, F. C. F. (1929). *A Grammar of the Fante-Akan Language*. Atlantis Press, London.

Beavers, J., Levin, B., and Tham, S. W. (2010). The typology of motion expressions

revisited. *Journal of Linguistics*, 46(02):331–377.

Bisang, W. (1992). *Das Verb im Chinesischen, Hmong, Vietnamesischen, Thai und Khmer: Vergleichende Grammatik Im Rahmen der Verbserialisierung, der Grammatikalisierung und der Attraktorpositionen*. Narr, Tübinger.

Bisang, W. (1995). Verb serialization and converbs - differences and similarities. In Haspelmath, M. and König, E., editors, *Converbs in Cross-Linguistic Perspective*, volume 13, pages 137–188. Mouton de Gruyter, Berlin/New York.

Bisang, W. (2009). Serial verb construction. *Language and Linguistics Compass*, 3(3):792–814.

Bisang, W. (2011). Word classes. In Song, J. J., editor, *The Oxford Handbook of Language Typology*, pages 216–233. Oxford University Press, Oxford.

Bohnemeyer, J., Enfield, N. J., Essegbey, J., Ibarretxe-Antuñano, I., Kita, S., Lüpke, F., and Ameka, F. K. (2007). Principles of event segmentation in language: the case of motion events. *Language*, 83(3):495–532.

Bond, O. (2013). A base for canonical negation. In Brown, D., Chumakina, M., and Corbett, G. G., editors, *Canonical Morphology and Syntax*, pages 20–47. Oxford University Press, Oxford.

Brinton, L. J. and Traugott, E. C. (2005). *Lexicalization and Language Change*. Cambridge University Press, Cambridge.

Brown, D. and Chumakina, M. (2013). What there might be and what there is: an introduction to Canonical Typology. In Brown, D., Chumakina, M., and Corbett, G. G., editors, *Canonical Morphology and Syntax*, pages 1–19. Oxford University Press, Oxford.

Brown, D., Chumakina, M., and Corbett, G. G. (2013). *Canonical Morphology and Syntax*. Oxford University Press, Oxford.

Bruce, L. (1984). *The Alamblak Language of Papua New Guinea (East Sepik)*. Australian National Univ., Canberra.

Bruce, L. (1988). Serialization: from syntax to lexicon. *Studies in Language*, 12:19–49.

Butt, M. (2010). The light verb jungle: still hacking away. In Amberber, M., Baker, B., and Harvey, M., editors, *Complex Predicates: Cross-Linguistic Oerspectives on Event Structure*, pages 48–78. Cambridge University Press, Cambridge.

Byrne, F. (1990). Tense marking in serial structures. In Joseph, B. D. and Zwicky, A. M.,

editors, *When Verbs Collide: Papers from the 1990 Ohio State Mini-Conference on Serial Verbs*, pages 149–177. ERIC.

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

Chen, L. and Guo, J. (2009). Motion events in Chinese novels: evidence for an equipollently-framed language. *Journal of pragmatics*, 41(9):1749–1766.

Chu, C. (2004). *Event Conceptualizaiton and Grammatical Realization: The Case of Motion in Mandarin Chinese*. PhD thesis, University of Hawaii, Honolulu.

Comrie, B. (1976). *Aspect: An Introduction to the Study of Verbal Aspect and Related Problems*, volume 2. Cambridge University Press, Cambridge.

Copley, B. and Harley, H. (2015). A force-theoretic framework for event structure. *Linguistics and Philosophy*, 38(2):103–158.

Corbett, G. G. (2008). Features and universals. In Scalise, S., Magni, E., and Bisetto, A., editors, *Universals of Language Today (Studies in Natural Language and Linguistic Theory 76)*, pages 129–143. Springer, Heidelberg.

Croft, W. (2000). Parts of speech as language universals and as language-particular categories. In Vogel, P. M. and Comrie, B., editors, *Approaches to the Typology of Word Classes*, pages 65–102. Mouton de Gruyter, Berlin/New York.

Croft, W. (2012). *Verbs: Aspect and Causal Structure*. Oxford University Press, Oxford.

Croft, W., Bardal, J., Hollmann, W., Sotirova, V., and Taoka, C. (2010). Revising Talmy's typological classification of complex event constructions. In Boas, H. C., editor, *Contrastive Studies in Construction Grammar*, volume 10, pages 201–235. John Benjamins, Amsterdam/Philadelphia.

Crowley, T. (1987). Serial verb constructions in Paamese. *Studies in Langauge*, 11:35–84.

Diller, A. V. N. (2006). Thai seiral verbs: cohension and culture. In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 160–177. Oxford University Press, Oxford.

Dixon, R. M. (1982). *Where Have All the Adjectives Gone?: And Other Essays in Semantics and Syntax*, volume 107. Mouton, The Hague.

Dixon, R. M. W. (2004). Adjective classes in typological perspective. In Dixon, R. M. W. and Aikhenvald, A. Y., editors, *Adjective Classes: a Cross-linguistic Typology*, pages 1–49. Oxford University Press, Oxford.

Dixon, R. M. W. (2006). Serial verb construction: conspectus and coda. In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 338–350. Oxford University Press, Oxford.

Dowty, D. R. (1979). *Word Meaning and Montague Grammar: The Semantics of Verbs and Times in Generative Semantics and in Montague's PTQ*. D. Reidel Publishing Company, Dordrecht.

Du, J. (2016). 状态变化事件认知机制研究 [Cognitive mechanism of state change event]. *Foreign Language and Literature*, 32(3):69–75.

Durie, M. (1997). Grammatical structures in verb serialization. In Alsina, A., Bresnan, J., and Peter, S., editors, *Complex Predicates*, pages 289–354. Center for the Study of Languages and Information, Stanford.

Feng, S. (1998). Prosodic structure and compound words in classical Chinese. In Packard, J., editor, *New Approaches to Chinese Word Formation*, pages 197–260. Mouton de Gruyer, Berlin.

Fillmore, C. J. (1982). Towards a descriptive framework for spatial deixis. In Jarvella, R. J. and Klein, W., editors, *Speech, Place and Action: Studies in Deixis and Related Topics*, pages 31–59. John Wiley, London.

Foley, W. A. (2010). Events and serial verb constructions. In Amberber, M., Baker, B., and Harvey, M., editors, *Complex Predicates: Cross-Linguistic Perspectives on Event Structure*, pages 79–109. Cambridge University Press, Cambridge.

Foley, W. A. and Olson, M. (1985). Clausehood and verb serialization. In Nichols, J. and Wodbury, A., editors, *Grammar inside and outside the Clause*, pages 17–60. Cambridge University Press, Cambridge.

Francis, E. J. and Matthews, S. (2002). What does it take to make a category? The case of coverbs in Cantonese. San Francisco. Paper presented at 76th annual meeting of the Linguistic Soiety of America.

François, A. (2006). Serial verb constructions in Mwotlap. In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 223–238. Oxford University Press, Oxford.

Gao, H. (1980). 《广州方言研究》[*A Research on Cantonese Dialect*]. The Commercial Press, Hongkong.

Geuder, W. and Weisgerber, M. (2008). Manner of movement and the conceptualisation

of force. Université d'artois, Arras, France. Slides presented at Journée d'étude "Il'ya manière et manière".

Greenberg, J. H. (1966). *Universals of Language*. The MIT Press, Cambridge, MA.

Guerssel, M., Hale, K., Laughren, M., Levin, B., and Eagle, J. W. (1985). *A Cross-linguistic Study of Transitivity Alternations*. Papers from the Parasession on Causatives and Agentivity, CLS21, Part 2, Chicago.

Guo, J. and Chen, L. (2009). Learning to express motion in narratives by Mandarin-speaking children. In Guo, J., Lieven, E., Budwig, N., Ervin-Tripp, S., Nakamura, K., and Özçalışkan, c., editors, *Crosslinguistic Approaches to the Psychology of Language*, pages 193–208. Psychology Press, New York/London.

Hajek, J. (2006). Serial verbs in Tetun Dili. In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 239–253. Oxford University Press, Oxford.

Haspelmath, M. (2007). Coordination. In Shopen, T., editor, *Language Typology and Syntactic Description, volume 2: Complex Construction*, pages 1–51. Cambridge University Press, Cambridge.

Haspelmath, M. (2010). Comparative concepts and descriptive categories in cross-linguistic studies. *Language*, 86(3):663–687.

Haspelmath, M. (2016). The serial verb construction: comparative concept and cross-linguistic generalizations. *Language and Linguistics*, 17(3):291–319.

Hellwig, B. (2006). Serial verb constructions in Goemai. In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 88–107. Oxford University Press, Oxford.

Hengeveld, K. (1992). *Non-verbal Predication: Theory, Typology, Diachrony*. Mouton de Gruyer, Berlin.

Hong, J.-F. and Huang, C.-R. (2015). Ontology-based event relation prediction: a SUMO based study of Mandarin VV compounds. *Journal of Chinese Linguistics*, 43(1A):170–195.

Hsiao, H. (2009). *Motion Event Descriptions and Manner-of-Motion Verbs in Mandarin*. PhD thesis, The State University of New York, Buffalo.

Huang, B. (1996). 《汉语方言语法类编》[*A Category Profile of Chinese Dialects Grammar*]. Qingdao Press, Qingdao.

Ingram, A. (2006). Serial verb constructions in Dumo. In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 202–222. Oxford University Press, Oxford.

Jackendoff, R. (1985). Multiple subcategorization and the ϑ-criterion: the case of **climb**. *Natural Language and Linguistic Theory*, 3(3):271–295.

Kearns, K. (2011). *Semantics*. Palgrave Macmillan, London, 2 edition.

Kenny, A. (1963). *Actions, Emotions and Will*. Humanities Press, New York.

Kilian-Hatz, C. (2006). Serial verb constructions in Khwe (Central-Khoisan). In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 108–123. Oxford University Press, Oxford.

Kiparsky, P. (1992). Analogy. In Bright, W., editor, *International Encyclopedia of Linguistics*, volume 1, pages 56–61. Oxford University Press, Oxford.

Koontz-Garboden, A. (2005). On the typology of state/change of state alternations. In Booji, G. and van Marle, J., editors, *Yearbook of Morphology 2005*, pages 83–117. Springer.

Lakoff, G. (1993). Contemporary theory of metaphor. In Ortony, A., editor, *Metaphor and Thought*, pages 202–251. Cambridge University Press, Cambridge, 2 edition.

Lamarre, C. (2008). The linguistic categorization of deictic direction in Chinese: with reference to Japanese. In Xu, D., editor, *Space in Languages of China: Cross-Linguistics, Synchronic and Diachronic Perspectives*, pages 69–97. Springer, Dordrecht.

Langacker, R. W. (1977). Syntactic reanalysis. In Li, C. N., editor, *Mechanisms of Syntactic Changes*, pages 59–139. University of Texas Press, Austin.

Langacker, R. W. (1991). *Foundations of Cognitive Grammar, volume 2: Descriptive Application*. Stanford University Press, Stanford.

Langacker, R. W. (2003). Constructional integration, grammaticization, and serial verb constructions. *Language and Linguistics*, 4(2):251–278.

Langacker, R. W. (2008). *Cognitive Grammar: A Basic Introduction*. Oxford University Press, Oxford.

Levin, B. and Rappaport Hovav, M. (2005). *Argument Realization*. Cambridge University Press, Cambridge.

Levin, B. and Rappaport Hovav, M. (2013). Lexicalized meaning and manner/result

complementarity. In Arsenijević, B., Gehrke, B., and Marín, R., editors, *Studies in the Composition and Decomposition of Event Predicates*, pages 49–70. Springer.

Li, C. and Thompson, S. A. (1973). Serial verb constructions in Mandarin Chinese: subordination or coordination. In Corum, C. W., Stark, T. C. S., and Weiser, A., editors, *You Take the High Node and I'll Take the Low Node: Papers from the Comparative Syntax Festival*, pages 96–103. Chicago Linguistic Society, Chicago.

Li, C. and Thompson, S. A. (1981). *Mandarin Chinese: A Functional Reference Grammar*. University of California Press, Berkley/Los Angeles.

Li, F. (1997). Cross-linguistic lexicalization patterns: diachronic evidence from verb-complement compounds in Chinese. *Sprachtypologie und Universalienforschung*, 3:229–252.

Li, N. and Shi, Y. (1999). 动补结构的发展与语法结构的嬗变 [On the development of verb complement structure and the change of grammatical structure]. In Huang, Z., editor, *Symposium of Chinese Lingusitics*, 2, pages 83–100. Beijing Language and Culture University Press, Beijing.

Li, W. (2012). Temporal and aspectual reference in Mandarin Chinese. *Journal of Pragmatics*, 44:2045–2056.

Li, Y. (1990). On V-V compounds in Chinese. *Natural Language and Linguistic Theory*, 8:177–207.

Lichtenberk, F. (2006). Serial verb construction in Toqabaqita. In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 254–272. Oxford University Press, Oxford.

Lin, J. (2011). *The Encoding of Motion Events in Chinese: Multi-Morpheme Motion Constructions*. PhD thesis, Standford University, Standford.

Lin, J.-W. (2003). Aspectual selection and negation in Mandarin Chinese. *Linguistics*, 41:425–459.

Liu, Y., Pan, W., and Gu, w. (2001). 《实用现代汉语语法》(增订本) [*Practical Modern Chinese Grammar* (*revised and enlarged version*)]. The Commercial Press, Beijing.

Lord, C. (1974). Causative construction in Yorùbá. *Studies in African Linguistics, Supplement*, 5:195–204.

Lord, C. (1975). Igbo verb compounds and the lexicon. *Studies in African Linguistics*, 6:23–48.

Lv, S. (1963). 现代汉语单双音节问题初探 [A preliminary investigation on bi-syllabicity of modern chinese]. *Chinese Language*, 1:10–22.

Lv, S. (2000). 《现代汉语八百词》(增订本) [*Eight Hundred Words in Modern Chinese* (*revised and enlarged version*)]. The Commercial Press, Beijing.

Ma, S. (2016). *Fictive Motion in Chinese*. PhD thesis, The University of Auckland, Auckland, New Zealand.

Mallinson, G. and Blake, B. J. (1981). *Language Typology: Cross-Linguistic Studies in Syntax*, volume 46. North Holland Publishing Company, Amsterdam/New York/Oxford.

Matthews, S. (2006). On serial verb constructions in Cantonese. In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 69–87. Oxford University Press, Oxford.

Meng, C. (1988). 动词和动作的方向 [On verbs and the direction of actions]. In *Paper Collection of the Second International Chinese Teaching Symposium*. Beijing Language and Culture University Press, Beijing.

Nichols, J. (1978). Secondary predication. In Jaeger, J. J., Woodbury, A. C., Ackerman, F., Chiarello, C., Gensler, O. D., Kingston, J., Sweetser, E. E., Thompson, H., and Whistler, K. W., editors, *Proceedings of the Fourth Annual Meeting of the Berkeley Linguistics Society*, pages 114–27, Berkeley. Berkeley Linguistics Socity.

Nishiyama, K. (1998). V-V compounds as serialization. *Journal of East Asian Linguistics*, 7:175–217.

Norman, J. (1988). *Chinese*. Cambridge Universtiy Press, Cambridge.

Ota, T. (2003). 《中国语历史文法》[*Historical Grammar of Modern Chinese*]. Peking University Press, Beijing, 2 edition.

Özçalışkan, Ş. and Slobin, D. I. (2003). Codability effects on the expression of manner of motion in Turkish and English. In Özsoy, A. S., Akar, D., Nakipoślu-Demiralp, M., Erguvanlı-Taylan, E., and Aksu-Koç, A., editors, *Studies in Turkish Linguistics*, pages 259–270. Bogazicçi University Press, Istanbul.

Packard, J. (1998). Introduction. In Packard, J., editor, *New Approaches to Chinese Word Formation*, pages 1–34. Mouton de Gruyer, Berlin.

Paul, W. (2008). The serial verb construction in Chinese: a tenacious myth and a Gordian knot. *The Linguistic Review*, 25(3-4):367–411.

Paul, W. (2010). Adjectives in Mandarin Chinese: the rehabilitation of a much ostracized category. In Hofherr, P. C. and Matushansky, O., editors, *Adjectives*, pages 115–152. John Benjamins, Amsterdam/Philadelphia.

Pawley, A. and Lane, J. (1998). From event sequence to grammar: serial verb constructions in Kalam. In Siewierska, A. and Song, J. J., editors, *Case, Typology and Grammar*. John Benjamins, Amsterdam/Philadelphia.

Peyraube, A. (2006). Motion events in Chinese: a diachronic study of directional complements. In Hickmann, M. and Robert, S., editors, *Space in Language: Linguistic Systems and Cognition Categories*, pages 121–138. John Benjamins, Amsterdam/Philadelphia.

Rappaport Hovav, M. (2008). Lexicalized meaning and the internal structure of events. In Rothstein, S., editor, *Theoretical and Crosslinguistic Approaches to the Semantics of Aspect*, pages 13–42. John Benjamins, Amsterdam/Philadelphia.

Rappaport Hovav, M. and Levin, B. (2001). An event structure account of english resultatives. *Language*, 77(4):766–797.

Rappaport Hovav, M. and Levin, B. (2010). Reflections on manner/result complementarity. In Rappaport Hovav, M., Doron, E., and Sichel, I., editors, *Syntax, Lexical Semantics, and Event Structure*, pages 21–38. Oxford University Press, Oxford.

Ryle, G. (1949). *The Concept of Mind*. Barnes and Noble, London.

Schachter, P. and Shopen, T. (2007). Parts-of-speech systems. In Shopen, T., editor, *Language Typology and Syntactic Description, volume 1: Clause Structure*, pages 1–60. Cambridge University Press, Cambridge.

Schultze-Berndt, E. (2000). *Simple and Complex Verbs in Jaminjung: A Study of Event Categorisation in an Australian Language*. PhD thesis, Max Planck Institute, Nijmegen.

Shi, W. (2014). 《汉语运动事件词化类型的历时考察》[*A Diachronic Research on Lexicalization Patterns of Motion Event in Chinese*]. The Commercial Press, Beijing.

Shi, W. and Wu, Y. (2014). Which way to move: the evolution of motion expressions in Chinese. *Linguistics*, 52(5):1237–1292.

Shi, Y. (2011). 《语法化理论—— 基于汉语发展的历史》[*Grammaticalization Theory with Special Reference to Chinese*]. Shanghai Foreign Language Education Press, Shanghai.

Slobin, D. I. (1996). Two ways to travel: verbs of motion in English and Spanish. In Shibatani, M. and Thompson, S. A., editors, *Grammatical Constructions: Their From and Meaning*, pages 195–220. Clarendon Press, Oxford.

Slobin, D. I. (1997a). Mind, code, and text. In Bybee, J. L., Haiman, J., and Thompson, S. A., editors, *Essays on Language Function and Language Type: Dedicated to T. Givón.*, pages 437–467. John Benjamins, Amsterdam/Philadelphia.

Slobin, D. I. (1997b). The universal, the typological, and the particular in acquisition. In Slobin, D. I., editor, *The Crosslinguistic Study of Language Acquisition, volume 5: Expanding the Contexts*, pages 1–39. Lawrence Erlbaum Associate, Inc. Publishers, New Jersey.

Slobin, D. I. (2006). What makes manner of motion salient? Explorations in linguistic typology, discourse, and cognition. In Hickmann, M. and Robert, S., editors, *Space in Language: Linguistic Systems and Cognition Categories*, volume 66, pages 59–81. John Benjamins, Amsterdam/Philadelphia.

Smith, C. S. (1983). A theory of aspectual choice. *Language*, 59:479–501.

Smith, C. S. (1994). Aspectual viewpoint and situation types in Mandarin Chinese. *Journal of East Asian Linguistics*, 3:107–146.

Smith, C. S. (1997). *The Parameter of Aspect*. Kluwer, Dordrecht.

Solnit, D. B. (2006). Verb serialization in Eastern Kayah Li. In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 144–159. Oxford University Press, Oxford.

Spencer, A. (2005). Towards a typology of 'mixed categories'. In Orrgun, C. O. and Sells, P., editors, *Morphology and the Web of Grammar. Essays in Memory of Steven G. Lapointe*, pages 95–138. CALI Publications, Standford, CA.

Spencer, A. (2011). What's in a compound? *Journal of Linguistics*, 47(02):481–507.

Stahlke, H. F. W. (1970). Serial verbs. *Studies in African Linguistics*, 1(1):60–99.

Steever, S. B. (1988). *The Serial Verb Construction Formation in the Dravidian Languages*. Motilal Banarsidass, Delhi.

Sybesma, R. (1997). Why Chinese verb-*le* is a resultative predicate. *Journal of East Asian Linguistics*, 6:215–261.

Tai, H.-Y. (2003). Cognitive relativism: resultative construction in Chinese. *Language and Linguistics*, 4(2):301–316.

Talmy, L. (1975). Semantics and syntax of motion. In Kimball, J., editor, *Syntax and Semantics*, volume 4, pages 181–238. Academic Press, New York.

Talmy, L. (1976). Semantic causative types. *Syntax and Semantics*, 6:43–116.

Talmy, L. (1985). Lexicalization patterns: semantic structure in lexical forms. In Shopen, T., editor, *Language Typology and Syntactic Description, volume 3: Grammatical Categories and the Lexicon*, pages 57–149. Cambridge University Press, Cambridge.

Talmy, L. (2000a). *Toward a Cognitive Semantics, volume 1: Concept Structuring Systems*. The MIT Press, Cambridge, MA.

Talmy, L. (2000b). *Toward a Cognitive Semantics, volume 2: Typology and Process in Concept Structuring*. The MIT Press, Cambridge, MA.

Talmy, L. (2009). Main verb properties and equipollent framing. In Guo, J., Lieven, E., Budwig, N., Ervin-Tripp, S., Nakamura, K., and Özçalışkan, c., editors, *Crosslinguistic Approaches to the Psychology of Language*, pages 389–402. Psychology Press, New York/London.

Tham, S. W. (2013). Change of state verbs and result state adjectives in Mandarin Chinese. *Journal of Linguistics*, 49(03):647–701.

van den Berg, M. and Wu, G. (2006). *The Chinese Particle Le: Discourse Construction and Pragmatic Marking in Chinese*. Routledge, London/New York.

Van Leynseele, H. (1975). Restriction on serial verb construction in Anyi. *Journal of West Afican Languages*, pages 189–217.

Vendler, Z. (1957). Verbs and times. *The Philosophical Review*, 66(2):142–160.

Vendler, Z. (1967). *Linguistics in Philosophy*. Cornell University Press, Ithaca, New York.

Wang, L. (2004). 《汉语史稿》[*History of Chinese*]. Zhonghua Book Company, Beijing, 4 edition.

Watkins, L. J. (1984). *A Grammar of Kiowa*. University of Nebraska Press, Lincoln.

Watters, J. R. (2000). Syntax. In Heine, B. and Nurse, D., editors, *African Langugaes: An Introduction*, pages 194–230. Cambridge University Press, Cambridge.

Westermann, D. H. (1907). *Grammatik der Ewe-Sprache*. Diedrich Reimer, Berlin.

Westermann, D. H. (1930). *A Study of the Ewe Language*. Oxford University Press, Oxford.

Yang, J. (2014). *Revising Talmy's Typology of Motion Events in the Light of Chinese*. PhD thesis, University of Edinburgh, Edinburgh.

Yuan, X. (1999). *History of Chinese Literature*. High Education Press, Beijing.

Zavala, R. (2006). Serial verbs in Olutec (Mixean). In Aikhenvald, A. Y. and Dixon, R. M. W., editors, *Serial Verb Constructions: A Cross-Linguistic Typology*, pages 273–300. Oxford University Press, Oxford.

Zhu, D. (1956). 现代汉语形容词研究 [A study of adjectives in modern chinese]. *Studies in Language and Linguistics*, 1:83–112.

Zhu, M. (1990). 《朱子语类》中的动词补语—— 兼谈动词后缀 [Verb complement in *Analects of Zhuzi* – Also a discussion on verbal suffixes]. In Editorial board of *Paper Collection in Honor of Wang Li*, editor, *Paper Collection in Memory of Wang Li*, pages 240–251. The Commercial Press, Beijing.

Zoe Wu, X.-Z. (2004). *Grammaticalization and Language Change in Chinese: A Formal View*. Taylor & Francis Routledge, London/New York.